AFRICA BUREAU
EVALUATION REVIEW PROJECT

VOLUME III

International Statistical Programs Center

U.S. Department of Commerce
BUREAU OF THE CENSUS

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676-001	Central African Republic. Central Empire Seed Multiplication Project
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676-0004	Central African Republic. Fish Culture Extension Project
663-0162	Ethiopia. Ada: District Development Project (ADDP)
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Appendix V EVALUATION SUMMARY REVIEWS

V.1 African Evaluation Review Criteria for Evaluating Contents of Evaluation Summaries

This appendix contains the criteria for determining the extent to which an evaluation report responded to the questions. Fully satisfying the criteria (F), partially satisfying the criteria (P), and inadequately responding to the question (I), are the ranks awarded. All criteria must be met to fully respond to the questions. If most criteria are not met, the response is judged to be inadequate.

1. What constraint did this project attempt to relieve?

   Criteria

   1.1 The constraint should be explicitly stated in the report.

   1.2 The method of determining the constraint and the sources of information utilized should be described in the report.

   1.3 The description of the constraint should be sufficiently specific to classify it as technological, cultural, political, or economical.

   1.4 The report should relate the constraint to the Country Development Strategy Statement (CDSS)

   1.5 The report should explain why the private sector or other sectors did not address the constraint.

   1.6 The report should provide information on the government's approach to the constraint including their recognition of it and plans, if any, for relieving it.

   1.7 The report should comment on whether or not the constraint being addressed by the project is a binding constraint and, if not, whether a binding constraint exists. For example, price policy constraint production under the existing technology. In such cases the obstacles to effecting a policy change should be discussed.

2. What technology did the project promote to relieve this constraint?

   Criteria

   2.1 The report should provide a complete description of the technology being transferred to the potential adopter. If the technology consists of knowledge that involves the use of hardware, this knowledge should be described along with methods for measuring the transfer of this knowledge.

   2.2 The report should describe the complexity of the new technolgy and compare it with existing technology.

2.3 The report should comment on the divisibility of the new technology and whether partial adoption is a practical alternative; e.g., plant only one row of a new crop.

2.4 The report should estimate the cost of the new technology or the relative advantage of the project technology over existing technology.

2.5 The report should estimate the resources needed to use the project technology with emphasis on labor resources and work schedules.

2.6 The report should specify the skills needed to adopt the new technology as well as any changes in behavior associated with adoption.

2.7 The report should cite special problems such as environmental impact.

2.8 The report should discuss alternatives to the project technology.

3. What technology did the project attempt to replace?

Criteria

3.1 The report should provide a complete description of the preproject technology.

3.2 The report should estimate the costs of using the preproject technology, including out of pocket costs.

3.3 The report should describe the complexity of the existing technology including the significant steps for implementation.

3.4 The report should provide information on the divisibility of the preproject technology and the utilization of divisibility.

3.5 The report should specify the skills needed to use the preproject technology.

3.6 The report should explain why existing technology cannot relieve the constraint.

4. Why did project planners believe that intended beneficiaries would adopt the proposed technology?

Criteria

4.1 The report should describe the relative advantage or cost advantage of the new technology.

4.2 The report should comment on risk factors such as higher initial cost and the attitudes of potential adopters towards these risk factors.

4.3 The report should comment on the compatibility of traditional values with adoption and other factors leading to adoption such as complexity of the new technology, its communicability and its acceptability to opinion leaders.

4.4 The report should cite the sources of information used to answer this question.

4.5 The report should comment on the extent to which information about the new technology has been or will be diffused.

4.6 The report should comment on the impact of the project technology on work schedules.

5. What characteristics did the intended beneficiaries exhibit that had relevance?

Criteria

5.1 The report should provide information on the characteristics of potential adopters such as educational background, interest in technology amount of family labor available, family size, income or net worth, degree of social participation access to the cash economy and attitude toward traditional or modern values.

5.2 The report should discuss the demand for labor including the seasonal demand and the compatibility of this demand with old and new technologies.

5.3 The report should cite the sources of information utilized to answer this question.

6. What adoption rate has this project achieved in transferring the proposed technology?

Criteria

6.1 The report should contain a precise description of what constitutes adoption and discuss methods for measuring it including the definitions associated with partial adoption, where this is likely.

6.2 The precise method of computing the adoption rate or the equation for computing it along with identification of the variables used in the computation should be provided in the report.

6.3 The report should assess the reliability of baseline information and other information sources used to answer the question and provide description of the methodology used for selecting and collecting the information.

6.4 The report should describe factors impeding adoption and any constraints not previously anticipated which affect adoption.

6.5 The report should explore the likelihood of discontinuance, define discontinuance, and explain how it will be measured.

7. Has the project set forces in motion that will induce further exploration of the constraint and improvement to the technical package proposed to overcome it?

Criteria

7.1 The report should describe the forces, if any, set in motion by the project to build a constituency otherwise work to induce further exploration of constraints and improvements to project technology.

7.2 The report should comment on any institutional structure established or enhanced by the project and how it operates to sustain or improve project technology or diffuse information related to project technology.

7.3 The report should comment on any public sector linkages that will provide access to new knowledge related to the technology being transferred by the project.

7.4 The report should describe any actions which have to be taken by adopters to sustain the project technology after proejct funds are exhausted.

7.5 The report should describe the political support or resistence if any, that can be expected to support continuation of the technology.

8. Do private enterprise suppliers or buyers have an incentive to examine the constraint addressed by the project and come up with solutions?

Criteria

8.1 The report should comment on why the private sector did not address the constraint prior to project implementation.

8.2 The report should provide information on sources of inputs needed to sustain the technology and the disposition of outputs resulting from project technology.

8.3 The report should describe any market mechanism created or enhanced or otherwise affected by the project and how this mechanism could operate to sustain the project.

8.4 The report should comment on any economic aspects of the project that may provide an incentive to the private sector.

8.5 The report should cite the sources of information used to answer the questions.

9. What delivery system did the project employ to transfer the technology to intended beneficiaries?

Criteria

9.1 The report should provide a description of the delivery system together with a description of each of its major components.

9.2 For each delivery system activity or function the report should describe the causal relationship that leads to actual adoption and extension of project technology.

9.3 The report should describe how project implementation will be measured and what information will be collected upon implementation.

9.4 The report should describe any indigenous delivery systems such as indigenous health healers versus health clinics and its relationship to the project.

9.5 The report should assess the sensitivity of actual adoption rates to adherence to the implementation schedule. Essential actions to compensate for key events which may not have been completed on schedule should be stated.

9.6 The report should specify the skills needed to operate the delivery system and relate these to skills available.

10. What technology does the project intend to transfer to the delivery system and what techniques will the project use to make the transfer?

Criteria

10.1 The report should describe the technology, if any, tranferred to the delivery systems. For example, the technology for treating eye disease may be transferred to the delivery system so that village health units can treat and relieve eye disease in rural areas.

10.2 The report should describe the training techniques to be used to communicate knowledge of delivery system technology to change agents.

10.3 The report should describe the training methods for communicating project technology to potential adopters.

11. What effect did the transferred techology have on those impacted by it?

Criteria

11.1 The report should describe the effects of the project on adopters and other beneficiaries.

11.2 The report should describe how the effects of the project were measured and the methodology used.

11.3 The report should describe the observed casual relationships between project inputs and project effects.

11.4 The report should mention any complimentary benefits of the technology transfer.

Evaluation Executive Summary
AFR/DP/PPEA-BuCen

Sector/Subsector: Agriculture

Country: Regional Project Sahelian Countries, Cape Verde, Cameroon, The Gambia

Project Title: Integrated Pest Mangement (Phase II) (continuation of Regional Food Crop Protection Project)

Project No.: 625-0928

LOP Funding: 25,280,000 AID
29,200,000 Total

LOP Years: FY 78/FY 82

Evaluation Type: Regular Evaluation

Evaluation Title & Dates: CILSS Crop Post Harvest Protection Program, Team Evaluation Report - September 1981

Evaluation Author: Dr. Thomas Irvin (Team Leader), Dr. Dale Bottrell, Dr. Patricia Matteson, Sereme Moussa, Richard Strong, Michel Lantagne, Parke Massey

Other Sources of Information:

Questions

I. What constraint did this project attempt to relieve?

Crops losses due to insect outbreaks, plant diseases, and weeds. This constraint causes a reduction in food crop production in Sahel and other African countries. Increase in food crop production is a necessary condition to stimulate economic development of these countries as well as to fulfill AID mandate to improve the welfare of the rural poor (small farmer) in the developing world. The project placed high priority on agricultural development toward the goal of achieving self-sufficiency in food crop production.

II. What technology did the project promote to relieve this constraint?

A technology which uses a combination of biological control, agricultural practices, and physical techniques.

More specifically, the project aims at the development of effective low-cost pest management systems based on the evolved advantages of traditional cropping and pest control practices plus the maximal use of additional non-chemical means of pest control. Pesticides are applied judiciously and only when necessary. This approach is much the most appropriate in the Sahel and the only way to achieve rational, economic, and environmentally sound pest countrol over the long term.

III. What technology did the project attempt to replace?

The project is trying to replace traditional African cultural practices with farming techniques which contain a high degree of Integrated Pest Management (IPM) concepts and characteristics of modern technology. As stated in the evaluation traditional farmers in Africa have practiced a form of IPM for centuries. Through trial and error natural selection, and keen observation, the traditional farmers developed cropping systems that "integrated" certain fundamental IPM components. For example, the highly laborious system of paddy rice culture along the river systems probably evolved, in part, because it was the most practical system to manage weeds. The procedures of submerging weeds into puddled soil, transplanting seedlings old enough to compete successfully with late-germinating weeds, and flooding are known to be effective in weed management. The selection and use of local varieties of crops possessing insect pest or disease resistance, interplanting and rotating different crops, natural biological control factors--these and various other traditional methods are known to reduce some pest populations and may be desirable IPM components.

IV. Why did project planners believe that intended beneficiaries would adopt the proposed technology?

The evaluation does not discuss why planners believe the intended beneficiaries (small farmers) would adopt the proposed technology (IPM). However, since traditional cultural practices does have natural components of IPM techniques, it might be logical to expect that small farmers will not be reluctant to adopt a more advance but basically similar technology.

The evaluation showed that the RFCP Project (Phase I) has focussed heavily on the use of pesticides and the primary beneficiaries to date have been the National Plant Protection (NPP) services rather than small farmers. These services generally are not involved in any aspect of crop protection other than intervention with pesticides. It was concluded that the potentially most harmful impediment to IPM in the Sahel and surrounding area is a continuing proliferation of extension and intervention efforts which favor increased pesticide use. Experience from around the world has shown that once the chemical control strategy has been adopted the chances for IPM are severely reduced.

V. What characteristics did the intended beneficiaries exhibit that had relevance to their adopting the proposed technology?

The characteristics of intended beneficiaries (small farmers) are not discussed in the evaluation. Such things as educational level, religion and social participation are not addressed in the report.

However, since the IPM Project was created to strengthen national research capability toward developing appropriate IPM techniques for extension to farmers, this research and technology was expected to produce results which, if properly incorporated into farmer extension and demonstration efforts, may have a beneficial impact. It was believed that small farmers would react favorably and would possibly adopt the new technology.

VI. What adoption rate has this project achieved in transferring the proposed technology?

The report does not define adoption or show any figures or estimation data on rate of adoption.

Furthermore, the report does not show any baseline data or indication of beneficiaries acceptance or any information which can be used to estimate or approximate the adoption rate.

VII. Has the project set forces into motion that will induce further exploration of the constraint and improvements to the technical package proposed to overcome it?

The Project unquestionably has succeeded in strengthening the organization, training, and equipping of the NPP services in each of the participating countries. It also has increased awareness throughout the Sahel and surrounding areas of the importance of pest problems and the need for crop protection.

In addition, the Project has sponsored work to determine the losses caused to food crops by various pests, pest surveys to determine the kinds and seasonal abundance of pests on selected crops, a limited amount of research on alternative methods of pest control, and some work on extension of pest management techniques to farmers.

VIII. Do private input suppliers have an incentive to examine the constraints addressed by the project and to come up with solutions?

The evaluation report does not discuss any intervention or participation of the private sector in dealing with the constraint discussed by the project. Private suppliers of pesticides (insecticide, fungicides, weed killer, etc.), would definitely have a valid profit motive incentive in examining crop reducing damages caused by diseases, insects or weeds. The evaluators found that possibly the major problem in the implementation of the IPM project is the lack of coordination among the three parties involved in the project, namely CILSS, AID, and FAO. Endless bureaucratic desire for documentation followed by waivers and delays followed by more documentation. AID Mission Directors and Project Managers are either passive in their views or overly engaged in day-to-day minutiae, depending on their proximity to the loci of problems. AID tradition does not fit well with "regional activities;" AID managers and technicians understand bilateral projects and take comfort in them even in the face of changing local policies. Expanding such changes to a regional level only confuses and diffuses issues in the AID manager's mind, according to the evaluation report.

IX. What delivery system did the project employ to transfer technology to intended beneficiaries?

The evaluation showed the most significant accomplishment during Phase I to be the building up of the NPP services' infrastructures. This was achieved by training NPP service personnel at U.S. universities, increasing

IX. Continued

the services' staff of technicians and crop protection brigades, supplying the services with vehicles, pesticide application equipment, certain other equipment, sponsoring some construction required for office, teaching, laboratory, storage facilities, and two regional training centers at Dakar, Senegal and Yaounde, Cameroon, both completed in 1979.

In the IPM Project (Phase II), a research program was established to evaluate crop losses and the relative economic importance of pests, set up a surveillance system on the occurrence of major pests, and develop a system of demonstration and extension to farmers of IPM concepts and techniques, using training and demonstration.

The evaluation report stated that to date, the project clearly has failed to show that this objective is being seriously pursued in any participating country except The Gambia, where a modest effort has been made to involve farmers in extension activities related to IPM. The Project has made no significant progress in the area of developing and strengthening an extension delivery system which would be required for mainstreaming IPM technology to farmers. This is a serious deficiency and one that must be corrected. Otherwise, new IPM technology that may evolve under the CILSS IPM Project will remain confined at the experimental level and never reach the intended farmer beneficiaries.

X. What training techniques did the project use to develop the delivery system?

The two regional training centers established at Yaounde and Dakar handle a variety of training activities.

Trainees have ranged from field supervisors with the NPP service to agricultural ministry officials and professors at the national agricultural institutes and schools, NPP field and administrative personnel, agricultural agents, agricultural school instructors, and field technicians. The centers have also produced many useful training materials, viz., fact sheets, 35 mm slide sets, and short course syllabi related to pest identification and crop protection. In cooperation with selected resource specialists, the centers are presently developing several comprehensive manuals and handbooks on special topics (weeds, pesticide management, plant protection which will be used in training. This institution building project focussed on the national crop protection services through the medium of technical advice, practical and academic training infrastructure, and equipment, including vehicles.

XI. What effect did the transferred technology have upon those impacted by it?

The impact of the project on the intended beneficiaries (small farmers) is not discussed in the evaluation report. As stated before some problems in reaching the small farmers were mentioned before, however, no concise information was provided in the report at all.

Evaluation Executive Summary
AFR/DP/PPEA-BuCen

Sector/Subsector: All Sectors Country: Cameroon

Project Title: North Cameroon Pilot Community Development Project No.: 631-0010

LOP Funding: $351,000 LOP Years: 1978-1980

Evaluation Type: Project Evaluation Summary

Evaluation Title and Dates: North Cameroon Community Development Project Evaluation

Evaluation Author: Rudolph Thomas, Project Manager, USAID

Other Sources of Information:

Questions

I. What constraint did this project attempt to relieve?

No attempt was made in the evaluation report to identify a constraint. This project was apparently designed to provide a variety of project activities that could be accomplished in the local community without any outside assistance.

II. What technology did the project promote to relieve this constraint?

Apparently, the primary technology was knowledge and ability to identify and resolve community development problems through appropriate planning and implementation by community development committees. All nine villages participating in the project established Village Development Committees (VDC's).

Training was provided for each VDC. A development plan was prepared for the villages for the period of July 1, 1979 to June 30, 1981.

In addition, water resources subcommittees were established in each village. Construction of 10 wells were planned. Eight were started. None were completed.

Two cisterns were planned and constructed. Other water resources activities apparently failed for lack of proper planning and implementation.

All nine villages established an agricultural subcommittee that formulated plans for training blacksmiths, planting 50 shade trees in each village and conducting a reforestation and soil enrichment project. Only the plans for planting the 50 shade trees were carried out.

In the education sector, primary schools were established in two villages, and construction of two classrooms in each village was initiated.

In the health and nutrition sector, subcommittees were established in all villages. Apparently, the knowledge or technology of planning and implementing village health projects was to be transferred. Health training was provided for two field coordinators and eight village health agents and six birth attendants were trained.

III. What technology did the project attempt to replace?

No attempt was made to describe the existing technology or work schedules or activities.

IV. Why did project planners believe that intended beneficiaries would adopt the proposed technology?

The evaluation report does not provide any information relevant to this question.

V. What characteristics did the intended beneficiaries exhibit that had relevance to their adopting the proposed technology?

The evaluation report does not provide any information relevant to this question.

VI. What adoption rate has this project achieved in transferring the proposed technology?

Adoption was not defined for any of the technologies contemplated by the project. Conversion of the goal of the project which was to contribute to the development of the rural sector in Cameroon by helping bring about the adoption of a nationwide community-based integrated rural development program does not provide any insight into what was to be adopted because the goal is broadly stated and, therefore, difficult to measure. The evaluation report does indicate that some progress had been made in establishing committees for planning community development. But the evaluators then suggested that the private volunteer organization, Community Development Foundation (CDF) may in fact have done most of the planning because the complexity of the projects appeared to them to be beyond the capabilities of the local people.

Obviously, some things were accomplished on this project but because the technologies were not described and adoption was not defined and because there was no baseline information, a reliable assessment or evaluation of the project would be highly improbable.

VII. Has this project set forces in motion that will induce further exploration of the constraint and improvements to the technical package proposed to overcome it?

Apparently not. The government provided little support and the village committees appeared to be helpless without the help of the CDF. A

complete assessment of the forces that would work to enhance the transfer of project technology was apparently not made.

VIII. Do private input suppliers or buyers have an incentive to examine the constraints addressed by the project and come up with solutions?

The evaluation report provides little information on private sector involvement.

IX. What delivery system did the project employ to transfer technology to intended beneficiaries?

The delivery system is described tangentially and appears to consist of a private volunteer organization, government extension agents and other change agents trained under the project.

X. What technology does the project intend to transfer to the delivery system and what techniques will the project use to make the transfer?

Since neither the technology nor the delivery systems were described adequately it can only be assumed that certain technologies; for example, well digging and health care were to be transferred to the delivery system. This apparently was accomplished.

XI. What effect did the transfer of technology have on those impacted by it?

The evaluator apparently believed that the goals of the project could not be achieved based on some interviewers with villagers but without statistical data or other evidence of goal attainment or lack of attainment.

Evaluation Executive Summary
AFR/DP/PPEA-BuCen

Sector/Subsector: Agriculture

Country: Central African Republic

Project Title: Central Empire Seed Multiplication Project

Project No.: 676-001

LOP Funding: Total $1,638,000 GOCAR $520,000 UNDP/FAO $526,000 AID $592,000

LOP Years: - 9/30/80

Evaluation Type:

Evaluation Title & Dates: June 1, 1979

Evaluation Author: Benham Lockhart, Ph.D., Agronomist
Randall Stelley, Ph.D., Agricultural Economist

Other Sources of Information:

Questions

I. What constraint did this project attempt to relieve?

It can be assumed from the report that project planners were concerned with growing discontent over spiraling prices for domestic food crops and foreign exchange pressures resulting from using food imports.

Information on how the constraints were identified and precisely what were the constraints was not provided.

II. What technology did the project promote to relieve this constraint?

1. Establish a station at Grimari to produce improved food crop seeds so that farmers can increase productivity.

2. Develop a trained cadre of GOCAR personnel to sustain production of improved seed at Grimari without external technical assistance.

   a. Organization and management of operation and maintenance of all agricultural equipment.

   b. On the job and in-service training for all mechanics and equipment operators.

   c. Organization of a preventive maintenance system.

II. Continued

The technology transfer apparently includes administration of a delivery system.

Standards and work schedules which should be met by any new technology developed under this project was not provided in the report.

III. What technology did the project attempt to replace?

The farmers were currently growing cotton, peanuts, coffee, rice, manioc (cassava), and tobacco. However, there was a large reliance on manioc and an increasingly destructive disease of manioc in areas of West Africa appeared to be spreading in the Ouham areas.

The complexity and the work schedules related to current technology were not mentioned in the report.

IV. Why did project planners believe that intended beneficiaries would adopt the proposed technology?

1. Lack of improved seed and poor production practices were the major factors affecting productivity.

2. The GOCAR will improve and continue complementary programs in research and extension.

3. The GOCAR will provide the required local staff and budget support after the AID program is terminated.

4. The rural farmers had inadequate food supplies.

5. Rural farmers would be interested in producing more food than other crops.

6. UN identified degeneration of seeds as a primary constraint to increasing food crop production.

Traditional values and other reasons for adoption or nonadoption were not addressed.

V. What characteristics did the intended beneficiaries exhibit that had relevance to their adopting the proposed technology?

Characteristics of farmers was not specified.

VI. What adoption rate has this project achieved in transferring the proposed technology?

The rural farmers were not the population who had inadequate food supplies, instead it was the urban population. The imported foods are primarily

VI. Continued

sugar, canned goods, wheat flour, and processed food. The import of food supplies, was to satisfy the demands of the urban population. Therefore, the rural farmer was under little pressure to increase food production and would probably only increase production of surplus food crops if he considers the monetary return worth the added effort.

The Community Development Program (a GOCAR Agency) acts as the "in-between agent" in providing cooperating farmers with improved seed and also in demonstrating good production practices consisting of proper spacing of the plants and weed control. No estimates were given as to the number of cooperating farmers except that 100 cooperated in the use of the rice seed in 1978.

Oil processing plants which can produce either cottonseed or peanut oil exist. However, the cost of processing peanuts into oil is too high in comparison to cottonseed. Consequently, peanuts are produced primarily as a food crop and not as a cash or commercial crop. Only about 10 percent of the peanut crop is marketed.

Processing, transportation, and the delivery system from point of production to consumption are the major factors in bringing available supplies to market. The market for food crops was in the captial city where 15 percent of the population lived. The rest of the people (85 percent) were subsistenc farmers and grew their own food for consumption.

This project did not address the storage, processing, transportation, and delivery system constraints. Farmers are well aware and afraid of post-harvest storage losses due to rodent, insect, and fungal attack. They will increase output of food crops beyond present levels only if they can be assured of rapid marketing at an acceptable price. Most of the roads to the capital are in very poor condition, transportation costs are high, fuel costs are high, and the rate of attrition of vehicles is also high.

Also, farmers identified difficulty of land clearing and land preparation as principal factors limiting increased crop production. However, this was not addressed by the project.

VII. Has the project set forces onto motion that will induce further exploration of the constraint and improvements to the technical package proposed to overcome it?

The report did not answer this question. It appears that this project would have benefited from more rigor being applied to identifying constraints and selecting technologies which could relieve the selected constraints. Adoption could have been defined and the variables to be used in specifying adoption rate could have been identified.

VIII. Do private input suppliers have an incentive to examine the constraint addressed by the project and to come up with solutions?

Private enterprise could be a resource for seed distribution. This was recommended by the evaluation team.

IX. What delivery system did the project employ to transfer technology to intended beneficiaries?

The USAID technician-mechanic has two helpers which he is trying to train to maintain and repair the AID equipment at the station. This transfer of knowledge had not occurred at the time of the evaluation, the recommendation was to continue.

No provision was made for training extension agents. The evaluation stated that there was about 1 extension agent for every 400 farmers which was too few because of their limited mobility; plus very few agents know anything about improved peanut production.

The proper facilities for grading identifying seeds were provided. However, no means for transportation and distribution of the seeds to production areas at the villages was made. At first, the extension agent system was supposed to distribute the selected seed to farmers and farmers would return the seed at harvest at official prices. However, the Ministry of Agriculture did not have the funds to repurchase the seeds. Also, the immobilty of extension agents and their lack of transportation was a major drawback.

Recommendations for the project

The success of the second phase of the seed multiplication project will depend heavily on development of a workable delivery system that will provide significant numbers of farmers with a package of information combining both use of better seed and appropriate agronomic practices. To achieve the wide degree of acceptance of new seed and cultural techniques envisaged in the project documents, there will need to be either: 1) a massive deployment of extension personnel or 2) creation of a yield increase/favorable marketing situation that will result in rapid spread of information from farmer to farmer.

X. What training techniques did the project use to develop the delivery system?

On-the-job training was given to the mechanic helpers by the USAID technician mechanic.

XI. What effect did the tranferred technology have upon those impacted by it?

The report provided some information on the effects of the project but evaluation is complicated by the fact that the constraints were not identified properly and adoption was not defined.

Evaluation Executive Summary
AFR/DP/PPEA-BuCen

Sector/Subsector: Intersectorial ARD/Water Supply

Country: Central Africa Republic

Project Title: Central African Republic Rural Village Wells

Project No.: 676-0003

LOP Funding: $500,000

LOP Years: 6/78 - 1/80

Evaluation Type: PES Intermediate to determine if project should be resumed.

Evaluation Title & Dates: March 6, 1980

Evaluation Author: Richard L. Thornton, Health Officer

Other Sources of Information: Richard Goldman, Project Manager, Peace Corps, Bangui, Staff Travaux Publics American Embassy

Questions

I. What constraint did this project attempt to relieve?

Apparently the economic and social cost of insufficient safe water supplies which help cause water-borne diseases was the constraint envisioned by project planners.

The goal stated in 1978 PAR is to develop a program of health assistance for the rural poor, which includes provision of safe water supplies and a reduction of water-borne disease.

The report did not provide the sources of information used to identify the constraint.

II. What technology did the project promote to relieve this constraint?

A. Construction of tube wells with simple handpumps in rural villages.
B. Health education which would induce the villagers to protect the well from contamination and make full use of the water from the wells.

C. Maintenance and repair of installed wells.

III. What technology did the project attempt to replace?

Not stated.

IV. Why did project planners believe that intended beneficiaries would adopt the proposed technology?

The entire project concept was extrapolated from a very successful Peace Corps small bore wells program in southern Chad. It was hoped/assumed that

IV. Continued

a similar project using an identical technology (personnel and commodity inputs) would also be successful in the northern areas of the CAR. Based on this assumption AID sent a civil engineer/hydrogeologist to the northern area of the CAR to assess the feasibility of this type of a project in the northern third of CAR. This engineer, Mr. Bennie Griffin, conducted an aquifer study in 1975 which included test borings in Bozaum, Paoua, Batangofo, Kaga-Bandaro, (Ft. Crampel) and Ndele. Based on his report that these five test borings showed the hydrogeology favorably for the Chadian type of well drilling program, AID proceeded to play the project along the Chadian model.

The evaluators apparently believed that the benefits of the project would assure its acceptance.

It is reasonable to assume that the following benefits will accrue to the target population.

A. Reduction in mortality (especially infant mortality) due to diarrhea from drinking contaminated water.

B. Reduction in some skin diseases due to increased water easily accessible for bathing infants and small children.

C. Increased time and energy for village women for growing food and caring for children through elimination of long treks to water sources.

D. Village life is made more attractive through provision of services that have traditionally been found only in large cities."

Other reasons for adoption and nonadoption such as cultural values were not addressed.

V. What characteristics did the intended beneficiaries exhibit that had relevance to their adopting the proposed technology?

No information given.

VI. What adoption rate has this project achieved in transferring the proposed technology?

Well Construction

		77	78	79	80	81	Total
Planned Performance ProAg 1976	per year	104	104	42	--	--	250
	cum	104	208	250	--	--	
Planned Performance PAR 1978	per year	45	50	60	50	45	250
	cum	45	95	155	205	250	
Actual Project Performance	per year	--	24	57	14		95
	cum	--	24	81	95		

VI. Continued

According to the original Pro Ag schedule all 250 wells should have been completed by the end of 1979. However, the project had completed less than a third (32 percent) of the planned total by that date. If one accepts the revised schedule of the 1978 PAR, the project complete rate is still only one half (52 percent) of target.

Perhaps what is more meaningful than the crude data on wells developed vs. planned is the wells attempted vs. wells brought into production. Although no project data has been kept on the number of location of holes drilled and time per hole drilled, the team conservatively estimates the total number of holes drilled at 500+. With a total number of 95 successful wells to date, this shows an extremely disappointing success rate of 19 percent compared with essentially a 100 percent success rate for the same type of well in Chad.

The simple, locally fabricated handpump has worked well and has not been responsible for the failures of those wells that have ceased working. However, the leathers do tend to wear out very quickly in those areas outside the Continental Terminal (CT) due to the amount of gritty sediments that are not naturally screened out and are introduced into the pumping mechanism.

Based on what the team was able to observe in the field and in studying the geological map which was produced in 1976, it is apparent that the technology currently being used is unsuited to the geologic conditions in most of the project area. In general, the CT in northern CAR forms a relatively small crescent extending from just east of Markunda south and east along the Ouham River to its most southerly point just below Batangofo where it proceeds due east to south of Nana where it turns northeast through the Brabingui National Park and into Chad at Miamere. The CT is composed of mainly silty sediments with intercalations of clay and sand with thin laterite in some places. This area has the same geologic environment as Chad and here the Chad technology has been very successful. South of this line (CT) the geology changes to that of a lateritic cap overlying crystalline/metamorphic rocks. It is here that the original project's assumptions have proven invalid and it is here the present drilling technology has run into serious trouble. The Mobile B-53 drilling rigs are not designed for this type of terrain. Frequently the bore hole will collapse before the screen has reached the scheduled position. In addition, the material filling the hole is very often extremely silty or argillaceous and the screen either becomes blocked immediately or after short use.

Although health education was mentioned in the 1978 PAR as recommended action, there is no evidence that this has been done. In many cases the effluent from the well creates a large saturated area around the slab which is frequently used as a wallowing area by hogs and other

VI. Continued

animals. In some cases the discharge from the pump was eroding a cavity back under the slab leaving an access point for the adjacent polluted water to seep into the well. The present Peace Corps Volunteers and Central African counterparts see Health Education as important but do not perceive it as part of their job.

There seems to be no physical or cultural factors that are affecting the health value of the wells completed. Villagers prefer the pumped water from the wells, which is cooler and cleaner, than the other waters available from pools and streams. The extra effort to obtain the tube well water (i.e. pumping) is willingly given.

While the report provides data related to adoption, adoption was not defined. It is assumed from the technology proposed for transfer that it includes the knowledge to maintain the wells. Their adoption rate equation should include such variables.

VII. Has the project set forces into motion that will induce further exploration of the constraint and improvements to the technical package proposed to overcome it?

The project is being resumed. The evaluation team suggests the following:

If AID wishes to achieve the project outputs and purpose (250 tube wells in northern, rural CAR) the following alternatives may be considered:

A. Wells originally planned:

1. Abandon all construction of machine dug small bore wells as originally specified in the project documents in all areas outside the Continental Terminal (CT).

2. Limit construction of the remaining 155 originally developed wells to those areas inside the CT.

B. Acquire the necessary equipment and necessary personnel to construct machine dug large diameter gravel packed tube wells in those areas outside the CT.

C. Change construction design of wells to be constructed outside the CT area from machine dug, small bore tube wells, to hand dug large diameter traditional wells.

The program was to develop a well drilling capacity within the Ministry of Public Works. To this end five Central African homologues (counterparts) have been named to the project and have been learning how to run the drilling/construction equipment and how to maintain the wells already in place. Based on the team's observations of two of the best counterparts, the team feels that their level of skill and experience for maintaining the wells is adequate. However, the team did not feel that

VI. Continued

they had the capacity to run the construction program without expatriate assistance/supervision. The team did note, however, that while the counterparts did appear to possess the necessary technical skills to perform the routine maintenance of the wells, no written maintenance schedule and procedures have been produced and maintenance seems to be done irregularly or as time and opportunity permit. The Central African counterparts also did not demonstrate the capacity to troubleshoot routine operating problems of their construction rigs.

There are several probable reasons for the Central African counterparts present inability to completely manage the equipment and continue the program after the withdrawal of the Peace Corps Volunteers (PCV's). Part of it may be their weak technical background, or possible indifference to the success or continuation of the project. However, one point that did come across strongly, was the PCV's perceive themselves as the prime implementers of the project and have expected that the project would continue with successive waves of replacement PCV's. They viewed their roles as trainers in a very secondary manner. They did not seem to grasp or accept the idea that they were there to work themselves out of a job.

The GOCAR does not appear to be capable of continuing project activities without AID support at this time. It is also probable that this situation will not change during the next 3 years. Observers in Bangui estimate that it will take at least 3 years of extreme fiscal belt-tightening before the GOCAR can even consider support to projects of this type. At present, most of the limited government resources are being put into the transportation sector and the production of cash crops.

VIII. Do private input suppliers have an incentive to examine the constraint addressed by the project and to come up with solutions?

Private sector intiatives were not adequately explored in this report.

IX. What delivery system did the project employ to transfer technology to intended beneficiaries?

The Peace Corps was to work with and develop a well drilling capacity within the Ministry of Public Works. Five Central African homolgues were named to the project to run the drilling/construction equipment and learn how to maintain the wells.

No information was given for the health education program.

X. What training techniques did the project use to develop the delivery system?

On-the-job training was given to counterparts from the Ministry of Public Works.

XI. What effect did the tranferred technology have upon those impacted by it?

As stated in section VI above, 95 wells have been constructed. Of these 95 only 79 are presently working. The villagers prefer the pumped water from the wells, which is cooler and cleaner than the other waters available from pools and streams. No study has been done nor is one planned to determine the health impact of the project.

It appears that the project was conceived, designed and initiated to take advantage of one-time-only funding possibility (i.e. Sahel Disaster Assistance). In doing this AID cut short or cut out some of the routine steps in project design. It is now obvious that the planning of a well project in an area with unknown geologic conditions must include adequate geologic investigation to insure the proper selection of well drilling equipment which will in turn ensure an acceptable hole dug/well production ratio.

The field study made in 1975 did only five test borings, none of them within the Continental Terminal (CT) area. Based on this limited investigation the decision was made to proceed with the project and to use the technology which had been successful in the Chad well program.

If a proper hydrogeologic investigation had been done, the project would have had to modify the technology or concentrate itself in the small area of the CT where the Chad technology worked.

In attempting to bring in producing wells in the area south of the CT the drilling team expended vast amounts of time, energy, resources, and morale. The attempts at well construction outside the CT area produced only 13 working wells with more than half (7) presently not working due to clogged screens and other problems related to the geology in that area.

In approaching either an extension of this present well project or any other well project, the following steps should be taken. First, a well inventory reconnaissance survey should be done to determine the location and depth of successful dug wells. Second, a full hydrogeologic reconnaissance with an adequate number of test holes or other data collection procedures should be done for all areas where wells are planned.

Counterpart training needs more emphasis if counterparts are to be realistically expected to continue without expatriate assistance/supervision.

Evaluation Executive Summary
AFR/DP/PPEA-BuCen

Sector/Subsector: Agriculture

Country: Central African Republic

USAID Office: Yaounde, Cameroon

Project Title: Fish Culture Extension Project

Project No.: 676-0004

LOP Funding: U.S. $118,000 Total $149,000

LOP Years: 1977-1979

Evaluation Type: Regular

Evaluation Title & Dates: 2/22/80 covering 1975 - 9/1979
Note: This does not coincide with the LOP

Evaluation Author: T.E. Bratrud, Evaluation Officer

Other Sources of Information: R.H. Goldman, Project Manager
J.B. Woods, Program Officer Peace Corps, Bangui

Questions

I. What constraint did this project attempt to relieve?

Apparently project believed that low amount of protein available to rural population was a constraint to development and that low production of protein could be remedied through participation in fish farming.

II. What technology did the project promote to relieve this constraint?

Rural farmers would be provided with knowledge of the process of producing fish and with management techniques of fish raising so that they can function, if necessary, without the assistance of government extension agents.

Government extension personnel would be provided with knowledge of the process of fish station management and extension techniques. Within the Ministry of Water and Forestry sufficient numbers of fish stations and extension personnel would be trained in these technologies.

III. What technology did the project attempt to replace?

The project was not designed to replace but to expand the existing network of fish stations, improve the extension effort and promulgate inland fish culture among Central African farmers.

The report did not provide information on what the target farmers were doing now but the evaluators clearly believed that adoption would occur if the project supplied appropriate inputs because a discontinued, previous project had met with success.

IV. Why did project planners believe that intended beneficiaries would adopt the proposed technology?

Not stated, but the following can be assumed as a result of evaluation statements:

1) some fish farming was already being done,

2) the nutritional status of inhabitants was poor.

V. What characteristics did the intended beneficiaries exhibit that had relevance to their adopting the proposed technology?

Farmers near one station are not the most progressive, energetic or enterprising when compared to other Central Africans. The observer noted that their ponds were in somewhat neglected condition because of the demands of the coffee harvest which have a higher priority for the farmers. The moniteur was sure the ponds' condition would be restored once the coffee harvest was finished and the farmers had more time.

Other characteristics of intended beneficiaries were not discussed.

VI. What adoption rate has this project achieved in transferring the proposed technology?

The project target was to increase the number of recipient farmers from 400 to 2,800. By September 1979, 1,451 farmers were participating (.51 percent of the target). Ponds in production increased from 353 in 1975 to 1,835 in September 1979. The total production increased from 754 in 1975 to a plateau in 1977 through 1979; 1961, 2,066 and 1,755 kg for 1977, 1978, and 1979, respectively.

Adoption and adoption rate were not defined nor was any baseline data cited that would enable the reader to develop confidence in the data.

VII. Has the project set forces into motion that will induce further exploration of the constraint and improvements to the technical package proposed to overcome it?

Government of Central African Republic (GOCAR) staff benefitted from on-the-job training and material support available through the project. Some employment generation resulted from station construction activities and improved management practices.

The station manager visited is fully responsible for the operation of the station and oversees the production of fingerlings. From the funds generated by the sale of fingerlings the station manager hires all the necessary labor, and buys materials for the station's operation. He receives little support from his Ministry. In addition to his responsibilities as station chief, the moniteur is responsible for providing small

VII. Continued

farmers in the surrounding area with information on small pond fish production. To this end the moniteur has at his disposal one mobylette whose operational costs must be met out of station revenues. The mobylette very much limits the potential range of the moniteur's extension efforts as it is too light a vehicle to have much of a life over the poor CAR country roads and trails and its carrying capacity is very limited. There is little hope that the Ministry will be able to provide the moniteur with a replacement mobylette when the present one is worn out. What is required is a more powerful and heavier motorcycle such as a Yamaha 125cc Endura.

Given the moniteur's lack of mobility, it is difficult to see how he can carry on an extensive effort. However, at this point, it looks as if he is capable of holding the station together and doing some limited extension work with farmers close to the station.

Some of the 1,451 farmers participating in the program are producing their own fingerlings and have apparently acquired sufficient knowledge of the process to continue without outside support. Their production is being consumed by their families, neighbors, and local demand for this source of protein is expected to continue.

VIII. Do private input suppliers have an incentive to examine the constraint addressed by the project and to come up with solutions?

No information provided unless the farmers are perceived as private enterprise.

IX. What delivery system did the project employ to transfer technology to intended beneficiaries?

A trained group of extension agents would diffuse the technology through facilities as well as ponds. Extension agents did not have adequate transportion but were to work with farmers near the fish stations.

X. What training techniques did the project use to develop the delivery system?

Three week traveling seminar to train new personnel in station management and extension techniques.

The method for training farmers was not stated.

XI. What effect did the transferred technology have upon those impacted by it?

The direct project beneficiaries are the 1,451 farmers who participate in the fish culture program and their families and neighbors who consume their production. Given the scope of this evaluation one cannot comment on the qualitative or nutritional impact of this project on the rural population. Rural Central Africans have a nutritional status which appears to be substantially below many other West and Central African countries. During

XI. Continued

recent visits to the CAR by USAID staff, clinical signs of malnutrition were readily observed in the villages and towns. As such, we assume that any incremental increases in calories and protein were well utilized.

Several lessons have been learned as a result of this project. One is that logistic problems including procurement and transportation are extremely difficult in the CAR and that design of new activities should be given more than the usual degree of planning/ programming to this subject. Two, government support is apt to be minimal for several years to come. Not necessarily as a consequence or manifestation of indifference but simply as a consequence of the prevailing economic situation. Therefore, our projects should be of either top government priority (infrastructure) where they might be assured of GOCAR and/or other donor support, or they should be of the type that is basically self-sustaining or that can be managed independently by Peace Corps or a PVO/NGO.

Evaluation Executive Summary
AFR/DP/PPEA-BuCen

Sector/Subsector: Agriculture Country: Ethiopia

Project Title: Ada: District Development Project ADDP Project No. 663-0162

LOP Funding: $1,651,000 Loan: $568,000 LOP Years: Pro-Ag Equiv. 1971
Final Input 1978

Evaluation Type: Final Evaluation in PAR (Project Appraisal Report) Format

Evaluation Title & Dates: 6/25/76 to 3/31/78; 10/13/78

Evaluation Author: Peter W. Shirk

Other Sources of Information:

Questions

I. What constraint did this project attempt to relieve?

Evaluation report does not clearly identify the constraint, rather it appears to be a smorgasbord of elements. Project materials reveal that the overall theme is trying to move small holders and former tenants from subsistence to market oriented agriculture. It also appears that roads are needed so that goods could be more readily marketed.

II. What technology did the project promote to relieve this constraint?

Technologies promoted by this project include:

1. Improved agricultural production without requiring other inputs or additional expenditures by using technologies, such as optimum planting dates, weeding, seed density, etc.;

2. Utilization of irrigation for year round propagation of vegetables for local consumption and improved nutrition, to generate additional revenues from vegetable marketing, for providing peasants with off-season employment, for growing forage crops to supply areas with traditional pasture problems, to introduce fish into the diet of the farm community, and to provide water during the dry season for livestock and domestic use;

3. Introduction of a program to increase cereal production;

4. Home economic technology, such as nutrition, child care, poultry production, homemaking, gardening, health, and sanitation.

5. Development of institutions to coordinate inputs.

   Note: Original institutions were reorganized when the rural sector was restructured and the peasant associations (PA's) and cooperatives were formed. Transference of financial, managerial, planning, monitoring, and coordinating abilities to the PA's were promoted.

III. What technology did the project attempt to replace?

Technologies replaced include:

1. Use of less efficient planting dates, weeding, seed density, etc.

2. Current (preproject) lack of nutrition and in ufficient protein to be overcome by introduction of fish into diet.

3. Reliance on rain fed agriculture.

IV. Why did project planners believe that intended beneficiaries would adopt the proposed technology?

Project planners believed that intended beneficiaries would adopt because:

1. Increased yields could be obtained without requiring other inputs or additional expenditures.

2. Program for cereals (not described) would increase yields by 100 percent.

(Assumed but not stated)

3. Opinion leaders would be influential members of PA's and influence the beneficiaries to adopt the technology.

4. Increased production and available markets would result in higher economic return.

   Note: The evaluation report does not comment on compatability of technology with traditional values, the complexity of the technology, nor its divisibility or communicability, nor the availability of the information about the technology, nor the awareness of attitudes of opinion leaders.

V. What characteristics did the intended beneficiaries exhibit that had relevance to their adopting the proposed technology?

The only characteristics known about the beneficiaries were that they were small holders or former tenant farmers with subsistance incomes.

No information is available on characteristics, such as age, education, degree of social participation, interest in innovations as evidenced by reading experiment station bulletins, magazines and newspapers, participation in

V. Continued

cooperatives and farm groups prior to project implementation, or the orientation to innovations of the beneficiaries.

VI. What adoption rate has this project achieved in transferring the proposed technology?

Some time between 1974 and 1976 a new governmental structure was established. This consisted of nationalization of the rural lands, the formation of peasant associations (PA's), and the ensuing transformation in the administrative structure of the rural sector. This transformation caused the original credit program to be changed from providing credit directly to individual farm families to being channeled to farmers through the PA's.

The number of farmers participating in the credit program increased from 412 in 1973 to 21,779 in 1975 and declined to 12,500 in 1978. Use of inputs, such as seeds and fertilizer, showed a similar pattern for credit program participants. These fluctuations could be the result of the shift in the flow of credit through the PA's as described above. The repayment record declined somewhat from 98 percent in 1973 to about 80 percent in subsequent years. About 156 PA's existed in 1976 which due to inactivity and reorganization dropped to 141 by the end of the project. The level of adoption by the farming population of the package of inputs designed to increase production was probably not widespread enough to generate the increases desired by the end of the initial 5 year phase of project activities. The report indicated that supporting infrastructure such as roads, warehouses and project centers were approximately implemented as planned with the exception of roads. Only 68 kilometers of roads were completed compared to 105 planned. No status was given on the transfer of home economics technology.

The report does not define adoption nor explain the method of computing it.

VII. Has the project set forces into motion that will induce further exploration of the constraint and improvements to the technical package proposed to overcome it?

The institution of the peasant associations (PA's) and the administration of the cocperative organizations is expected to play the primary role in expanding adoption of improved agricultural methodologies and inputs.

VIII. Do private input suppliers or buyers have an incentive to examine the constraints addressed by the project and to come up with solutions?

Suppliers are not mentioned in this evaluation report. The PA's are expected to eventually assume responsibility for credit and marketing activities and the financing and management of the Ada project centers as well as provide loans for fertilizer and seed. The repayment ratio appears to be high enough to keep these organizations financially viable. Increased opportunity for employment in off-season should promote labor interest. However, this was not described as a characteristic of the beneficiaries.

IX. What delivery system did the project employ to transfer technology to intended beneficiaries?

1. Peasant associations (PA's) were formed which collaborated on the development of the extension programs and input package for each crop year. These packages were tailored to the production requirements within the geographic area of the PA. The PA's were designed to assume responsibility for credit and marketing activities and the financing and management of the Ada project centers.

   The PA's are cooperating with the AMC, the Ethiopian Grain Board and the Ministry of Interior concerning marketing and provision of inputs as well as activities such as mass organization, political consciousness, security, and mobilization of people's militia. The organization of PA's into producers and service cooperatives is to be a cornerstone of the Ethiopian national rural development strategy under MPP II and as such cooperative development is a primary objective of ADDP management.

   Five to ten PA's would be brought together to form each cooperative. When cooperatives have reached a sufficient stage of development, the project marketing centers will be registered as primary cooperative societies and at that stage will be free to market their commodities through AMC, or other agencies and channels. During the development stage ADDP will retain responsibilities for establishing, registering, and auditing their accounts and will provide them with technical assistance in bookkeeping, marketing, and current information on supply and demand.

2. Training for members of the loan committees which consists of three representatives from each PA: manager, cashier, and secretary.

3. The trained extension personnel are distributed according to population and the needs of the geographic area. Most Woredas will have an extension specialist who assumes the responsibility for adminstration, one home (economics) agent, one cooperation agent and four development agents. These personnel should also influence beneficiaries and alleviate local circumstances. The extension and home economic activities were rendered through the PA's to the farmers.

4. Construction of 68 kilometers of all-weather penetration road connecting Chefe-Donsa in the north, Godnio, Debre Zeit, Dire, Bekajo, and Adullala. Another 80 kilometers of track is usuable only during the dry season. This should improve communications, transportation, and market accessibility. Additional road construction will be limited to high priority areas.

5. Construction of warehouses and offices at six project centers. These facilities will be used by the cooperatives for managerial and program implementation.

6. Establishment of Kuriftu Lake, a man-made lake, as a source of water supply for irrigation, farm livestock, and domestic purposes.

X. What training techniques did the project use to develop the delivery system?

The staff for each loan committee undergoes training by project staff for a period of approximately 4 weeks.

The contractor provided technical assistance in bookkeeping, marketing, and current information on supply and demand to the cooperatives.

An extension program has been established and presumably assists farmers through the peasant associations. Home economics program presumably assists farm households also through PA's. No in-depth information was given on how either of these programs were administered.

XI. What effect did the tranferred technology have upon those impacted by it?

Although a baseline study was conducted, the original research design was rendered unworkable by the nationalization of rural lands, the formation of peasant associations and the transformation of the administrative structure of the rural sector. A planned socio-economic study could not be used to measure the impact of the project on incomes or agricultural production. Because of the wide spread changes affecting the entire rural sector, the evaluation report questioned the advisability of attempting any kind of study to measure income and production impacts. However, it was believed that the project had the capability to increase production.

Evaluation Executive Summary
AFR/DP/PEEA-BuCen

Sector/Subsector: Health/Family Planning — Country: Ghana

Project Title: Ghana YWCA Day Care Center Project — Project No. 698-0388.3

LOP Funding: $25,000 — LOP Years: Sept. 1976-May 1978

Evaluation Type: Project Evaluation Summary

Evaluation Title & Dates: Ghana Day Care Evaluation Report, April 1980

Evaluation Author: Jeffalyn Johnson & Associates, Inc.

Other Sources of Information: None

Questions

I. What constraint did this project attempt to relieve?

The evaluation report states that the YWCA had received requests from village women for assistance in caring for their young children. It is assumed that the constraint to development relieved by this project is the inability of women with young children to engage in economic activities which will improve the quality of their family life. The report does not tell us how the constraints were identified or if the identification was based on primary or secondary data or baseline surveys. This kind of information is needed to assess the level of confidence that can be placed in the data.

II. What technology did the project promote to relieve this constraint?

A day care center staffed with personnel trained in health, nutrition, and family planning services constituted the technology promoted by this project.

III. What technology did the project attempt to replace?

Lack of community facilities for caring for children and the economically inefficient practice of each mother trying individually to provide proper care for her children appear to be the technologies that the project replaced. The report implies that women spend much of their time caring for children and cannot engage in economic activities.

IV. Why did project planners believe that intended beneficiaries would adopt the proposed technology?

A need existed as manifested in the requests to the YWCA for assistance from village women. Moreover, the project would provide village women with an immediate economic benefit, as well as a health, nutritional and social benefit for their children. The report did not describe the economic

IV. Continued

activities that women could engage in or what the relative advantage would be. It can be assumed that the project is compatible with traditional values since it was requested by intended beneficiaries. It can also be assumed that the technology is not complex, it is divisible, it is communicable, and it is acceptable to opinion leaders.

V. What characteristics did the intended beneficiaries exhibit that had relevance to their adopting the proposed technology?

They were willing, in fact eager, to accept the benefit according to the evaluation report. Characteristics associated with adoption such as reading bulletins or periodicals, education, income and community participation are not assessed in the evaluation report.

VI. What adoption rate has this project achieved in transferring the proposed technology?

The project has been adopted by the families of 85-90 children at the Asokore center and 69 children at the Bawaleshie Center. Inadequate facilities prevented the centers from accepting more children. Although it is not stated in the report, it is assumed that the technology transfers planned for the centers including nutrition, family planning, and health practices were successfully transferred. Adoption is not defined nor is the method of measuring it. Neither is the source of information specified.

VII. Has the project set forces into motion that will induce further exploration of the constraint and improvements to the technical package proposed to overcome it?

No. While both the YWCA and the government of Ghana have shown an interest in the project they do not have adequate funds for continuing it. The villagers have also shown a big interest in the project but drought has caused serious financial hardship and they were not able to support the project on a continuing basis.

VIII. Do private input suppliers have an incentive to examine the constraint addressed by the project and to come up with solutions?

The evaluation report does not deal with the issue. Ordinarily, people who can afford it will usually pay for it especially if it enables them to engage in an economic activity that results in a net gain.

IX. What delivery system did the project employ to transfer technology to intended beneficiaries?

Trained personnel were provided by the YWCA and the Ministry of Health provided community health nurses to provide continuing training and support for local women. A complete and comprehensive description of the delivery system was not provided nor was the schedule of implementation.

X. What training techniques did the project use to develop the delivery system?

On-the-job training coupled with some formal training and direct supervision was provided.

The report did not describe the technology that would be transferred to the delivery system and in fact the description of the training was vague.

XI. What effect did the transferred technology have upon those impacted by it?

It provided women with more time to contribute their labor to improving the quality of life of the family. However, the anticipated economic gains were offset by a severe drought. The drought affected the economy of the villages to the point where there was a substantial reduction in the contributions made to the child care centers by the villagers. What the women using day care services did that nonusers did not do, was not stated in the report. The report did not identify sources of this information or the methodology for obtaining it.

Evaluation Executive Summary
AFR/DP/PPEA-BuCen

Sector/Subsector: Agriculture Country: Kenya

Project Title: National Range and Ranch Development NRRD Project No. 615-0157

LOP Funding: $1,710,000 LOP Years: 73-81

Evaluation Type: Intermediate

Evaluation Title & Dates: 4/75-4/76, 9/10/79

Evaluation Author: Devres Inc. George H. Axinn, James W. Birkhead, Allan W. Sudholt

Other Sources of Information: None

Questions

I. What constraint did this project attempt to relieve?

Shortage of water supply for grazing areas. No market system. There were little or no foreign exchange earnings from livestock.

II. What technology did the project promote to relieve this constraint?

1. Engineers and hydrologists were sent to the country to assist GOK in construction of roads, tracks, reservoirs, pans, other water facilities (boreholes, windmills), weighbridges, auction sites, and buildings.

2. Range/ranch planners were sent to assist in the development and managerial expertise of planning and establishing range groups and ranches.

3. Heavy equipment maintenance personnel were sent to teach GOK personnel to maintain heavy equipment.

4. GOK personnel received formal training in range planning and management, and agricultural economics.

5. Breeding cattle, distribution and marketing of feeder cattle to ranches in another area for fattening was promoted. Desire was to increase the offtake in the Northeast Province (NEP) range areas.

6. Conserving some pastures for drought and regular rest periods was promoted.

7. Pastoralist were being taught dam maintenance, dehorning, and castrating.

The report did not comment on the complexity, divisibility, or the cost of the new technology.

III. What technology did the project attempt to replace?

Current practices other than nomadic agriculture were not described. This was being replaced by having range groups and block areas and constructing water points the pastoralists would be able to manage on smaller allocations of land. More cattle could be raised on the same amount of land and sold for cash. Herding of camels, sheep, goats, donkeys and cattle would be mainly replaced by patterns of grazing and marketing cattle.

The report does not discuss cost, market conditions and prices, complexity, divisibility or the skills needed to implement and sustain preproject technology.

IV. Why did project planners believe that intended beneficiaries would adopt the proposed technology?

Pastoralists in the Northeast Province and Southern Rift Valley areas are likely to adopt a cash economy. More rangeland would be used if water could be made available. Herd sizes would be expanded if more grazing lands were made available and then the pastorialists would be willing to sell immature animals to others for fattening. Prices would be sufficiently attractive to cause pastoralists to sell immature animals. More certain water and more available grazing would encourage pastoralists to confine their movements to known and manageable blocks. Organized group action by resident pastoralists within blocks would cause them to convince outside pastoralists not to come in when attracted by increased grazing.

The relative cost advantage of the new technology was not estimated nor were the effects of traditional values assessed.

V. What characteristics did the intended beneficiaries exhibit that had relevance to their adopting the proposed technology?

Subsistence level pastoralists. No other characteristics were mentioned. However, if the ranchers have low risk characteristic they would probably not adopt this project because ranching based entirely or mainly on the purchase of immatures from North rangelands and grass fattening them on the ranches is a very risky business. The adverse effects of drought years (rainfall is erratic and very severe drought occurs periodically once every 5 or 6 years) on the availability of immatures for sale from such dry range areas must be taken into account in planning ranching operations.

Education, social participation, family size, income or net worth were not assessed, nor was thier attitude towards traditional values.

VI. What adoption rate has this project achieved in transferring the proposed technology?

The targeted population was subsistence pastoralists in range and ranch areas of Kenya. The adoption rate was not given. However, there are many reasons stated as to why the project was failing.

VI. Continued

The primary reason being that the majority of low income producers in the range and ranch land areas are subsistence pastoralists to whom livestock (cattle) numbers represent savings and stock wealth. Instead of cattle being exchanged for money in the market, they were exchanged within the system for various social purposes. The pastoralists were not consulted, instead of selling cattle they were more interested in a market for sheep, goats, and camels.

GOK employees were appointed to be in charge of the ranches and as range officers. Of the persons trained to be range officers by the GOK only three spoke the language of the pastoralists and one other was interested in learning the language. Also, a drought occurred for two years in a row which hampered expansion of cattle herds. The GOK did not maintain the pans, reserviors, boreholes, and tracts as agreed nor was the equipment maintained. In addition the Ministry of Water Development did not pay its bills so further equipment was not released.

Poor coordination of the project, too many donors and not enough backstopping by mission, no AID team leader or coordinator for the project, inadequacy of supply management, and disbursement allowed without "conditions precedent" being met are all reasons the project was failing. Also, the GOK kept economic price controls on beef that made the price extremely low. Thus, the rangeland people had no incentive for changing their beliefs and selling their stock.

Grazing committees were formed at the block level with membership split between government officers and grazing representatives. The goal of these committees is unknown. However, one senior official of the Ministry of Agriculture stated "Graziers have their own interests and government officers have their own interests, and it is a matter of negotiation." Household heads are registered as members of grazing blocks and pay water use charges. The proportion of users registered per block varies from 15 to 90% - April/June 1979 report: 15%, 30%, 70%, 90%, 30%, 85%, 87% and 78%. However, it was suggested that some graziers registered in several different blocks to protect themselves against the possibility of severe drought in any particular one. The knowledge of actual numbers of people in each block seems soft.

VII. Has the project set forces onto motion that will induce further exploration of the constraint and improvements to the technical package proposed to overcome it?

Not stated.

VIII. Do private input suppliers have an incentive to examine the constraint addressed by the project and to come up with solutions?

Not stated.

IX. What delivery system did the project employ to transfer technology to intended beneficiaries?

GOK personnel were trained in the U.S. along with some in-country training. Full-time long term technical assistance was provided to the GOK in the Ministries of Agriculture and Water Development. GOK members were appointed range officers and on grazing committees.

A training center was established at Griftu. It was originally organized to train pastoralists in range management, but it has since widened its scope to include home economics and agriculture. It runs two week-long courses for pastoralists each month. Then there is another week-long course each month and some days are reserved for seminars and getting feed-back from former students. The teaching staff, a Principal Assistant Range Officer, Technical Assistant, and Home Economist, handled 24 courses last year with an average of 18 students.

The students range in age from 25 to 50 years and are recruited in various grazing blocks of the district. They are brought to school by lorry, charged 15 Kenya shillings for the week, and receive lectures and practicals. Subjects include basic range management, advantages of rotational grazing, how to use and maintain dams, and animal husbandry (dehorning and castrating).

The Center has very few visual aides and would like tapes and posters in Somali language. The present headmaster is a local person, with experience as a range officer, who speaks the Somali language. He states his major achievement is supporting the block program. He would like to see the teaching system improved, some flexibility in fees, which would make recruitment of students easier.

Construction of dams, reservoirs, pans, boreholes and tracks to these water resources.

Livestock loans to ranchers who were having great difficulty repaying both cattle purchase loans and capital development loans.

X. What training techniques did the project use to develop the deliver system?

Long-term and short-term classroom training to GOK personnel.

Long-term technical assistance to GOK personnel.

One week training sessions for pastoralists in basic range management, advantages of rotational grazing, how to use and maintain dams and animal husbandry.

XI. What effect did the tranferred technology have upon those impacted by it?

One of the main objectives of range management is the maintenance in those communities of desirable plants, such as the perennial grasses at an optimum level for greatest use by the cattle, sheep, goats and donkeys owned by the pastoralists struggling to survive in such a harsh and hostile environment.

XI. Continued

In an attempt to increase animal offtake, overgrazing of the perennial grasses can be the beginning of range deterioration.

In flying over the area (northeast province) the week of August 27, it was quite apparent that soil cover was less than 50 percent with small trees and bush making up the greater part of the canopy. The bare red and brown soils were covered with innumerable tracks made by grazing and browsing animals and many hills, ditches and gullies could be seen.

If the dry period continues for some time the livestock will be even more concentrated at the few pans and reservoirs still containing water. Severe erosion damage had already taken place around a number of pans and reservoirs. The whole region is one of delicate floral balance and unless great care is taken to coordinate the grazing blocks with water availability, soil and wind erosion will take its toll.

It appears that the limiting factor in the development of the Kenya Ranch and Range project is water or lack of rainfall, its periodicity and the vagaries of the westerly winds and their wanderings from normal windflow patterns, bringing drought to East Africa and its hardship to man and beast alike.

Animal numbers should be limited to the amount of usable forage, its location and access ability, and the availability of wholesome drinking water to fit a range management plan which will reduce the wild fluctuations in stocking rates and ultimately overgrazing.

Data were shown to the evaluation team in respect to 162 proposed or actually operating group ranches in the Rift Valley Province. An examination of these data indicate that: (a) most of the ranches would be badly overstocked, and (b) that for most of the ranches the number of hectares per family are not sufficient to support those pastoralist families. The Masai pastoralists seem to view the program primarily as a means of increasing the sizes of their herds and flocks and giving better assurances of a larger and more steady supply of milk and blood to feed their families. Research has shown that about eight cows are required to provide milk and blood as food for each member of a pastoralist family in the Rift Valley.

There is considerable evidence to indicate that there are serious problems in respect to establishing group ranches as planned. In some cases the acreage per family is too small. There are some group ranches proposed with less than an average of one hectare per family and there are quite a a few with less than five hectares per family. In numerous cases, the only conclusion is that many of the family members would have to work elsewhere, and in even more cases the pastoralist families would have to drastically change their traditional diets, and produce or buy cereals and vegetables.

Evaluation Executive Summary
AFR/DP/PPEA-BuCen

Sector/Subsector: Population | Country: Kenya

Project Title: Population Studies and Research Center | Project No.: 615-0165

LOP Funding: $2,692 (U.S.) $3,634 (Total) | LOP Years: FY 76/FY 84

Evaluation Type: Special Evaluation

Evaluation Title & Dates: The Population Studies and Research Instiutute of the University of Nairobi: The First Four Years
June 15-19, 1981

Evaluation Author: John F. Kantner, Ph.D, Ozzie G. Simmons, Ph.D

Other Sources of Information:

Questions

I. What constraint did this project attempt to relieve?

The constraint attempted to be relieved is the poor knowledge of the negative economic and social effects from rapid rate of population growth. As stated by President Moi, "without new attitudes which would promote family planning the population will be more than 30 million by the year 2000." He also specified in detail the anticipated consequences of this growth for development goals in employment, health care, food supply, housing, education, and living standards in general.

Another important constraint mentioned in the evaluation is lack of sufficient properly educated staff to carry out research on family planniny population control activities.

II. What technology did the project promote to relieve this constraint?

The evaluation report did not describe the technology adequately. It is assumed that the pre-project program to disseminate information and perform research was inadequate and that greater awareness of the problems associated with over population had to be communicated to the people. Characteristics such as relative advantage, complexity, possible cultural problems and other characteristic of the new technology could not be assessed from the data provided by the report.

a. It was assumed that the technology consisted of knowledge of the organization and operation of a specialized Population and Studies Research Center that will provide direct assistance in the area(s) of research and training to the National Family Welfare Center which has

II. Continued

direct responsibility for the expansion of GOK family planning services in the rural areas.

b. Knowledge of the operation of a research segment which will provide responses to the research and evaluation needs of government ministries and other organizations involved in population/family planning activities.

c. New methods of dissemination of population/family planning, information and performing research were implied.

III. What technology did the project attempt to replace?

The existing technology was not described but the report indicated that present programs were inadequate and not working. Technologies to be replaced by the project include:

a. Old population/family planning curricula taught in various departments of the University.

b. Less efficient training system for implementing family planning system or performing research.

IV. Why did project planners believe that intended beneficiaries would adopt the proposed technology?

Project planners believe that research reports from Population Studies and Research Center could be influencial in arousing awareness of Kenya's population problems and in creating a need for taking population problem into account in national planning.

V. What characteristics did the intended beneficiaries exhibit that had relevance to their adopting the proposed technology?

The intended beneficiaries are the entire urban and rural population of Kenya. Their educational, social, and economic characteristics are not discussed in the evaluation report, but will be available from the 1983 demographic survey which will include 80,000 urban and rural households.

Traditional values of adopters are not discussed either.

VI. What adoption rate has this project achieved in transferring the proposed technology?

Adoption was not defined and cannot be presumed because the technology was not described.

VI. Continued

The adoption rate before and after the project is not discussed in the report. However, it is expected that the impact of PSRI publications on GOK and beneficiaries perceptions of the consequences of Kenya's rapid rate of growth on food supply, housing, education, and living standards in general would promote the adoption of family planning methods in the near future.

VII. Has the project set forces into motion that will induce further exploration of the constraint and improvements to the technical package proposed to overcome it?

The report indicates that the project has attracted the attention of Kenya's prominent government leaders including President Mori and has helped to make rapid population growth a matter of national concern. It is presumed that the new center and its staff will work toward perpetuating their own existence at a minimum and will probably seek an expanded program for handling the problem.

VIII. Do private input suppliers have an incentive to examine the constraints addressed by the project and to come up with solutions?

Private input suppliers are not mentioned in this evaluation report. Apparently the private sector would not have a direct role in influencing the beneficiaries in adopting family planning methods.

XI. What delivery system did the project employ to transfer technology to intended beneficiaries?

1. The project will provide direct assistance in the areas of research and training to the National Family Welfare Center which is the government agency which has direct responsibility for the implementation of GOK family planning services in the rural areas.

2. Difussion of family planning related material which may persuade intended beneficiaries to adopt contraceptive methods. The Central Bureau of Statistics distributes and reprints several PSRI publications including "The Future Development of the Kenya Family Planning Program," and "Demographic and Contraceptive Programs among Kenyan Women."

3. A new training program which will include a postgraduate program and infusion of new population/family planning curricula into undergraduate courses in various departments of the University.

Also the PSRI has prepared materials to facilitate the implementation of family planning policy at provincial and district levels, thus stimulating the awareness and attitude toward better family planning of the intended beneficiaries.

X. What training techniques did the project use to develop the delivery system?

Provincial-level workshops were designed for all personnel concerned with development planning at both the district and provincial levels. The dynamics of population change and the interrelationship between population and the economic and social aspects of development were the subject of the workshops. The aim was to develop an understanding of the implications of population growth for the country's 5-year development plan.

XI. What effect did the transferred technology have upon those impacted by it?

It is difficult to measure the effect of research on programs and policies, particularly in the short run. It is clear, however, that the PSRI has been a prominent participant in the national dialogue on the consequences of population growth and that it had influence the political leaders of the country and developed an awareness of population problems among intended beneficiaries as well as a general concern for family planning services as a measure to relieve future shortages of food, housing, medical and education services, and other social services.

The report does not indicate that any provisions were made to measure the effects of project implementation. Reliable measures of this kind result from proper planning and conceptualization which has been incorporated into the evaluation design before beginning project implementation.

Evaluation Executive Summary
AFR/DP/PPEA-BuCen

Sector/Subsector: Country: Kenya

Project Title: CARE-Assisted Village Water Development Project No.: 615-0166

LOP Funding: USAID $150,000 annually LOP Years: 1975-1977

Evaluation Type: End of first year evaluation

Evaluation Title & Dates: August 28, 1976

Evaluation Author: Huntley Biggs and John R. Schott, American Technical Assistance Development

Other Sources of Information:

Questions

I. What constraint did this project attempt to relieve?

Insufficiently accessible water supply to rural poor people was the constraint addressed by the project.

CARE's proposal suggests that the conveyance of water to rural communities will greatly benefit women who, CARE states, currently spend an average of three to six hours daily fetching water. It is presumed that by devoting less time to hauling water, women will spend more time in such pursuits as child care, family betterment, agricultural production, and education, thereby enhancing their status in society. Other anticipated benefits of the schemes are (1) to improve health and sanitation; (2) to make rural areas more attractive places to live and thereby curb rural-urban migration; and (3) to develop local leadership and institutional arrangements which will promote further development based on self-help community efforts.

II. What technology did the project promote to relieve this constraint?

The technologies proposed by this project included various self-help strategies related to water supply projects. CARE and AID were to provide materials and equipment to support community projects accepted for assistance by CARE and AID.

III. What technology did the project attempt to replace?

The project replaced existing water system technology which was not described. It was designed to help support development of water projects through "self-help."

IV. Why did project planners believe that intended beneficiaries would adopt the proposed technology?

This project was supportive of the GOK's goal of "...bringing to the entire population a safe supply of water sufficient to the requirements for domestic and livestock consumption. It has been the stated intention of the Government to achieve this objective by the year 2000.

In the past, self-help water schemes were assisted both by the Ministry of Health (in cooperation with the World Health Organization) and the Ministry of Housing and Social Services. The value of these projects has increased by 85 percent between 1971 and 1975, with 80 percent of the total value being supplied by the beneficiaries. Government budgetary development allocations for self-help water schemes through the Ministry of Agriculture's Water Department (reconstituted as the Ministry of Water Development in 1974) have increased from K £ 174,760 (1974/75) to K £ 1,132,000 (1976/77). External donors to the MWD self-help water schemes include The Netherlands, UNICEF, (which sponsored a pilot training program for local operators of systems), the Peace Corps (which is to supply seven technicians beginning in the fall of 1976), Freedom from Hunger, OXFAM, various missionary groups, and CARE. A special office in the MWD, Minor Rural Water Schemes Section, coordinates the activities of these various donor organizations, and provides technical assistance to the projects they support.

V. What characteristics did the intended beneficiaries exhibit that had relevance to their adopting the proposed technology?

Not described except they were supposed to be rural poor people.

VI. What adoption rate has this project achieved in transferring the proposed technology?

One of the major difficulties in performing this evaluation has been determining (a) at which stage a CARE-supported project is to be considered as completed; and (b) the number of beneficiaries actually served by the CARE-contributed portion of a given village water system.

The problem basic to these difficulties is that CARE supports only a portion of a total project or water development scheme; it does not finance construction of the entire system. Hence:

> CARE's portion of a total project can be completed and in place, but the total system is not yet installed. For example, CARE's pipes may be installed, but the pump and/or engine may not be operable as yet. CARE will legitimately file a "project completion report" with its home office (copy to USAID), but in fact its contribution is not necessarily operable owing to other parts of the system not yet being in place.
>
> The total number of beneficiaries of a "CARE water development project" under this grant is liable to misrepresentation or misinterpretation. If CARE supplies a water main leading from a pump

VI. Continued

to distribution lines (the latter of which are being supplied by other donors) is it fair to say that the beneficiaries of the CARE-funded portion of the project are the total number of beneficiaries of the entire system? If this is considered proper, what should be the case if CARE supplies only one of the distribution lines serving a small percentage of the beneficiaries of the entire water system?

Project documentation presently provided USAID by CARE fails to take account of both these problems, and therefore, tends to be misleading. Failure to address these issues and establish a realiable, consistent, and clearly-articulated basis for data relating to "project completion" and "beneficiaries served" will also have serious consequences when and if the final evaluation of the grant's implementation is conducted. It has already caused problems in attempting to compute per capita costs of in-place systems.

According to the eight Site Completion Reports received by USAID to date together with a cost/benefit information for a ninth, the total number of beneficiaries to be served by present installations of all types is 30,729, only slightly more than one-tenth of the first year's target of 300,000. This shortfall can be attributed to inadequate research when preparing the grant proposal, which overestimated the feasible target population given the total funds to be applied to capital expenditures, and with the fact that nondomestic supply projects (i.e., irrigation, schools, and cattledips) have been implemented which have relatively few beneficiaries per unit of capital outlay.

Little purpose may be served by belaboring past history, but a description of the major problems currently confronted by the GOK, CARE, and USAID/Kenya in seeing this grant implemented may suggest some modifications in this (or any revised) agreement which AID and CARE may wish to conclude in respect to water development in Kenya.

Finally, there is a problem about health, the improvement of which among target groups is an objective of this project. To date, the quality of water has not been a concern of CARE--nor of the Ministry of Water Development. Instead, it is supposed to be a concern of the Ministry of Health, which at various levels is not coordinating its activities with the Ministry of Water Development.

Under the dubious assumption that increasing the quantity of water will (a) alone improve health and/or (b) inevitably lead to a desire for--and the eventual ability to provide for--safe water, neither CARE nor the MWD has given any attention to the quality of the water they help to make more accessible. (Indeed, it is a deficiency of the grant instrument that this is not even implied as being a concern of CARE.)

This "quality vs. quantity" debate, which frequently embroils water experts, need not be indulged in here. However, there is no question but that CARE should pay at least <u>some</u> attention to whether or not it is simply supporting the greater distribution of contaminated water in funding some of the

VI. Continued

projects under this grant. Indeed, Kenya's Development Plan specifically states that its development goal is to bring "to the entire population the benefits of a safe supply of water sufficient to their requirements for domestic and livestock consumption." And this same emphasis on safe water is to be found in the recent World Bank Sector Paper "Village Water Supply" (March, 1976).

VII. Has the project set forces into motion that will induce further exploration of the constraint and improvements to the technical package proposed to overcome it?

As often the case in Third World rural water projects, government ministries are immersed in jurisdictional disputes and tangled lines of communication. Although eighteen months ago a new Ministry of Water Development was created from a department in the Ministry of Agriculture and given primary responsibility for rural water supply projects, it is plagued by:

(1) Lack of trained personnel, particularly in technical design, supervision and inspection of construction, operations, and maintenance of small self-help water schemes;

(2) Insufficient budgetary support (which places a constraint even on the operation of vehicles);

(3) Bureaucratic (and sometimes personal) disputes at various levels with personnel of the Ministry of Health (which was responsible until recently for all small villlage water supply systems);

(4) Inadequate coordination of its activities with other ministries, particularly the Department of Community Development and the Ministry of Health.

VIII. Do private input suppliers have an incentive to examine the constraint addressed by the project and to come up with solutions?

This project is designed to assist "self-help" groups. These groups are to come up with 50 percent or more of the funding of the project before CARE accepts the project. See discussions given in section XI.

Service and spare parts for U.S. pumps and machines are not available locally; of the twenty-five suppliers of pumps canvassed by CARE staff, only one stock a U.S. make, and this is a submersible pump which is a type for which CARE hardly ever has any use. Since the major problem which the project faces is the continued operation and maintenance of in-place systems, the availability of service and spare parts is critical to the long-term success of projects.

Apparently the project did not anticipate difficulty in getting spare parts and did not contain any provisions for helping suppliers obtain and stock needed parts.

IX. What delivery system did the project employ to transfer technology to intended beneficiaries?

The CARE/AID Water Development Program for Kenya is to provide materials and equipment for community self-help rural water supply projects identified for assistance by the CARE/Kenya staff in accordance with the grant proposal and criteria established under the Foreign Assistance Act.

The Government of Kenya is supporting the CARE effort primarily in three ways; (1) an annual cash payment to CARE/Kenya for personnel and operational expenses; (2) provision of CARE office space and fuel for CARE vehicles; and (3) provision of trained manpower. The Government's direct manpower input is provided in the form of personnel attached to the Ministry of Water Development (MWD) and the Ministry of Housing and Social Services (MHSS).

The former is responsible for the technical design of projects, the supervision of their construction and the followup inspection upon completion. The latter assists the local community in organizing, attaining legal status for the local project committee, meeting the necessary requirements in handling the community's financial contributions to the project, and guiding the project proposal through governmental channels.

The local community or village is expected to provide partial financing and labor for the construction of the water system, in a gazetted amount of fifty percent of the project's total cost. The operation and maintenance of the system is left in the hands of the village, which may consult and sometimes receive assistance from the local MWD officer. Eventually, these various small water schemes are supposed to become part of a government-controlled and managed national water supply grid.

According to CARE/Kenya officials, as of June 30, 1976, the following financial expenditures and committments have been made:

	Allocated	Committed	Disbursed
AID - materials and equipment	$140,000.00	$140,000.00	$106,317.34
AID - est. overhead retained by CARE/New York	10,000.00(1)	10,000.00	10,000.00
CARE - materials and equipment	50,000.00	50,000.00	11,142.02
CARE - personnel and operations	14,000.00	35,333.47(2)	35,333.47
GOK - personnel and operations	43,750.00(3)	43,750.000	43,750.00
TOTALS	$257,750.00	$279,083.47	$206,542.83

IX. Continued

(1) A portion of direct costs are retained for overhead at the CARE/New York office in accordance with grant provisions. The exact amount has not been determined. The above figure is an estimate by the CARE/Kenya staff.

(2) It should be noted that CARE has committed some $20,833.47 in excess of its original allocations for personnel and operations.

(3) This is the annual GOK contribution of K Shs. 350,000 converted at the rate of 8.0 per $ U.S. 1.00. Due to the currence devaluation in the Fall of 1976, this dollar amount is less than originally projected.

X. What training techniques did the project use to develop the delivery system?

No training provided, only hardware was to be provided by this grant.

XI. What effect did the tranferred technology have upon those impacted by it?

CARE apparently entered into this grant without fully understanding the difficulties involved in implementing it, despite statements in thier proposal that they had been assisting water supply projects in Kenya since 1969. They also failed to draft a proposal which reflected the variety of inputs required to achieve the purported objectives of the grant.

It is clear that CARE has not undertaken the targeted number of projects nor reached the anticipated number of beneficiaries. By failing to do so, CARE has not fulfilled its obligations per the grant agreement.

It should also be mentioned that many of the problems identified by the evaluators were administrative or managerial. These have been acknowledged by CARE, USAID/Kenya, and GOK officials, and in some cases steps are already being taken to cope with them. Therefore, despite the serious deficiencies in the way in which work has been performed to date, the recognition of these shortcomings on the part of both CARE and USAID and their joint willingness to consider revisions in the original grant agreement augurs sufficiently well for the future of this project to justify its continued funding.

Finally, this evaluation has demonstrated that assisting PVO's to improve their capacity to undertake development projects of this nature can enable a more flexible and effective approach to "grass roots" development to occur than can be expected from most bilateral, government-to-government programs; the problem still to be resolved is determining the proper extent to which PVO's should be regularly held accountable for the implementation of such grants and the degree of control which USAID's should exercise in monitoring them.

Survey format nd methodology to obtain baseline data are not professionally sound and, despite attempts by CARE to improve both format and procedures, they are not yet such as will allow a satisfactory determination of a project's "success."

XI. Continued

That (a) CARE cease the pre-project collection of irrelevant data and instead focus pre-project surveys on the collection of quantifiable data which is part of a clearly conceived evaluative framework and mechanism, and (b) CARE's objectives reflect explicit attention to enhancing the GOK's ability to develop an institutional capacity at local levels capable of ensuring the long-run operation and maintenance of each village water system.

That CARE's objectives under this grant become no less the provision of safe water than the provision of more accessible water, and that CARE not support projects unless it is assured of the reasonable quality of the water and, as part of the proposed project, adequate provisions will be taken to prevent its contamination.

Evaluation Executive Summary
AFR/DP/PPEA-BuCen

Sector/Subsector: Health/Disease Control Country: Kenya

Project Title: Rural Blindness Prevention Phase I Project No.: 615-0173

LOP Funding: U.S. $1,214,000
Total $2,325,000
LOP Years: 1976-1980

Evaluation Type: Final

Evaluation Title & Dates: Evaluation Report July, 1979 covering June, 1977-July, 1979

Evaluation Author: Dr. Alfred Buck (AID/Washington)

Other Sources of Information: Dr. David Vastine (IEF/Washington)

Questions

I. What constraint did this project attempt to relieve?

The evaluation report does not specifically identify a constraint nor does it state the purposes of the project. It is assumed that poor health of workers including blindness was a constraint to development.

This project was a grant to the International Eye Foundation (IEF) to relieve the problem of insufficient eye care in Kenya. This grant was to provide assistance to the Government of Kenya (GOK) by initiating a program of blindness prevention and health education in six target areas in Kenya and assisting the Kenya Society for the Blind (KSB) and Ministry of Health (MOH) expand their institutional capability so program responsibility may be assumed by KSB and MOH in three years.

II. What technology did the project promote to relieve this constraint?

Program administration technology was provided by training a Kenya Administrator to become full time director. Surgical technology was provided by training three Kenyan opthamologists. A training program for use by Health Education and Prevention Unit's staff would transfer additional medical technology to the staff.

Strategy for delivery of health education in the areas of personal hygiene, diet, nutrition, and maternal child health through publications, radio, and other media. Training Program in Public Health and Prevention of Eye Diseases for clinical officers (opthalmic).

III. What technology did the project attempt to replace?

Existing technology was not adequately described but it is assumed that the project was not designed to replace but to supplement existing services.

IV. Why did project planners believe that intended beneficiaries would adopt the proposed technology?

As can be seen seen from Section III, the GOK was already interested in eye care programs. The IEF entered into the rural eye program with the assignment of Dr. Randolph Whitfield in 1972. He was supported by IEF funding and in part by the Ministry of Health. He was appointed as the provincial Ophthalmologist of the Central Province and was assigned to the Nyeri Provincial Hospital. He supervised five fixed clinics and four Mobile Eye Units (MEU's) directed the eye care facility at the Nyeri Provincial Hospital. Dr. Whitfield was instrumental in establishing and initiating the current project and the operational agreement which established the IEF Kenya Rural Blindness Preventive Project.

V. What characteristics did the intended beneficiaries exhibit that had relevance to their adopting the proposed technology?

Private volunteer organizations reported increases in the number of patients. A previous attempt to measure changes in social and cultural attitudes towards eye disease was not explained.

VI. What adoption rate has this project achieved in transferring the proposed technology?

The processes being adopted are not defined specifically. It is assumed that patients are receiving care that includes these new processes.

There were no preventive units before 1976. However, it is not known how many mobile eye units (MEU's or curative units) existed before 1976 and how many patients were treated annually by the MEU's prior to 1976.

Of the conditions expected from the project at the end of the first three years the following have been verified.

There are five fully operational, integrated Rural Blind Prevention Units (RBPU's).

An additional Eye Unit was established in Mombasa. Health education and disease prevention capabilities were added to seven of the existing MEU's. Eye services have become a part of the prenatal and under-five screening clinics. School screening and health education programs have been instituted, and a general screening and referral service involving health centers, district and provincial hospitals has become fully operational in the Provinces serviced by IEF staff.

The confidence of the people in the target areas in the ophthalmic services delivered to them is reflected by two indicators, viz. the ever increasing number of the patients seeking treatment and advice from the eye units

VI. Continued

at all levels, and the high esteem with which the clinical officers (CO's) are held by the local population, their peers and by the medical officers in charge of the Provincial and District Medical Services.

The collection of baseline data concerning the prevalence, causes and distribution of eye disease and blindness has to continue in areas where these conditions appear to be of public health importance. It is not yet possible to directly assess the socio-economic impact of eye disease and blindness.

There are no quantitative data to indicate changes in personal hygiene. Reliable parameters and assessment of attitudes, habits and of sanitary improvements would require additional specialists and extra funds.

The MOH has not been able to assign the three Kenyan ophthalmologists envisioned by the project to assume responsibilities in rural eye health care and for the management of the program.

One of the important assumptions that was not met by the GOK is the provision of "three ophthalmologists trained one year abroad and then assigned to the program." Because of the great demand for specialized manpower in ophthalmology, the three Kenyan eye surgeons were immediately transferred to fill vacant positions elsewhere in the country. Hence, there is a great need for the two ophthalmologists of the IEF now working on the project to continue their services as provincial ophthalmologist, as teacher in preventive eye care, as investigator of eye disease in the general population, and for studies of how to integrate the eye services into the rural health units of primary health care.

VII. Has the project set forces into motion that will induce further exploration of the constraint and improvements to the technical package proposed to overcome it?

A. The Kenya Society for the Blind

The key to the effectiveness of popularity of the GOK eye care delivery system is a result of the actions and thoughtful guidance of the KSB. This Society is an outgrowth of the Royal Commonwealth Society for the Blind and was established in 1956 by an Act of the GOK as a statutory body which provides it with a unique and sheltered position. The KSB is funded by contributions from Kenyan citizens and carries on numerous educational and social activities such as rehabilitation which do not relate to the current project.

The importance of the KSB is that it is the agency through which the national and international organizations contribute to the general ophthalmic program in Kenya. These organizations include the African Medical and Research Foundation (AMREF), the Lions Club, Kenya (Central), Royal Commonwealth Society for the Blind (RCSB), Professor Weve Foundation (PWF), Operation Eye Sight Universal (OEU), the Christoffel-Blinden

VII. Continued

Mission of West Germany, the Kresge Foundation, and various missionary Clinics and Hospitals spread throughout Kenya. These private voluntary organizations (PVO) have continued to give financial and administrative support throughout the project and are most likely to continue this aid in the future. These PVO's contribute funds for operating costs, medicine, professional and ancillary personnel, vehicles and maintenance. All these activities are integrated within the GOK Eye Programme. In the provinces, where IEF personnel are assigned as provincial Ophthalmic officers, they direct and control these activities. The primary goal for these PVO's have been the delivery of eye care to the rural population of Kenya which represents approximately 90 percent of the total population.

B. Prevention of Blindness Committee

The activities of the KSB have been coordinated and directed by the Prevention of Blindess Committee (PBC), which was established in 1966 but was somewhat inactive until 1970.

The key to the success of this committee has been the composition of its membership which includes a Chairman, Dr. Gikonyo, Deputy Director of Medical Services of the Ministry of Health. Therefore, the MOH is directly involved in the planning and execution of the activities of the eye program and is fully aware of the plans, problems, goals, and capabilities of the KSB and associated governmental policies which are influenced by this committee. Additional members of this committee include Dr. Awan, Chief Ophthalmologist Advisor, all the provincial opthalmologists, members of the KSB and each of the PVU's have a representative. The PBC meets every three months to review the work of the MEU's and the newly formed Rural Blindness Prevention Units (RBPU). It also deals with other administration problems of eye care delivery.

Because of the excellent work done and liaison established by the IEF personnel, the desire to extend the eye services to the most peripheral primary health care delivery stations have been expressed explicitly by the Ministry of Health, the Provincial Medical Officer, the District Medical Officer, the Clinical Officers, the Matron of Nurses, and Community Leaders.

VIII. Do private input suppliers have an incentive to examine the constraint addressed by the project and to come up with solutions?

There is an excellent cooperation and coordination of work between Governmental and various private organizations concerned with the provision of services for people with eye disease and blindness. The details of the organizational structure and activities of the KSB and the instrumental

VIII. Continued

role of the Prevention of Blindness Committee have been detailed in section III.

No mention is made of incentive for the private practice of medicine.

IX. What delivery system did the project employ to transfer technology to intended beneficiaries?

Mobile Eye Units

The delivery of eye care to the rural population began with the MEU's program established by Dr. Bisley in 1963. The first officer was Mr. Amiani, who began his work on a motorcycle. There are now nine active MEU's all of which have a clinical officer (Ophthal), an ungraded assistant and a driver with a landrover or similar vehicle. All of these units are qualified to do extraocular surgery for entropion and trichiasis and other minor surgery, as well as treatment of acute ocular infections and other common eye disease. These MEU's are supervised by the provincial ophthalmologists which include the IEF personnel. The MEU's work out of fixed dispensary Rural Health Units and outdoors at fixed locations. Their field base is at a district or provincial hospital eye unit. Although their primary effort is in therapeutic ophthalmic care, they also provide general health care in certain situations. Under the eye program functions, it is integrated into the rural health care delivery system and the MOH provides the salaries of the clinical officers, assistants, and supports the fixed facilities, supplies and drugs depending on the budgetary limitations. Efforts are beginning to expand their activities into preventive health education as well.

Deficiencies and Needs

1. Many parts of some Districts cannot be reached because of insufficient transportation available to the local health services. This is most pronounced in areas where clinical officers are assigned without vehicle support.

2. The supply of urgently needed drugs and medications is not continuous by the Government Stores. Therefore, IEF Support through the KSB is urgently needed and required for the future. The problem of drug supply and distribution has been a chronic one in the GOK Ministry of Health. At the time of the initial evaluation a governmental drug corruption scheme was exposed. Likewise during our evaluation a similar public scandal was revealed concerning purchase and distribution of drugs.

X. What training techniques did the project use to develop the delivery system?

A. Teaching charts and aids of the visual materials prepared by the IEF have far exceeded the basic needs for training as indicated in the Log Frame.

B. Training program for clinical officers (ophthalmic) in Public Health and Prevention of Eye Diseases.

C. Training of the indigenous administrator for eventual assumption of responsibility as full-time director of operations.

D. Three Kenyan eye surgeons were trained abroad for one year. They were supposed to be assigned to the program but were assigned to fill vacancies elsewhere in the country.

E. Clinical Officer, Ophthalmology Program

The backbone of the MEU's are the clinical officers. These men are previously trained nurses and then undergo training in general medicine and pediatrics for two years after graduation. They work as general CO's for three or more years before being selected for one year additional training under Dr. Awan at the Kenyatta National Hospital.

The CO's are specially selected because they have demonstrated extraordinary skills.

They are taught extraocular lid surgery and depending on their skills, receive additional training in intraocular surgery. Because of their high level of training, these CO/Ophthalmologists occupy a position just below the Ophthalmic surgeon/provincial ophthalmologist.

The development of new educational material for clinical officers, school teachers and the lay public has been completed by Ann Fettner with inputs from the Ophthalmologists and the Public Health Specialist of the IEF Project. This material includes visual acuity charts, "Red Eye charts, the Clinical Officer's Eye Disease charts, as well as other instructional aids for the educational activities of the RBPU for radio announcements and newspaper publicity.

The Public Health Specialist has been effective in establishing and developing a training program in Public Health and Prevention of Eye Diseases for clinical officers (ophthalmic).

XI. What effect did the tranferred technology have upon those impacted by it?

It is difficult to measure the impact of each of the various IEF funded projects within the eye program of the GOK because they are successfully integrated into the broad structure of the eye health delivery system. In addition to the obvious therapeutic effects of the provincial ophthalmologists and their influence on the the impact of the Public Health awareness

XI. Continued

generated by the MEU's and RBPU's, a considerable increase in eye care, as measured by the patients treated and the population screened for blinding eye diseasehas occurred. Evidence from the field indicates that the staff of the curative eye units has acquired new skills in the prevention of eye diseases and blindness and in health education.

The collection, analysis and interpretation of the data obtained from the surveys for eye disease in random samples of ecologically different areas in Kenya will be completed by the end of 1979. However, the eye surveys need to be extended to include other parts of Kenya. There is a need for technical assistance by epidemiologists and statisticians to make optimal use of the wealth of information on eye disease in the future.

Treatment and referral clinics have been established in most of the MEU and RBPU circuits, covering maternal and child health, under-five clinics and school children.

Evaluation Executive Summary
AFR/DP/PPEA-BuCen

Sector/Subsector: Education

Country: Kenya

Project Title: Partnership for Productivity: Rural Enterprise Extension Service

Project No.: 615-0174

LOP Funding: $360,000 by AID
$631,000 Total

LOP Years: June 1977-1980

Evaluation Type: Project Evaluation Summary

Evaluation Title & Dates: Partnership for Productivity: Rural Enterprise Development, April 1981

Evaluation Author: Dr. Albert Maleche and Dr. Galen Hill, Contractors

Other Sources of Information:

Questions

I. What constraint did this project attempt to relieve?

Apparently, the project planners believed that business failures caused by ignorance of basic management principles was a constraint to economic development. This is not specifically stated but the evaluation report does state that studies were conducted to determine the causes of business failures. These studies found that poor deployment of capital rather than lack of capital was the main cause of business failure.

While a constraint can be implied from the report it was not explicitly stated. Moreover, one must read the first eight pages of the report to find this data. It, therefore, does not satisfy our criteria that information be concise, readily readable, relevant and meaningful.

II. What technology did the project promote to relieve this constraint?

The technology promoted by the project was only partially described as accounting initially and later expanded to include other unidentified problems responsible for commercial underdevelopment including the lack of credit.

An accurate description of the technology being promoted by the project is essential to evaluating its chances of adoption or to measuring its adoption rate. Moreover, the likelihood that the technology will relieve the constraint cannot be assessed without knowing what the technology is.

III. What technology did the project attempt to replace?

The evaluation report does not respond to this question directly. It does say that a lack of management skills characterized the business community and that knowledge of resources allocation was lacking. Apparently, the technology promoted by the project would fill a void in lieu of replacing another technology.

IV. Why did project planners believe that intended beneficiaries would adopt the proposed technology?

The evaluation report provided considerable data and information in answer to this question. Formal studies and the activities of a private volunteer organization (PVO) painted a picture of acceptance by local businessmen. The only problem described was that staff, government and clients perceived the program as USA run program. Nevertheless, the Kenya Board members "seemed to feel that partnership with the USA Board was vital and should continue."

The report makes no comment on attributes of innovations such as relative advantage, compatibility with traditional values, complexity of the technology, and observability on the degree to which the results of an innovation are visible to others.

V. What characteristics did the intended beneficiaries exhibit that had relevance to their adopting the proposed technology?

The clients were interested in the program and sought information and assistance through the extension service of the project. They appeared to be anxious to improve their management skills and anxious to borrow money through the project. The amount of contact between change agents and clients (potential adopters) is generally described in the report and appears to be adequate.

All of the characteristics of adopters are not described. Such things as educational level and social participation exposure to mass media channels of communications and interpersonal channels of communication are not addressed in the report. Also the report does not provide the information on the question in a concise and readily readable form.

VI. What adoption rate has this project achieved in transferring the proposed technology?

The evaluation report indicates that benchmarks used to measure data were largely unreliable and that baseline data was lacking. The report does not define adoption. In view of the failure the evaluators to provide an adequate description of the proposed technology one would not expect a rigorous determination of adoption.

VI. Continued

The report, therefore, does not reliably assess project success or failure. Moreover, determining this lack of information requires reading most of the report's 46 pages. This hardly meets our need for concise, readily readable information.

To properly assess the adoption rate, adoption should be defined or stated in the form of an equation and information relevant to the variables should be collected at appropriate times.

The evaluation report did not provide information on adoption. Moreover, the project technology was not described which made it impractical to define adoption.

VII. Has the project set forces into motion that will induce further exploration of the constraint and improvements to the technical package proposed to overcome it?

The report provides meaningful information on this question although it is not concise and readily readable. The report indicates that an organization, Partnership for Productivity (PFP), was in existance and there was a positive official attitude toward private sector economic development. The PFP objective of teaching appropriate management skills has clearly taken root and PFP is recognized as a pioneer in this field by Kenyan officials. Mention of PFP in the current National Development Plan 1979-1983 is an indication of official acknowledgement of PFP's relevance to development goals.

The report goes on to say that PFP is fully committed to seeking recognition and financial support from the government of Kenya especially through the Ministry of Commerce and Industry and according to Mr. Japheth Shamall, Permanent Secretary in the Ministry of Works (formerly Commerce and Industry) when funds become available to PFP they will be substantial. Mr. Shamalla also serves as a PFP board member.

VIII. Do private input suppliers have an incentive to examine the constraints addressed by the project and to come up with solutions?

The evaluation report does not address this question specifically. The entire report must be read to determine that information on this question is incomplete.

PFP is a private volunteer non-profit organization and will undoubtly continue to provide accounting and other services if they can get needed financial support. For this, they apparently will have to rely on government, USAID, or other donors. There does not appear to be any liklihood that the loans could provide revenue to support the organization and the evaluation report does not provide this information. The subject of loans was closed by saying that every member of the PFP staff felt that the

VIII. Continued

advisory services were the unique role that PFP should serve and another statement indicating that credit assistance funds dried up in 1980 (page 27). The support also indicates that PFP offices from which consultants operated would be closed because of a shortage of operating funds.

The report did not indicate that any other incentives existed which would provide an incentive for private input suppliers to examine constraints and explore solutions.

XI. What delivery system did the project employ to transfer technology to intended beneficiaries?

The report provides data on field consultants but it is not concise or organized.

While the description of the delivery system is incomplete, the report provides reason to believe that it is accomplishing its purpose in that it is widely accepted and aclaimed and that many clients had a promising business future.

While the report indicates that the initial groups of consultants would receive 4 months training it did not describe the training. Later in the report (page 20), the semi-annual PFP report for January-June 1980 is quoted as saying that management training and advisory schedules are continuing on schedule.

By the end of the grant period in June 1980, PFP was assisting a total of 286 business persons in Western Kjanza and Rift Valley Provinces according to the PFP report. It also indicated that PFP had assisted a total of 867 business persons since 1976. Another report, the Erwiny report stated that 500 businesses had received services and another 500-600 had some interface with PFP.

X. What training techniques did the project use to develop the delivery system?

Note: This question was revised during the course of this research to the following: "What technology does the project intend to transfer to the delivery system and what techniques does the project intend to use to make the transfer?"

The evaluation report states that accounting services were being provided. Other services were referred to elsewhere in the report without stating what they were. Also, the report stated that consultants were being trained (4 months) but it did not describe the nature of that training. The 1974 training led to the establishment of the bicycle brigade which later became known as the Rural Enterprise Extension Service (REES).

The description of the delivery system has to be regarded as inadequate. Moreover, no reliable description was provided of the technology being transferred to the delivery system or the training techniques that were to be used to make the transfer.

XI. What effect did the transferred technology have upon those impacted by it?

This would be difficult to measure since the technology being transferred was never described or as stated in the evaluation report: "an impact study was not possible because no definitions were arrived at by which measurements could be made. No definitions were given for trained clients, profitable businesses, sector business pool, profit, etc.

To evaluate the effects or the impact of a project the evaluation design should identify, specify, and describe the variables and the method of collecting the information at the PID stage. Without this preparation, the baseline for measuring effects of the project or adoption does not exist.

Evaluation Executive Summary
AFR/DP/PPEA-BuCen

Sector/Subsector: Manufacturing

Country: Lesotho

Project Title: Weaving Training

Project No.: 632-0211

LOP Funding: $145,000 on 9/28/79

LOP Years: 2 years
9/79 to 7/81

Evaluation Type: Project Evaluation Summary

Evaluation Title & Dates: Final Evaluation September 30, 1982

Evaluation Author: Byron Ball

Other Sources of Information:

Questions

I. What constraint did this project attempt to relieve?

The project evaluation report does not mention constraints in the context of constraints to development but conversion of the objectives imply that:

1) economic development is constrained by the lack of technical and creative skills needed to improve quality and design of goods,

2) economic developement is constrained by the lack of productivity and efficiency,

3) economic development is constrained by the status and self-conception of weavers, artisans and skilled workers,

4) rural households are constrained from developing cottage industries by the lack of income,

5) economic development is constrained by the influences exerted by South Africa in mohair.

Also, the report implies that foreign exchange is lacking and that the project includes the services of a marketing specialist from the USA to transfer technology on to access American markets. The foreign exchanye relief envisioned by this project may be limited by mohair imports from South Africa resulting from the inability of the local industry to supply the types needed.

The possibility that a binding constraint, in addition to the supply limitation, may exist was indicated by the report in a brief reference to

I. Continued

a need for new laws facilitating purchase of mohair from local farmers by workshops. Also, a restriction against other varieties of goats may be constraining the production of other varieties of mohair.

II. What technology did the project promote to relieve these constraints?

The technology being transferred by this project consisted of knowledge of various weaving techniques for the purpose of improving the skills and productivity of weavers which could eventually increase their income. In addition, improved knowledge of markets, especially U.S. markets as well as demand for products was to be diffused by the project.

III. What technology did the project attempt to replace?

The present technology is described as inefficient in terms of both labor and materials. Lesotho tapestries and rugs are thick and heavy which not only wastes both raw materials and labor but increase shipping costs. By spinning a finer yarn, using single instead of double thread, much more detailed designs are possible and weight and cost are reduced.

No information is provided on cost of producing any products using pre-project technology or project technology nor are such things as divisibility, or work schedules discussed.

IV. Why did project planners believe that intended beneficiaries would adopt the proposed technology?

This is not stated but it can be implied from the report that project planners saw that a relative or cost advantage could be gained through transfer of new technology, based on consultations with the Government and with the Fund for Research and Investment for the Development of Africa, a registered, private volunteer organization (PVO).

V. What characteristics did the intended beneficiaries exhibit that had relevance to their adopting the proposed technology?

The characteristics of weavers, generally described in the report, include the following: (1) most (95 percent) are women, (2) most are from low income households, (3) and most work in small individually owned workshops with limited capability and knowledge about the industry.

Seasonal characteristics of the industry, demand for labor, net worth are not described.

VI. What adoption rate has this project achieved in transferring the proposed technology?

Apparently, no provisions were made for answering this question aprori and consequently, no baseline was established from which change or transfer could be measured. Furthermore, the technology being transferred was not defined.

One observation mentioned casually in the report was that some shops had adopted some of the techniques diffused by the project.

VII. Has the project set forces into motion that will induce further exploration of the constraint and improvements to the technical package proposed to overcome it?

In addition to agreement with the government on the need for this project and consultation with the Ministry of Commerce and Industry on Product design, FRIDA, a PVO, was funded to undertake the transfer of project technology. Lesotho National Development Corporation (LNDC) hosted a seminar but otherwise did not lend much support to the project. Also, various kinds of support were provided by the following: (1) de Beers Chairman's Fund, (2) The World Craft Council (New York), (3) The National Council of Negro Women (Washington, D.C.), (4) the International Labor Organization, (5) the Lesotho Handicrafts Association, and others.

In 1981, the country enacted the Industrial and Commercial Training Act which includes spinning and weaving as a trade which can use a training apprenticeship program. This enables workshops to hire trainees who can become weavers if they develop the necessary proficiency.

VIII. Do private enterprise suppliers or buyers have an incentive to examine the constraints identified by the project and to come up with solutions?

An American marketing consultant was hired and his research showed a demand for tapestries and rugs at current prices.

A British weaving consultant introduced a shed loom which produces a lighter carpet which other market research showed to be more popular than the preproject heavier carpet. These shed looms can be produced locally and inexpensively.

IX. What delivery system did the project employ to transfer technology to intended beneficiaries?

The delivery system apparently consisted of a series of seminars under the sponsorhip of FRIDA and consultations with various consultants including the American marketing consultant and the British weaving consultant. Through these auspices, approximately 550 weavers received training and presumably some of these adopted at least part of the technology. In addition, a resource manual, Weaving Guide - Lesotho was prepared and distributed for use and reference by weavers. A training film, subsequently converted to a promotional film was also prepared and disseminated and awarded a Special

XI. Continued

Certificate of Merit from the Sixteenth International Chicago Festible - 1980 and was shown at the World Craft Council biennial meeting, in 1980.

X. What technology does the project intend to transfer to the delivery system and what techniques will the proejct use to make the transfer?

Much of the knowledge of weaving technology as well as the marketing and other aspects of the weaving industry had to be transferred to the change agents, FRIDA. FRIDA utilized this technology in conducting seminars and other training. FRIDA had little prior experience in the weaving industry.

XI. What effect did the transferred technology have upon those impacted by it?

Presumably the 550 weavers who received training under this project had a greater awareness of weaving technology and some mention was made of new techniques being implemented at some workshops. No baseline data was collected and no plans were reported for measuring the effects of project technology.

Evaluation Executive Summary
AFR/DP/PPEA-BuCen

Sector/Subsector: Education (EHR/Training) Country: Liberia

Project Title: Rural Teacher Training Institutes (RTTI) Project No.: 669-0012

LOP Funding: $4,400,000 LOP Years: 1958-1971

Evaluation Type: Impact Study

Evaluation Title & Dates: Liberia Impact Study, August 1980

Evaluation Author: Unknown

Other Sources of Information:

Questions

I. What constraint did this project attempt to relieve?

The objectives of the Rural Teacher Training Institutes (RTTI's) were fourfold:

- the improvement of the standard of primary education throughout Liberia;
- the introduction of a primary school curriculum responsive to the rural development needs;
- the training of primary school teachers who would also be qualified to serve as community leaders in rural areas; and
- the upgrading of existing primary school supervisors, principals and teachers and instructing them in rural development techniques.

The Liberian Rural Teacher Training Institutes, RTTI's, were created (1) because there had been a dramatic increase in Liberia's school age population, especially in the rural areas; and (2) because the late President Tubman's 1954 Unification Policy for the first time drew attention to the plight of the rural tribal Liberians who had to be integrated into the national fabric, which included their access to basic schooling. Education, therefore, became a priority under the Tubman administration and the USAID supported construction program of rural school facilities around the country gave rise to an increased demand for qualified teachers to operate the growing number of rural elementary schools. Hence, the RTTI's and AID's support to make them viable entities, capable of producing growing numbers of trained teachers.

It is assumed that this project attempted to relieve the constraint to development arising from a shortage of skilled labor and qualified professionals which are essential to development in the modern world.

I. Continued

The report does not cite the source of the information used to develop the objectives of this project.

The project was conceived and implemented within the framework of a massive sectoral approach to USAID assistance in Liberia beginning in the late 1950's. The RTTI project was designed specifically to at first provide teachers to the more than 50 AID-financed Rural Primary Schools and later on the other rural government-operated schools as well. It was, however, not envisioned that these RTTI's would supply the entire country with primary teachers.

II. What technology did the project promote to relieve this constraint?

General knowledge acquired through primary education through training of a core of rural primary teachers who would serve as community leaders and stimulators of local initiatives and through the production of instructional materials, particularly for rural schools and in-service training for rural teachers and educational personnel and instruction in rural development techniques.

III. What technology did the project attempt to replace?

This was a supplement not a replacement.

Before 1947, practically all attempts at professional training of teachers had met with little or no success. It was during that year that a definite and formal teacher training program was instituted under the joint sponsorship of foreign mission boards and the Government of Liberia (GOL). In 1950, GOL established for the first time a standardized 4 year degree-granting teacher training college at the Liberia College which was supported solely by public funds. Subsequently, Cuttington College, established in 1949, added a Department of Education, while the Maryland College of Our Lady of Fatima was founded in 1954 for the express purpose of preparing primary and secondary school teachers. In 1957, all three institutions produced only 20 graduates out of a total enrollment of 185 with a teaching staff of 26 (15 Liberians and 11 non-Liberians). The curricula covered both general education and professional training but they were traditional and urban-oriented and most of the graduates opted for administrative or supervisory positions or went abroad for further studies. Furthermore, the educational system of Liberia at the time favored the inhabitants of the coastal counties of Sinoe, Maryland, Montserrado, Bassa, and Grand Cape Mount where public schools-primary and secondary were available and accessible to the school-age children. The school-age children in the rural hinterland on the other hand, had to do with little or no formal school except in cases where they were integrated in the "ward system" or were lucky enough to be selected to attend school at an occasional Christian church mission in the interior. It was also during the years prior to the construction and operation of the RTTI's that there was a considerable increase in the

III. Continued

school-age population and an acute shortage of trained teachers, some of whom were hired and served on the basis of ad hoc arrangements. The interior public schools were very few and were sometimes without teachers, instructional materials and a curriculum relevant to the needs of rural Liberia was missing.

IV. Why did project planners believe that intended beneficiaries would adopt the proposed technology?

Because of the growth in school-age population, education became a priority of the Tubman administration and the USAID-supported construction of rural school facilities around the country gave rise to an increased demand for qualified teachers to operate the growing chain of rural elementary schools.

The Rural Teacher Training Institute (RTTI) project was conceived and implemented within the framework of a massive sectoral approach to USAID assistance beginning in the late fifties. The RTTI project was designed specifically to at first provide teachers to the more than 50 AID-financed Rural Primary Schools and later on for other rural government schools. It was not envisioned that these RTTI's would supply the entire country with primary teachers.

The RTTI projects at Kakata, Zorzor and Webbo were the result of a contractual technical assistance agreement between the GOL and the American Government for the purpose of meeting the most urgent needs for teacher education and training to staff, operate, and administer the expanding rural education programs of Liberia. The project was conceived as an emergency measure to augment the low output of teachers by the then existing institutions of higher learning.

A further catalyst for the establishment of the RTTI's was a meeting held in East Africa by Heads of Educational Ministries/Agencies in the late 1950's. It was at this meeting, attended by observers from UNESCO and USAID, that the concept of establishing Teacher Training Institutions in the rural areas of Africa received widespread acceptance with African educators. Nathaniel V. Massaquoi, the (then) Secretary of Public Instruction represented Liberia at this meeting and upon his return to Liberia, succeeded in getting USAID to collaborate with GOL in establishing Zorzo Rural Teacher Training Institute (ZRTTI).

V. What characteristics did the intended beneficiaries exhibit that had relevance to their adopting the proposed technology?

Expanding school age population.

VI. What adoption rate has this project achieved in transferring the proposed technology?

It would appear in retrospect that the Rural Teacher Training Institutes (RTTI) project was only partially effective. However, it did achieve some positive results: (1) three facilities were constructed and equipped; two became fully operational and are still functioning; (2) thirty-five Liberians were trained, both in the U.S. and on the job in Liberia, and new salary scales were established for them, RTTI graduates earned salaries at twice the level of their untrained colleagues; (3) a curriculum was developed at the RTTI's; (4) standards and certification requirements were established for the teaching profession for the first time; (5) three thousand rural primary school teachers have been trained at these RTTI's.

Adoption was not defined and the adoption rate could not be measured with precision because: (1) constraints were not defined adequately; (2) adoption was not specified; (3) the variables used to compute the adoption rate were not identifed and the technology was not described properly.

VII. Has the project set forces into motion that will induce further exploration of the constraint and improvements to the technical package proposed to overcome it?

President Tubman was interested in bringing education to the rural tribal Liberians.

What policy changes or new directions resulted from the Rural Teacher Training Institutes (RTTI's) project? Key informants were asked whether the RTTI's had any impact (positive or negative) on the government's policy on education, i.e., education for teachers to ensure quality education for rural school-age children in Liberia. Some claimed that the project did in fact have a positive impact on the GOL's policy on education in rural Liberia. They noted "GOL had always left rural education to the missionaries and that the RTTI's were a shift away from the old policy." They also cited other examples of positive policy implications in terms of expanding education into the rural areas of dealing with teacher training shortages (a current example of this policy shift is the Improved Efficiency of Learning Project) and the fact that government has continued its rural teacher training programs with the resulting increase in the numbers of trained and qualified teachers in the rural areas. They also indicated that improving rural elementary education has become a more pronounced priority.

In terms of budgetary policy it was noted that the GOL has over the years steadily increased its budgetary allotment to the RTTI's. As regards new directions in education policy, the Zorzor Rural Teacher Training Institute (ZRTTI) in 1977 put into effect a crash program to train pre-service teachers for 1 year post-secondary school completion along with its 3 years post-ninth grade in-service teachers training program. This new direction serves to fulfill the immediate demand for teachers in elementary and

VII. Continued

junior high schools, operated under the community development scheme (Community Schools Project, MOE).

Along with these changes, there had to be a concurrent change in curriculum, opportunities for advanced studies, incentives for promotion in the organizational hierachy, fellowships, etc. According to the 1977 MOE annual report, 12 fellowships were awarded to ZRTTI instructors by the World Bank for training in Psychology, General Science, Language Arts, Adult Education, Mathematics, and Social Science. The initial policy was to recruit equal numbers of students from each county for training but the report of the World Bank on its Second Education Project for Liberia proposed that it would assist the MOE in improving the quality and expanding the output of trained primary school teachers, generally, but especially women. The emphasis would be placed on increasing the female proportion of the national ouput from 20 percent to 30 percent.

VIII. Do private input suppliers have an incentive to examine the constraint addressed by the project and to come up with solutions?

No information given.

IX. What delivery system did the project employ to transfer technology to intended beneficiaries?

The project was staffed by a contract team from Tuskeegee Institute which was responsible for the administration and operation of both institutes, (Zorzor and Kakata), while Liberians were selected to study abroad, or to work as counterparts/understudies to the contract team members for the purpose of skills and technology transfer. Thirty-five Liberians received project-related training, mostly in the U.S.

Three facilities were constructed and equipped; two became fully operational and are still functioning.

Liberians were trained, both in the U.S. and on-the-job in Liberia, and new salary scales were established for them. Most rural teachers were receiving $35-50 monthly; RTTI graduates received $75 and later $125.

A curriculum was developed at the RTTI's though weak and unrealistic in many ways. It was in fact a traditional approach to teacher training along U.S. lines, with a bit of Liberian flavor added.

Standards and certification requirements were established for the teaching profession for the first time; again along traditional Normal School lines used in the U.S. in the early 1900s.

Three thousand primary school teachers were trained in these RTTI's. The bulk of them served at least 1-2 years while some of them are still there. By any standard they were better equipped to teach with the training than without it.

IX. Continued

There were four elements to the USAID Rural Schools Program:

(1) Administration and Supervision of Rural Schools: To establish county and district offices of education and train the supervisors, USAID provided four direct-hire Regional Advisors (Gbarnga, Voinjam, Saniquellie and Zorzor) along with commodities for regional offices and participant training for Liberian Supervisors.

(2) School Construction: Some 15-20 self-help schools were constructed at first (1960-1963) with USAID providing materials, and international volunteers as teachers/advisors. Later (1963-1968), USAID financed the total costs of 20 schools in Bong County, 10 in Nimba and 10 in Lofa County.

(3) Teacher Training: The RTTI's were constructed in Zorzor, Kakata and Webbo to train teachers for the AID-funded demonstration schools.

(4) Adult Education: Between 1961 and 1963 USAID assisted with the implementation (and publication) of a survey of informal adult education activities, conducted by missions, concessions and other private groups with special interests in Liberia. The total costs of these programs ran well over $1 million each year and enrollments were in the thousands. A large portion of these activities consisted of literacy classes, health education, and non-formal groups focusing on agriculture and community development activities.

X. What training techniques did the project use to develop the delivery system?

Formal training in the U.S. for 35 Liberians who were to work in the RTTI's.

On-the-job training for counterparts/understudies.

Formal training for 1,500 new primary teachers at the KRTTI.

Formal training of 1,456 teachers already in-service at the ZRTTI.

Most trained teachers taught in the schools for at least 1-2 years.

XI. What effect did the tranferred technology have upon those impacted by it?

Looking backward from 1980, with only a few of the facts and conditions in perspective (the USAID Mission lacks most documentation and records on this project), it would appear that the RTTI project was only minimally effective. This is true, but when all the factors are brought into view and the results of the project are assessed along with other similar projects at that time in Liberia, it did achieve the positive results listed in section IX above.

In summary, with only 23 percent of the 3,818 primary teachers currently properly trained and qualified, the quality of instruction remains unsatisfactory. The frames of reference used in teaching are often foreign and

XI. Continued

unrelated to the life experiences of the Liberian students, based in part on irrelevant textbooks and unsuitable curriculum. Overcrowdedness in schools and high student/teacher ratios, inaccesibility to schools by the school-age population, and their parents' inability to buy their books and uniforms create a negative impact on the quality of education as a whole, but these do not reflect on the RTTI's. However, on the whole, the RTTI's have contributed some measure of success to a general positive environment if only to say that out of the current total of 3,818 primary school teachers, ZRTTI contributed 1,456 and KRTTI contributed 1,500. It is clear that there has been considerable attrition given the fact that of the currently employed primary school teacher, only 23 percent are considered to be properly qualified.

Evaluation Executive Summary
AFR/DP/PPEA-BuCen

Sector/Subsector: Health

Country: Liberia

Project Title: John F. Kennedy Medical Center

Project No.: 669-0054

LOP Funding: Loan - $6,800,000
Grant - $9,200,000

LOP Years: 1963-1979 with initial funding in 1961

Evaluation Type: Final

Evaluation Title & Dates: Liberia Impact Study, March 1980

Evaluation Author: Unknown

Other Sources of Information: None

Questions

I. What constraint did this project attempt to relieve?

Inadequate health services and family planning services. Apparently the constraint developed indirectly by not keeping the population healthy and not controlling the birth rate.

Note: The rest of this summary does not deal with family planning. Liberia has no official policy limiting population growth and less than one percent of its health budget is spent in this area.

II. What technology did the project promote to relieve this constraint?

The establishment and operation of health institutions was the technology being transferred, apparently.

A nationwide health delivery system was promoted through the National Medical Center. USAID's assistance was given through three components of this--the Maternity Hospital, the Tubman National Institute of Medical Arts and the new John F. Kennedy Hospital which was to be built, furnished, and supported (with decremental amounts, i.e. a large portion of the costs at the beginning and declining over time).

The new hospital was used as a training facility for medical personnel--doctors as well as rural health workers. It also became the center for dispersion of medical supplies to the rest of the facilities throughout the country.

III. What technology did the project attempt to replace?

Replaced a hospital located in an old Government building and the equipment previously in use, both of which were grossly inadequate. The previous hospital was in a deteriorated telegraph cable office. Basic equipment was broken or nonexistent, general sanitation was poor and there was nothing to encourage or permit an acceptable level of medical care.

IV. Why did project planners believe that intended beneficiaries would adopt the proposed technology?

Old hospital and equipment was totally inadequate. President Tubman of Liberia paid an official visit to the U.S. and met with President Kennedy and a joint communique came out stating U.S.'s interest in helping to finance construction of a National Medical Center to support the country's national public health program.

V. What characteristics did the intended beneficiaries exhibit that had relevance to their adopting the proposed technology?

Need for medical services. No characteristics of the population targeted for services are given.

VI. What adoption rate has this project achieved in transferring the proposed technology?

The John F. Kennedy Medical Center has successively evolved in the first eight years of its existence from a Service Hospital to Medical Center to teaching hospital complex. Although the hospital was built with no specific subgroupings of the Liberian population in mind, the bulk of those who come for treatment are a cross-section of Liberian society as a whole and are poor. It does treat patients from all over the country but the population of Monrovia benefits proportionately more due to its location.

Because most of the patients are poor, fees are minimal. Those patients who are destitute and unable to pay even the low fees, receive free medical care, as do children under five years of age.

High occupancy rates

	1978	1979
JFK Memorial Hospital	97.0%	103.3%
Maternity Hospital	101.2%	107.5%

In 1979, JFK inpatient days were 110,230 patient days and outpatient visits were close to 160,000.

The Maternity Hospital served 20,378 inpatients for close to 70,000 inpatient days and 56,370 outpatients.

VI. Continued

In 1971 there were fewer than 30 native Liberians qualified as physicians and dentists. Going into 1980, there are nearly 100 Liberian doctors on record. Sixty-one doctors have graduated from the Medical College of the University of Liberia since its first class in 1973.

The Tubman National Institute of Medical Arts had an enrollment of 285, about half of them in the Nursing and Midwifery Program and graduated 93 trained and certified medical technicians and health service personnel for placement all over Liberia.

The JFK hospital treats patients from neighboring West African countries, especially for specialized services such as the hospitals' cancer treatment facility.

Adoption was not defined and the variables to be used to measure adoption were not specified either.

VII. Has the project set forces into motion that will induce further exploration of the constraint and improvements to the technical package proposed to overcome it?

The National Medical Center (NMC) was established as an autonomous agency of the government in 1972 with its own budget, own Chief Medical Officer, and a General Administrator responsible to the Board of Trustees. NMC Board reports directly to the President of Liberia. The NMC is considered the hub of Liberian health services delivery system by virtue of its high level and diversification of medical expertise and its sophisticated equipment as well as its being the teaching hospital of Liberia where doctors, medical technicians, and health service personnel are trained. In addition, children under 5 and indigents receive free medical treatment.

The nationwide annual population growth rate of 3.4 percent and a growth rate rate of 8 percent in the city of Monrovia where the center is located, has helped cause overcrowding in the present facilities. Unless a separate children's hospital or present facilities at JFK Hospital are expanded, they will not be able to meet the medical needs of the country. The impact of the population's need for services should promote work on the resolution of problems. The President (in 1979) expressed support of the concept of family plannng but no concrete action has been taken.

VIII. Do private input suppliers have an incentive to examine the constraint addressed by the project and to come up with solutions?

About $2 million in services, materials and supplies were purchased from local suppliers and distributors. It can be assumed that these suppliers will support continuation of the project. The impact of the center on the private practice of medicine is not described adequately.

IX. What delivery system did the project employ to transfer technology to intended beneficiaries?

Built a hospital with 300 bed capacity and facilities for outpatient treatment.

Financial aid for technicians, participant training and commodities to help staff, equip, and operate the hospital.

Indian Health Service PASA gave technical assistance (although comment was that most of the Indians were alcoholics).

X. What training techniques did the project use to develop the delivery system?

Participant training in the U.S.

Tubman National Institute of Medical Arts, one of the components of the National Medical Center trains health personnel in a variety of areas of expertise--midwifery, nursing, medical technicians, rural health workers, doctors, etc.

Technical assistance through Indian Health Service PASA.

XI. What effect did the tranferred technology have upon those impacted by it?

A. General Impact

The development of the National Medical Center has closely paralleled the development of the overall Health Program of the country during the 1970s. During this period, Liberia has managed to pull herself out of the squalor of one of the least advanced health situations in the world, and into what is at least an acceptable standard of health care.

While we still have a long way to go, and while we could do much more, even within our limited resources, it cannot be denied that we have come farther in the health sector during this decade than in any comparable period of time in our history.

To establish a perspective, one might consider the situation as it existed just at the inauguration of the National Medical Center in 1971, and compare that with our position, going into 1980. Despite the burdens of chronic shortages and shortfalls in both manpower and funds, a story of steady progress emerges. In a few instances, the progress has even been outstanding.

This has been a period when the national budget for health services increased from $4.9 million in 1972 to a projected $25 million for 1980. Of these amounts, operation of the Medical Center consumed $2.4 million in 1972, and will have consumed $10.8 million in 1979/1980. In 1971, there were fewer than 30 native Liberians qualified as physicians and dentists. Going into 1980, there are nearly 100 Liberian doctors on record. An even more impressive statistic is the fact that the Medical College of the University of Liberia will have graduated 61 doctors since its first class of four in 1973.

XI. Continued

The John F. Kennedy Medical Center has successively evolved in the first eight years of its existence from a Service Hospital to Medical Center, to a teaching hospital complex. Despite many difficulties, the Center has filled these expanding roles with some degree of efficiency and it continues to play a crucial role in the Health Care Delivery System for the nation."

The JFK Hospital manages a daily in-patient load of more than 300 and an out-patient load of 450. Even though the hospital is at the apex of the Liberian health care delivery system, and does treat patients from all over the country, the population of Monrovia benefits proportionately more due to its location. It also treats patients from neighboring West African countries, especially for specialized services such as the hospital's cancer treatment facility.

Although the hospital was built with no specific subgroupings of the Liberian population in mind, the bulk of those who come for treatment are a cross-section of Liberian society as a whole and are poor. Fees are therefore minimal, and those who are destitute and are unable to pay even the low fees, receive free medical care, as do children under 5 years. The latter constitutes the bulk of the patients which indicates an urgent need for a childrens hospital; this would reduce some of the current overcrowding.

Finally, the fact that JFK is the central drug supplier for the whole governmental medical structure in the country, drugs at the hospital itself are often in short supply as inventory, reordering and drug security are mismanaged.

Yet, the overall positive impact of the JFK Medical Center and its contribution to raising the quality and quantity of medical care, are indisbutable. Since only one third of all Liberians have access to any form of medical care, much more needs to be done. However, the pyramidal system of health care delivery with JFK at the top is conceptually correct:

JFK
County Hospitals
Health Centers
County Health Posts
Village Health Workers

B. Economic Impact

In 1979 the combined institutions which constitute the National Medical Center, employed, 622 persons, including 75 doctors (half of them Liberians) and 526 nurses, with an annual payroll of $5.5 million; it purchased other services and materials and supplies with $4 million per annum, half of it from local suppliers and distributors. In addition, it made "development" expenditures in excess of $1 million, the bulk of it for property acquisition in Monrovia.

Evaluation Executive Summary
AFR/DP/PPEA-BuCen

Sector/Subsector: Agriculture

Country: Liberia

Project Title: Rural Roads I and II

Project No.: 669-0081
669-0116

LOP Funding: $4,792,696

LOP Years: 5/70 - present (80)

Evaluation Type: Impact

Evaluation Title & Dates: Impact of Rural Roads in Liberia, August 1980

Evaluation Author: Richard Cobb (Development Studies Program), Robert Hunt (Development Studies Program), Charles Vandevoort (Department of Transportation), Caroline Bledsoe (Development Studies Program), and Robert McClusky (Office of Private and Voluntary Cooperation)

Other Sources of Information:

Questions

I. What constraint did this project attempt to relieve?

It is assumed that project planners believed that agricultural production was being constrained by the lack of good roads. Relief from this constraint was expected to (1) increase agricultural production (especially cash crops) by introducing through extension workers, better tools, fertilizer, pesticides and improved methods of cultivation, (2) create additional markets and business activity, particularly for small businesses, (3) bring various welfare, social and political benefits; for example, better access to doctors and schools, and (4) stimulate political unity.

Although not included in the original project design, strengthening the institutional capability of Liberian contracting firms selected to build the roads became an objective. Implied as well was the objective of promoting economic benefits derived from improved access for both foreign and locally controlled mining, agricultural, and timber concessions.

II. What technology did the project promote to relieve this constraint?

The knowledge of the commercially beneficial effects of low cost transportation and improved communications facilitated by improved roads.

III. What technology did the project attempt to replace?

The roads superseded were very dissimilar. Some were paths, others upgraded roads along old trade routes that were capable of carrying mechanized vehicles.

IV. Why did project planners believe that intended beneficiaries would adopt the proposed technology?

In 1965 the Government of Liberia (GOL) submitted a list of eight candidate roads for consideration by AID. The basic GOL purpose was to:

"Open up the country to connect presently isolated population and produce centers, to strengthen the political unity of the country which was only a few years ago unified by the formation of new counties in the interior, and to broaden the economic basis of the Government by development of agriculture and forestry."

The GOL had selected these eight rural road projects from a priority list of sites compiled by Government agencies in consultation with officials, such as the County Superintendent, District Engineers, and other local representatives. The Government anticipated that the Plebo-Barclayville and the Kolahun-Kamatahun roads would comprise part of the major highway system. In particular, the Plebo-Barclayville road would form part of the ultimate coastal road system connecting Cape Palmas with Monrovia.

The request was reviewed by the AID mission which then selected three of the eight roads for construction under Rural Road Projects I and II. The Sanniquellie-Sagleipie road, part of an earlier but uncompleted AID grant project, was added as a fourth road.

The economic feasibility of these roads was never rigorously established, but was based on the judgment of the AID mission and Dr. Stanley, a geographer with extensive experience in Liberia and with the country's road transport system. Dr. Stanley visited the project sites and in about one month's time developed screening criteria based on the estimated population served by the road, the agricultural potential along the road alignments, construction cost, and other considerations. These screening criteria were combined into an overall index providing a crude indication of the economic feasibility of each road.

V. What characteristics did the intended beneficiaries exhibit that had relevance to their adopting the proposed technology?

When asked about Liberia, most outsiders mention the country's status as the oldest republic in Africa. They also mention its notable economic progress in recent decades and history of relative economic stability. What is less known about Liberia is that its stability has historical roots in the economic self-sufficiency of its traditional rural households. Most people in rural areas, though poor in income, could provide for certain basic needs. Rural Liberians had access to traditional medical services that drew on intricate knowledge of natural vegetation. Children were educated by their elders in the basic skills required for village life.

Most people, regardless of their social status, generally had enough food to sustain themselves. Over the years the urban populace could also benefit to some extent from rural subsistence agriculture through the food available in markets, as well as through rural relatives who could be called on to supply

V. Continued

rice in times of urban unemployment, sickness, or unexpected expense. Finally, the availability of land and subsistence crops meant that wealthier farmers and tribal leaders could not place too many demands on followers for labor or produce. Nor could they make important decisions that affected the whole community without at least some implicit consensus. Most low status people could simply leave if they felt their welfare was being disregarded, although the costs in terms of further loss of status were high. In sum, most Liberians, though poor in cash incomes, could provide for certain minimum needs at the village level and had some voice in the distribution of resources and political power.

VI. What adoption rate has this project achieved in transferring the proposed technology?

Rural Roads I was finished in 1972. Rural Roads II is behind schedule and not completed. Despite difficulties in completing construction within originally estimated times and cost levels, the roads appear to be economically justified in terms of the volume of passenger and cargo traffic they sustain.

AID's rural roads in Liberia have had mixed effects. Though the projects intended to strengthen the capability of local contractors, this has generally not happened. Similarly, with many pressing demands placed in it, the government has had difficulties in coordinating and administering the road construction projects and in carrying out maintenance programs. Many of the aims of the projects, however, have been realized as a result of AID's assistance to the government. Agricultural production of cash crops increased, access to markets improved, extraction of mineral and timber resources was facilitated, and welfare and social services provided by the government have been enhanced.

In Rural Roads I, the GOL felt AID had stipulated that minimum engineering standards should be applied to the road projects in order to minimize costs. On the other hand, AID claims that it was the GOL which submitted plans that lacked sufficient technical detail to ensure that the projects could be built to standards acceptable to AID. In any event, the engineering of the roads turned out to be inadequate; in some instances only a walking survey was carried out, and the local contractors claim they were confronted with unexpected and major variances between the conditions described in the plans and those that were actually encountered. This was especially serious for roads that traversed heavy forests and swamps. The numerous, costly, and time consuming changes that resulted probably accounted for a large part of the 30 percent cost overrun on the Zwedru-Ziatown road and the expected 50 percent cost overrun on the Plebo-Barclayville road.

The amount of traffic observed on the four project roads ranges from around 100 vehicles per day for the Plebo-Barclayville, Kolohun-Kamatuahun, and the Karnple-Gbahn section of the Sanniquellie to Saglepie road to about 240 vehicles per day for the Karnple-Sanniquellie portion of the latter road. These traffic levels are well within the range of 80 to 140 vehicles

VI. Continued

per day normally indicating the economic feasibility of unpaved roads. The ex-post calculation of the conventional economic indicators of economic feasibility such as the benefit/cost ratio, internal rate of return and net present value support the contention that the roads are economically feasible provided they are soon placed under regular maintenance.

VII. Has the project set forces into motion that will induce further exploration of the constraint and improvements to the technical package proposed to overcome it?

Maintenance of all four project roads is insufficient despite assurances by the GOL in the loan agreements that these roads would be adequately maintained. Therefore, vehicle operating costs over these roads are probably as much as 50 percent higher than they should be, and impose unnecessarily high transport costs on the road users. In addition, unless maintenance is commenced soon, the roads will deteriorate to the point where normal maintenance is no longer possible and large and unnecessary expenditures will be required in the future to rehabilitate or reconstruct the project roads.

The reasons for the poor maintenance performance in Liberia are varied and complex, but fall into a pattern that is common for most developing countries, even though sufficient gasoline taxes and other road user revenues are collected to provide for it. This pattern is well recognized and is, for example, lucidly described in Judith Tendler's AID Program Evaluation Discussion Paper No. 2 "New Directions Rural Roads." She says that "One of the reasons that highway departments are bad at maintenance is that they have better, more interesting things to do--building new roads, that is, rather than maintaining old ones." From the engineering point of view, construction is certainly more interesting and glamorous than maintenance, and engineers assigned to construction have better advancement potential. From the financial point of view, funds are more easily obtained for construction than maintenance since capital budgets for construction are often partly financed by donors and, therefore, easier to obtain than maintenance funds, which have to come from the operating budget and are rarely financed by donors (though this is now being rectified). Finally, from the political point of view, road construction is much more "visible" than maintenance, and has a high exchange value in that legislators can trade support of a road construction project for votes desired for another project.

Over the past years there has been considerable investment by donors (including $8,400,000 from AID, mostly for vehicle and equipment procurement) and the GOL to improve maintenance performance. According to the IBRD this has produced a noticeable improvement in the adequacy of machinery and workshop facilities, and in the number of trained mechanics and equipment operators graduating from the training camp at Mechlin. Indeed, several of the graduates of that training camp were encountered in the regional Ministry of Public Works (MPW) Office of Grand Gedeh County during our visit. However, this substantial investment by the donors and commitment by the GOL has not yet trickled down to improve the performance of the

VII. Contined

regional MPW offices responsible for maintaining the project roads. For example, the supply of spare parts and fuel to keep the project road maintenance equipment going is very uneven. In the regional motorpool of the MPW in Grand Gedeh County we were informed by a crowd of idle mechanics, operators, and laborers that the diesel fuel tanks had been dry for more than a month, and that this was a frequent occurrence. Furthermore, substantially more than half of the heavy equipment was not operational for lack of spare parts. We observed one modern bulldozer supplied by AID that had been deadlined for more than a year because the spare part supplied by Monrovia did not fit and had to be returned twice in a row. These are frequent occurrences and seriously impair the organization's capability to perform adequate road maintenance.

The Liberian government has attempted to encourage market cooperative societies as a way to expand the commerical activity and benefits accruing to smaller farmers, and thus to limit the inequities encouraged societies as a way to expand the commerical activity and benefits accruing to smaller farmers, and thus to limit the inequities encouraged by existing markets (see section VIII). However, efforts to encourage small town or primary cooperatives that can relate easily to small farmers and circumvent large brokers have so far been very limited. For example, in the Nimba and Lofa County areas, where we saw the most active and commercially viable cooperative societies, the members and executive officers tended to be from wealthier, more established families. In addition, we heard reports that many cooperative officials were in fact circumventing the cooperatives by acting as private "middle buyers" procuring crops from people in outlying areas.

VIII. Do private input suppliers have an incentive to examine the constraint addressed by the project and to come up with solutions?

While many have profited from the commerce generated by the roads, expatriate merchants and a small group of Liberian traders have done particularly well. The expatriates, for example, own large stores and act as money lenders. Farmers sometime spend their income quickly after the harvest and must seek credit as their cash diminishes. The magnitude of the debt over a year seems small (perhaps no more than $20-$30), but suffices to keep the villager or town resident continually indebted to the merchant.

Well-stocked stores owned by Lebanese and African merchants display a wide variety of imported consumer goods. There are small shops set up in front rooms of houses, and "table markets" with a few goods on front porches. Along many of the roads in the interior are shady rows of tall bending rubber trees and groves of coffee, cocoa, and oil palm trees.

Ethnic groups that historically have been involved in domestic trade, particularly the Mandingo, now seem to own much of the transport and trucking industry in the country. These truckers also purchase produce through a chain of agents or "middle buyers" who penetrate rural areas buying small quantities of coffee, cocoa, rice and palm oil. In some ways, the "middle buyers"--many of them women--perform a much needed service buying and transporting goods for farmers in remote areas for those who cannot afford to transport their crops to market.

VII. Continued

Sometimes, however, middle buyers cheat isolated farmers, using fake weights--or even no scales at all--and quoting erroneous "official" prices. Team members heard reports of purchases of 100 pound bags of cocoa for $40, less than half the official price of $82 a bag. Private traders also own most of the storage facilities; they ship, store, and sell produce for large profits. Where it exists, therefore, this influence over rural trade may limit competition along the roads for those with little cash who do not belong to certain expatriate and ethnic groups.

Roads that penetrate the Liberian interior compress time and geography in a way that seems commonplace to Westerners. But it is revolutionary to people who once measured distance in walking days and now measure it in taxi fares. In former days the visitor to Liberia saw vast differences between the U.S. antebellum style of houses in coastal cities, for example, and the compact villages of wattle and daub houses with thatched roofs in the interior.

Many such differences still exist, but it is the similarities that now strike the visitor. Everwhere are zinc roofs on cinder or mud block square houses. In towns of any size along the roads are school children in uniforms, government clinics, courts, and schools. Periodic markets in densely populated areas team with people and goods: fish, locally produced rice, vegetables (sold mainly by women from their personal gardens) as well as imported trade cloths, sunglasses, plastic sandals, candy, cigarettes, and ready-made clothes.

IX. What delivery system did the project employ to transfer technology to intended beneficiaries?

AID contracted with local road construction companies which were not very experienced. Some difficulties encountered are mentioned below.

An adequate labor supply was not available for road construction for several reasons: low population densities in many of the Rural Roads I and II project sites, the labor requirements of the subsistence economy, outmigration, and the high labor demands in the nearby concessions. Thus, Rural Roads I and II involved minimum standard, machinery intensive construction methods.

Obtaining acceptable plans and specifications for the road from the GOL took AID 5 months longer than expected for the Rural Roads II Project. Another year was expended in resolving conflict between AID and the GOL regarding which contractor should be assigned the contract award, and a further 9 months was required to solve problems encountered with the performance and surety bonds for the selected contractors. Work on Rural Roads II did not actually start until the Loan Terminal Disbursement Date had passed. Then, during construction of Rural Roads II, the inadequate engineering gave rise to the same costly and time consuming problems as those encountered during Rural Roads I.

IX. Continued

We found mixed results on the issues of road construction and maintenance. Rural Roads I was completed about one year late and had a cost overrun of 20 percent. This is a reasonable performance considering that the project was prepared prior to the energy crisis, and that it was AID's first experience in Liberia in constructing roads using the nascent local contracting industry. Rural Roads II experienced exceptionally long time delays and cost overruns. The originally scheduled completion date was August 1975. However, Rural Roads II is still not complete, and in fact, the Plebo-Barclayville section is only two-thirds finished. These problems are partially due to adverse weather conditions, and AID's underestimation of both the time required to build the roads and the guidance AID needed to provide--particularly in supporting the local contractors the project sought to encourage.

X. What training techniques did the project use to develop the delivery system?

Apparently, little or nothing was done to strengthen the delivery system.

XI. What effect did the tranferred technology have upon those impacted by it?

The most immediate changes brought about by roads in rural areas of Liberia have been in education, health, agriculture, and marketing. Although problems have arisen in these areas, some of which we outline, the changes generally have been positive. The long-term and potentially more serious effects of the roads are addressed in the sections on land use and ownership, environment, and migration.

In general terms, the impacts of the roads, whether positive or negative, are more pronounced when new roads are built rather than when old ones are improved. When areas are first linked into a national network of transportation and communications, the impacts on the regions are rapid and vivid. However, when an existing road is improved, the consequences are not as pronounced--because the process of change had been initiated at the time the original road or track had been built. Thus, the renovation of an existing road of itself maybe less a risk in terms of adverse impact on people, and conversely, much less a significant factor in any positive change that may occur.

Roads and educational programs are now creating significant opportunities for tribal people to send their children to school. Along the AID roads we visited, as well as along numerous "self-help" roads built by townspeople off the AID roads, new or improved schools were pointed out. People told us that roads and the comforts they brought made it easier to induce teachers to stay. Getting government employees paid regularly is a continuing problem in Liberia, but the roads at least make it easier for teachers to go down to Monrovia (albeit at their own expense) to try to get their pay checks.

XI. Continued

Another thing that people in towns on roads consistently cite as an improvement is access to health services. At several sites along the AID financed roads, proud officials took us on tours of clinics that had appeared after the roads were built or improved. In most cases, someone was there to staff the clinics, although drugs and supplies sometimes seemed sparse.

While access to modern medical services has definitely improved, however, the roads often create health problems. Aside from relatively obvious problems such as traffic accidents (mentioned by a number of people), a Ministry of Health official reported an increase in waterrelated diseases, such as malaria and schistosomiasis from standing pools of water along clogged road drainage areas. Lung diseases seem to have increased to some extent in towns along the road because of dust. Ironically, there are also instances of people contracting tuberculosis when they tried to protect themselves from the dust by closing their doors and window shutters. (Problems such as this might be avoided by paving the stretches of roads through villages.)

The third major change that people cite when a new road is constructed is a marked increase in cash cropping. In response to such incentives as attractive prices and better access to markets, we were told that farmers along the roads have increased their cultivation of tree crops such as coffee, cocoa, and rubber when they have had the opportunity to do so. As an example of this trend, national coffee production increased threefold from 1974 to 1978. While the current economic gains from tree crops seem evident, long run trends in agriculture are less clear.

Traditionally, farmers carried their produce to market by headload, sometimes for many days. The quantity of produce sold depended not only on the distance, but also on the number of people either in the family or available for hire to carry bags weighing up to 200 pounds. In the vicinity of the new AID rural roads, headloading has been reduced to hours, and transport costs decreased dramatically. For example, farmers in Benway (formerly connected to Plebo by a 15-mile foot path) would today have to pay $14-$19 per headload (all costs taken into account) were it not for the new AID road which permits transporting the same load by taxi for $1 to $1.50--a 90 percent reduction in transportation costs.

In addition, farmers now report that they lose less of their agricultural products through spoilage when transport is available. Famers on the Zwedru-Ziatown raod, for example, used to harvest more cocoa than they could headload to the market in Zedru, since it was not always possible to find carriers. The former Commissioner of Ziatown remembers farmers who could harvest 12 bags of cocoa each year, but often got only four or five to market in good condition. Not only can farmers living near these roads easily and profitably sell their goods, they can also use the cash they earn to purchase an extensive array of consumer goods in stores, shops and "small small" markets in houses. The relative prosperity in many of the towns is impressive.

XI. Continued

The gains made by some young or middle aged women as a result of these changes seem particularly marked. Although some simply sell small items to make ends meet or to supplement their husbands' cash income, others have gained mobility and independence. Such women begin by borrowing capital from their husbands--or secretly from lovers--or by selling some of the produce from their gardens, and setting up small table markets or shops. Women also send their small children out with "head markets:" boxes of fried cassava flour balls or fried plantain slices, buckets of water with cups to serve thirsty market goers, or (the latest fad) hunks of frozen Kool Aid in small plastic "baggies." The creative variations are endless. Though at first unimpressive to an outsider, these small businesses generate a surprising amount of cash for women.

Women who profited by the growing cash economy were particulary apparent in the Kolaun area. One young woman who owned a shop told us that there were women in the area who had coffee and cocoa fields of their own, who carried as much as $3,000 in small purses hung discretely from their "lappa" dresses.

Evaluation Executive Summary
AFR/DP/PPEA-BuCen

Sector/Subsector: Agriculture

Country: Liberia

Project Title: Agriculture Program Development

Project No.: 669-0123

LOP Funding: Grant $1,305,000

LUP Years: 1972-1976

Evaluation Type: Impact

Evaluation Title & Dates: Liberia Impact Study; December, 1980

Evaluation Author:

Other Sources of Information:

Questions

I. What constraint did this project attempt to relieve?

The Ministry of Agriculture (MOA) lacked the machinery to adequately plan and monitor its development programs aimed at stimulating food production in the traditional agricultural sector.

The key development constraints in the subsector were formidable: (1) inadequate incentives and services available to traditional farmers; (2) a meager base of technology to increase their productivity; (3) limited infrastructure; and (4) limited capability, especially in qualified technical personnel within the MOA, for planning and managing its development programs.

The report indicates that development was also constrained by the lack of a statistical capability to promulgate information for planning and the lack of the capability to plan and manage programs.

II. What technology did the project promote to relieve this constraint?

Upon request by the Government of Liberia (GOL), USAID granted the government $1,305,000 to be used in combination with proposed GOL counterpart contributions of $18,500,000 to:

(a) strengthen the planning and management functions within MOA;

(b) provide agricultural economists and technicians to improve agricultural data collections and analysis;

(c) develop a national plan to support rural development;

II. Continued

(d) strengthen the marketing division of the MOA in an attempt to improve the food crops marketing system and thereby provide production incentives to traditional farmers;

(e) establish within the MOA a soils division to provide information on land capabilities for planning purposes;

(f) develop methods for technology transfer to the rural areas so as to enable Liberian subsistence farmers to increase production (and therefore income) and bring them into the money economy.

III. What technology did the project attempt to replace?

The climate, soils, and terrain of Liberia are well adapted for the production of tree crops but are considered mediocre to poor for producing more and better food crops, based on the then generally applied technologies. Part of the problem was that the traditional sub-sector had been stagnant in the development of advanced technology and marketing incentives. Another aspect that caused concern to GOL was the increase in rice imports to meet growing demands, from 35,000 metric tons annually during the early 1960's to 40,000 metric tons by the close of the decade.

Even though better technology was known, no planning and implementation machinery had been developed to transfer it to the subsistence sector. For development analysis and planning, the MOA had established a Planning and Management Unit which had received assistance from two USAID advisors since 1970. However, GOL realized that this function had only limited effect and that more specific analysis, planning and implementation activities would be required for significant changes in food crop production and marketing.

An agricultural statistics and research unit functioned within the Planning Division of the Ministry of Planning and Economic Affairs (MPEA) but it was unable to provide the necessary technical expertise to the MOA. This resulted from the general weakness of the MPEA's Planning Division which itself lacked sufficient and adequately trained manpower, inadequate data collection and dissemination capabilities, and staff development funds. It, therefore, tended to disregard pertinent agricultural development issues. What was needed was a sound planning and management function within the MOA which could gather the necessary data and make decisions on the basis of what was known rather than what was assumed.

Additional related information is provided under question V.

IV. Why did project planners believe that intended beneficiaries would adopt the proposed technology?

In 1971 the MOA prepared and presented a 5 year agricultural development plan for the period 1972-1976, the first such plan submitted by any ministry of government. It outlined for the first time within one framework

IV. Continued

a series of policies, objectives, and strategies for all projects and supporting services of the ministry. The plan concentrated on development programs for small-holder (traditional farmers) enterprises, capitalizing on existing potential and aimed at overcoming some of the main obstacles in the traditional sector.

The GOL requested USAID assistance in five areas encompassed by the plan: planning, marketing, soils, production services, and agricultural research. The USAID response was to provide assistance in (1) planning, (2) marketing, and (3) soils. No other donor was providing assistance to the planning unit or to marketing and it was felt that additional USAID assistance in planning and marketing would build on technical and institutional bases established during the preceding 18 months under a terminated USAID project, Agricultural Production Advisory Services, (669-0101). USAID assistance in soils would complement in specific ways the assistance being provided in this area by UNDP/FAO, the Peace Corps and Taiwan, while fulfilling a long-standing commitment by USAID to the MOA to help establish the capability for a soils program.

The planners assumed the Liberians had a western work ethic and certain ministerial manpower and funds resources (see section VII). Other factors leading to adoption were not explored.

V. What characteristics did the intended beneficiaries exhibit that had relevance to their adopting the proposed technology?

After many years of development efforts, most of Liberia's farm households remain at or near subsistence levels of production and consumption; productivity in the agricultural sector remains low; the country has to import increasing quantities of rice (from an average of 47,500 tons per annum for the period 1975-1979 to 60,000 tons in 1980), as well as other important commodities, notably food proteins.

Large-scale farming accounts for only a small proportion of Liberia's farms; most of these are engaged in tree crop production in which rubber predominates. While a few of the large farms are owned by foreign concessions, most are owned by individuals who accumulated their development capital from sources outside agriculture.

A comprehensive and cohesive extension program does not exist outside of the large agricultural projects and parastatal organizations (where they often duplicate and overlap). Relatively few farmers have been reached or affected by extension services. Most Liberian farmers are not willing to make changes until it has been demonstrated to their satisfaction that that change will lead to improvement. They must be shown, not told. They are capable of discerning the soundness of ideas and innovations related to their own situation. Liberian farmers believe that improvements (technical ideas and packages for development) must come from outside.

VI. What adoption rate has this project achieved in transferring the proposed technology?

The project itself, although well designed, suffered from some operational drawbacks which became apparent during implementation. Some heroic assumptions were made: first, it assumed a western work ethic which simply does not (yet) exist in Liberia and, therefore, the time frame was too short for the many objectives the project was to achieve; second, ministerial resources, especially manpower and funds, were overestimated and resulted in unfilled Liberian vacancies in critical project positions and in the fact once USAID assistance phased out, the Ministry lacked the financial resources to adequately fund the activities. It is not enough to install functions without acknowledgement of the cost associated with keeping them functional. A number of USAID-assisted projects in Liberia have suffered from the same problems caused by too much misplaced optimism in making various assumptions and overloading projects with too many objectives to be achieved in too short a period of time. Development takes more time than the U.S. government is sometimes willing to acknowledge.

The project enabled the MOA's Statistical Division to become established and operational and for the Planning Bureau to be created. The Bureau of the Census trained the MOA's Liberian statisticians; the majority are still there and working satisfactorily, even though two subsequent Ministers did not find the statistical function important and ignored their contributions.

The Planning Bureau was initially well staffed and operated. It designed a 5 year rolling plan for the Ministry, based on program planning, which was being operated up until 1976. The plan was said to be of good quality in terms of direction and funding levels. Then inadvertently, USAID and the World Bank undercut the Ministry's sectoral planning effort by offering to fund two integrated rural development projects (Lofa and Bong). The (then) Minister of Agriculture protested vehemently because he did not agree with the project approach to sectoral development. When it became clear that no agriculture sector funds of these magnitudes would be forthcoming unless tied to these projects, he relented but resigned his MOA portfolio shortly thereafter. These developments effectively killed the sectoral planning capability so painstakingly built up in the Ministry and reoriented the approach to project planning. Most Planning Bureau staff soon departed for other jobs, either in other sectors of the ministry or to other ministries, public corporations, and international organizations. As a result, few planners remained and the rebuilding of the Planning Bureau subsequently became necessary. Those who left the Bureau hold responsible higher positions elsewhere, but in those positions they hold top administrative functions rather than performing the needed planning tasks for which they were trained. It is not clear that either USAID or the World Bank realized that by funding the Bong and Lofa IRD projects they were killing the most important element of the Agricultural Program Development project.

VI. Continued

A Soils Section was established at the Central Agricultural Experimental Station in Suakoko, Bong County. However, living conditions for the PASA soil scientists were such that they left early. The Liberian Soils Section personnel, although technically competent, were said to have been abused by their superiors. Instead of conducting a nationwide soil survey designed to result in a soils map, they were instead ordered to conduct soil studies on private farms owned by their supervisors and by politicians who then could use the soil data to obtain private development loans for these properties. They did what they were told to do. Project advisors were not in a position to prevent abuse of this sort.

The project was also designed to set up a marketing system. This element is generally considered to have been a failure but not because of the project itself. Rather, the (then) Minister staffed the Marketing Sections with persons considered to be incompetents, but who were somehow employed as a form of social welfare, based on political or family connections.

The project did not develop the technology transfer function, partially because no technology adapted specifically for Liberian situations was there to be transferred, and partially because the Ministry's meager resources were devoted to statistics, planning, and soils functions.

The management objectives of the project were not achieved (see Organization Impact under section VII).

Adoptions were not defined. The variables used to compute adoption rates were not identified for all of the technologies.

VII. Has the project set forces into motion that will induce further exploration of the constraint and improvements to the technical package proposed to overcome it?

Despite the fact that the project was designed to improve the planning and monitoring of the MOA's development program aimed at stimulating food production in the traditional agricultural sector, it was unable to meaningfully address the basic issues. Part of the failure can be blamed on the organization of the Ministry of Agriculture which did not provide a suitable framework for planning, executing, administering, supporting, and coordinating a sound agricultural program; while the prevailing political climate was such that attempts to reorganize and reorient the Ministry's efforts toward real agricultural development ran up against vested interests of the power structure. Considerable lip service was given to the goals and objectives of agricultural development, but implementation and actual results fell short of stated goals.

VIII. Do private input suppliers have an incentive to examine the constraint addressed by the project and to come up with solutions?

The report indicates that this is not feasible for agricultural projects because of the lack of roads, etc.

IX. What delivery system did the project employ to transfer technology to intended beneficiaries?

The PASA arrangement is reported to have been excellent, especially in the case of the two agricultural economists assigned to the Ministry in Monrovia. Their working relationships with Liberians was said to be very good. However, the USAID Mission made considerable demands on their professional time which tended to detract from their effectiveness at the MOA. This was regrettable because they ended up working for two masters whose needs did not always coincide.

During the implementation phase of the project the MOA was to receive the following assistance under the project:

(a) Advisory services ($885,000)
- 3 agricultural economists
- 1 marketing economist
- 2 soil scientists
- 12 person/months of short-term consultants

(b) Participant training ($224,000)
- 25 academic person/years of long-term training
- 18 person/months of practical short-term training

(c) Commodities ($176,000)
- 4 vehicles
- office machines
- laboratory equipment
- demonstration equipment
- teaching aids
- commodity grading machines
- palm oil presses
- soil analysis equipment

X. What training techniques did the project use to develop the delivery system?

Participant training (see numbers given in section IX).

One of the benefits of this project was its participant training element. Out of 35 Liberians who participated in staff development, 23 successfully completed masters degree programs, mostly in agricultural economics and statistics; two completed diploma courses; seven attended practically-oriented short courses of up to a year in duration; while the remaining three attended conferences abroad. This potential manpower pool should have enabled the MOA to adequately staff and operate its Planning and Management Bureau, the Statistical Division, a Land Use Planning Unit and to start up its Cooperatives Division as planned.

Technical assistance was provided by a PASA team from the U.S. Department of Agriculture.

XI. What effect did the tranferred technology have upon those impacted by it?

Although many MOA staff members were trained at the post-graduate level to staff the planning and management functions, almost all of them left the Ministry at the earliest opportunity. Clearly the level of planning being done did not represent a sufficient challenge to retain trained, capable people. Even though the trained planning manpower represented a gain for Liberia as a whole, it constituted a net loss to the MOA's Planning Bureau. Consequently, at the close of the project there remained virtually no organizational capability for planning a broad agricultural development program, and for planning development activities within that program framework.

In recent months some of the trained staff have come back to the MOA, but in top-level positions where administrative workloads are such that little time remains for the technical requirements of planning.

Evaluation Executive Summary
AFR/DP/PPEA-BuCen

Sector/Subsector: Health

Country: Liberia

Project Title: Lofa County Rural Health

Project No. 669-0125

LOP Funding: U.S. $2,733,000
Total $4,941,000

LOP Years: 1975-1980

Evaluation Type: Special Evaluation

Evaluation Title & Dates: June 1979 covering the project from September 1975 to April 1979

Evaluation Author: Dr. J.N. Togba, Chairman (University of Liberia), Ms. Evelyn C. McLeod, USAID

Other Sources of Information:

Questions

I. What constraint did this project attempt to relieve?

The project planners apparently believed that development was or eventually would be constrained by an unhealthly disease-ridden population.

Inaccessible and low quality health care in Lofa County contributed to this problem. This project was to improve the quality and number of personnel, construct and renovate facilities, reallocate health facilities, establish improved logistics, including support systems, and improve recordkeeping and reporting at all levels.

II. What technology did the project promote to relieve this constraint?

Health care technology and the delivery system were to be developed and transferred through training programs.

USAID funded a technical advisory service of the Indian Health Service through a PASA with U.S. Department of Health, Education, and Welfare. However, from the description of the project only the Public Health Nurse Advisor was effective. They could have done without the rest of the team.

III. What technology did the project attempt to replace?

Not described. Since this was a pilot project some vairation in local technologies should have been anticipated.

IV. Why did project planners believe that intended beneficiaries would adopt the proposed technology?

This was a jointly sponsored project between the Ministry of Health and Social Welfare.

V. What characteristics did the intended beneficiaries exhibit that had relevance to their adopting the proposed technology?

No information given.

VI. What adoption rate has this project achieved in transferring the proposed technology?

The project paper stated that "all health posts and centers will have two potable wells and two sanitary latrines." This is not the case and currently at the Bopolu Health Center a latrine is being constructed with materials from missionaries in the area and with funds from the center's staff. In a few cases water must still be carried daily from a stream or well to the health facility.

The latrines that were constructed in villages are not being utilized. The Sanitary Inspector is not motivating and encouraging the population in the proper use of the latrines and improved water conditions.

There is a marked increase in clinic attendance probably due to new structures, presence of trained personnel, continuous availability of drugs and medical supplies, and improved roads.

The project contributed to the revision of the national health data system. Also important progress was made in the field of curative services. Results obtained in MCH activities and deliveries within health facilities are substantial. Supporting elements as well as logistic systems did meet the required levels. However, results obtained in family planning, environmental, and public health are in general unsatisfactory and far below expectations.

Although it is unclear that about 70 percent of the population of Lofa County is living within a 5-mile radius of health facilities, it should be realized that such an assumption using this numerical yardstick does not mean that 70 percent of the population is indeed covered since it depended on the National Census of 1974. Experience shows that results of such geographical coverage may be much lower than expected since a greater area of Lofa County is unaccessible by roads though they have large populations. This situation using the above method is even more crucial (results much lower) in public health aspects in Lofa County project, as was seen in villages where health facilities are located.

In planning future projects, the areas away from the roads should be reached and given the same care as those accessible by roads. Some remote areas, where possible large concentrations of people live, were omitted in the Lofa County Rural Health Program because they could not be reached by motor vehicle or airplane.

Adoption and adoption rates for the technologies being transferred were not defined adequately and the estimates contained in the evaluation report appear to be largely subjective.

VII. Has the project set forces into motion that will induce further exploration of the constraint and improvements to the technical package proposed to overcome it?

This case was a pilot project and replication throughout Liberia was desired if the outcome was favorable.

Relative to the important question of the desirability to replicate the Lofa County system in other counties, the answer is obviously not a simple yes or no. Certain important elements of the LCRHP, such as logistics supply system, the supervisory system, and staffing patterns in health centers and health posts and with MCH activities would be considered strongly for replication with minor modifications. Such inputs as the construction of facilities could also be considered. The patient registration and reporting system of health facilities is already more or less implemented nationwide. However, from all the elements mentioned a very critical reconsideration of costs and the selection of materials are needed to make financing (at long terms) possible and to avoid considerable waste as appeared to have occurred in the Lofa experience.

In addition to this statement it should be mentioned that replication is not advisable, if this implies that the top-to-bottom approach and the clinical orientation of the total system will be an inevitable side-effect. However, at least theoretically this is not necessarily the case, community health and population involvement are major components. Of particular importance will be the redefining and expansion of the roles of Physician Assistants and other health personnel at Health Posts, which should be reflected in the initial training program.

It is of great importance that for the redesigning and eventually the formulation of a new national health plan, using the identified positive elements of the Lofa County project, the mistakes made during the formulation of the PROP are not repeated. It is, therefore, very essential that for the formulation of this national plan competent, public health-oriented nationals, who know by their own practical and professional experience the health situation in and the characteristics of the villages, should be given leading position in this effort, so that the real needs of the people intended to be served are reflected in this plan and its implementation.

The report does not adequately describe the forces that will induce further exploration of this constraint.

VIII. Do private input suppliers have an incentive to examine the constraint addressed by the project and to come up with solutions?

No information given.

IX. What delivery system did the project employ to transfer technology to intended beneficiaries?

1. CARE/Liberia paid for construction, repair or remodeling of over 30 clinics in Lofa County.

IX. Continued

2. Participant training.

3. Construction of latrines and wells.

4. Commodities such as drugs, supplies, vaccines, vehicles, and family planning commodities and supplies, were to be furnished. Some items had not yet arrived though they were ordered in 1976. However, the system for providing drugs and supplies functioned satisfactorily. The warehouse was well-stocked and the health facilities had adequate supplies even though the record system was not the best.

In view of the lack of success in community health and preventive services, the project was revised in 1978. This revision decreased the emphasis on family planning and oriented more toward health facility outputs (number of patients treated), public health aspects (improvement of water and waste disposal systeams in communities), outreach activities into villages (vaccinations, health education activities outside the walls of the health facilities), efforts to motivate communities toward popular participation and community action, and the training of traditional midwives; and the strengthening and expansion of the training of physician assistants in the country.

The Peace Corp is involved in well construction along with the Ministries of Local Government and Health. Some of the wells were not dug deep enough resulting in very unhygenic and no longer usable wells, some even went dry during the dry season.

X. What training techniques did the project use to develop the deliver system?

Training abroad: Five staff members of rural health facilities were trained in family planning methodology, two in public health administration, one in logistics and supply methodology, and eight in hospital administration. Scholarships were provided beginning in 1978 for five persons to be trained in the midwifery and practical nurse program at Curran Lutheran Hospital. (Funded by Trust Fund, number of years unknown. The trust fund was created by mutual agreement between the Ministry of Health and Social Welfare and USAID to alleviate lengthy bureaucratic procedures.)

XI. What effect did the transferred technology have upon those impacted by it?

Although important progress was obtained in curative services, maternal and child health, and elements of the logistic systems, there exists a strong doubt about any substantial impact the project may have made on the health status of the population, at least at this moment. Obviously a major reason of this partial failure of the program is found in the way it was planned. The original PROP was exclusively institutional oriented instead of population oriented. The assumptions were made that this approach would automatically lead to a considerable improvement in the health status of the population

XI. Continued

and that the provision of family planning materials in rural communities would automatically lead to the use of family planning methods by the population. These assumptions give the impression that the project planners at that time appeared to have been insufficiently informed and/or aware about the real problems and characteristics of rural populations, whom they directly intended to serve.

The adaptions made in the revised implementation plan were considered important improvements. However, the reason why some of these adaptions, such as the improvement in public health and particularly in popular participation mainly failed, may very well have been the consequence of the general approach of the project, which was and continued to be a top-to-bottom one.

It should have been realized that the success of the above adaptations could not have been attained by the isolated efforts of a few persons without any systematic backing--probably changing the whole system.

Many MH&SW and USAID participants are at least partially aware of the above described facts and mechanisms. The revised implementation plan and some results of the interviews held during this evaluation are indications of this fact. In addition to already mentioned factors, an important reason why this has not yet resulted into clear outputs, may be found in the rather lose working relationship of the total project team, PASA and MH&SW teams. It appears that if the Project Coordinator, the Chief of Party of the PASA team, the County Medical Director, the Community Health Physician, the Teacher, the MCH staff and both health administrators could have operated as a real team, the attainments of the project objectives would have become more substantial. No doubt many participants would have functioned more intensively and with more job satisfaction.

Evaluation Executive Summary
AFR/DP/PPEA-BuCen

Sector/Subsector: Agriculture

Country: Liberia

Project Title: Agriculture Sector Analysis and Planning

Project No.: 669-0137

LOP Funding: U.S. $1,500,000 Total $2,107,500

LOP Years: 1977-1982

Evaluation Type: Regular

Evaluation Title & Dates: Internal Evaluation of the Liberian Agricultural Sector Analysis and Planning Project, November 1980
Evaluation covers October, 1978 - November, 1980

Evaluation Author: Wendell M. McMillan, USDA-OICD

Other Sources of Information: Homer Carter, (USDA-ESS); Curt Wolters, Program Economist, (USAID/Liberia); Othello Brandy, Assistant Minister for Planning and Evaluation--Ministry of Agriculture, Government of Liberia

Questions

I. What constraint did this project attempt to relieve?

While the constraint was not specified it can be assumed from the objectives that substandard knowledge of agriculture planning and statistical functions was the constraint this project attempted to relieve.

II. What technology did the project promote to relieve this constraint?

The technology to be transferred includes knowledge and techniques of planning, collecting, processing, and analyzing agricultural statistics.

III. What technology did the project attempt to replace?

Not described in this document but covered in the Liberia Impact Study, Agriculture Program Development, 669-0123, December, 1980.

IV. Why did project planners believe that intended beneficiaries would adopt the proposed technology?

This Agricultural Sector Analysis and Planning project (669-0137) is a follow-on to an earlier project (669-0123: Agriculture Program Development) which also sought to strengthen the planning and statistical functions of the MOA. Exogenous factors are cited as the reasons for previous failures but the appearance of political stability gave project planners renewed hope of success.

V. What characteristics did the intended beneficiaries exhibit that had relevance to their adopting the proposed technology?

It can be assumed that the direct beneficiaries of this technology transfer will be the government and the ultimate beneficiaries will be the people. The government has supported and continues to support the project.

VI. What adoption rate has this project achieved in transferring the proposed technology?

Accomplishments and Problems

1. Most planned inputs to the project have been provided satisfactorily, with the major exception of the Agricultural Statistician.

2. A comprehensive Agricultural Sector Analysis Report was planned as a major output of the project, and a draft of this report was to have been prepared by the time of the mid-term evaluation. However, due to the various external influences that have impacted on the project during its 2 years of operation, certain components of this report are still in varying stages of completion. Although levels of completeness and accuracy of data that might be desirable are unlikely to be achieved quickly, it is recommended that high priority be given to this activity during the project's remaining time period.

   Some components of the sector analysis report were largely completed by consultants, although the work on the socio/cultural study is continuing. A draft of the rice enterprise budgets has been prepared, and work is underway on oil palms. But other enterprise budgets remain to be done, and the MOA attaches considerable importance to this work. Progress to date on specific work tasks that were assigned earlier for the sector analysis can be summarized as follows:

   a. Review of the Institutional Framework. Completed. The document "Liberia's Agricultural Development in Relation with the Reorganization of the MOA" has been accepted and approved by the government.

   b. Review of Development Projects. Completed. Paper being duplicated for distribution.

   c. Development of Farm and Household Profiles. Insufficient progress. Statistics Division hampered by USDA's failure to furnish a statistician.

   d. Supplemental Socio-economic Appraisal. Completed. Copies of paper distributed.

   e. Survey of Labor and Management Situation. (a) Project requirements, (b) implications for economy-wide manpower demand/supply for agriculture. No progress. Person trained to conduct this element has departed from MOA.

VI. Continued

f. Appraisal of Soil Resource Base. Minimal progress, due to promotion of the technician to a senior administrative position. Responsibility now transferred to Central Agricultural Research Institute, Suakoko.

g. Estimates for Domestic Demand for Agricultural Commodities (from Household Expenditure Survey and Census). Behind schedule. Data being processed by LSU.

In view of the importance of such a sector analysis report to sector planning and policy analysis, as well as its use in developing staff skills, high priority should be given to this activity during the project's remaining time period.

Another major output relates to agricultural statistics, but recruitment difficulties have severely limited progress in this area and statistical activities of the MOA are now at a standstill. Looking back, it can be seen that external events would also have limited this activity had it been undertaken but continuing efforts to recruit a Statistician, or an Agricultural Economist with suitable statistical experience, should be intensified.

A third major output envisaged for the project concerns the overseas M.S. and practical training, as well as on-the-job training. The overseas training activities continue to take place largely as planned, though with some difficulties. On-the-job training has been limited by external events and MOA logistical and budgetary constraints, but should receive high priority during the remaining project time.

Other outputs listed in the PP relate to in-service training by consultants, and to improved methods in project preparation. It appears that activities in these areas have been very limited to date.

Adoption per se was not defined explicitly and the variables to be used in computing it were not specified.

VII. Has the project set forces into motion that will induce further exploration of the constraint and improvements to the technical package proposed to overcome it?

Several major external factors have impacted on the project during the 2 years of its operation. This has resulted in certain planned project activities being either severely limited or temporarily postponed, while at the same time, certain other project activities were expanded beyond the level originally planned.

Among these external factors were several changes made by the government in the Ministers and senior staff of the MOA.

On April 12, 1980, a coup d' etat took place and for several weeks the MOA was essentially nonfunctional. As the new government and the new Minister

VII. Contined

(military) then considered various options for redirection of the agricultural sector, the project team was able to consult almost constantly with senior Ministry officials, particularly with regard to the team's previously developed document on MOA policy and organizational structure. This document was subsequently further revised, published, and accepted as the official agricultural policy of the new government.

The project team then continued to assist overall Ministry activities, including MOA budget preparation, realignment of organizational units in accordance with the new MOA structure, and advisory assistance with regard to various new, and sometimes fraudulent, development proposals being made to the new government. Some carry-over activities, such as crop enterprise budgets, could be continued, but no crop statistics were collected this year.

The present unsettled and fragile situation within the country can be expected to continue for some period of time. Thus plans and assumptions as to future project activities must accordingly take these conditions into account.

One other external factor can be noted. It appears that the preceding planning project (669-123), was beginning to achieve some development in staff planning, analysis and statistics capabilities. However, while it was decided to establish the present project (669-0137), as a follow-on to the earlier work, there was a period of several years before actual implementation began on the present project, and during this interim period there was a deterioration in these staff capabilities. Thus, for institution-building projects such as these focusing on agricultural planning, it appears that more attention must be given to providing both long-term and continuous support to project operations if sustained development is to be achieved.

VIII. Do private input suppliers have an incentive to examine the constraint addressed by the project and to come up with solutions?

Apparently not, but the report does not address this question.

IX. What delivery system did the project employ to transfer technology to intended beneficiaries?

A. Technicians

This 3-year project was to be a follow-on to a preceding Agricultural Program development project (669-0123), as well as to earlier short-term advisory work in agricultural statistics, and thus would seek to "consolidate and enhance the emerging but tenuous economic planning capabilities of MOA's Planning Division." Although the PIO/T for the Project has a starting date of August 1977, two of three advisors arrived in Liberia in October 1978, and it has not been possible to recruit the third advisor to date.

IX. Continued

Including consultants participating in this mid-term evaluation, nine short-term consultants have made technical assistance available to this project for a total of 12 person-months thus far. Reports have been prepared on the following subjects as a result of this short-term technical assistance input: soils, livestock, forestry, land tenure, statistics, socio-economic setting of subsistence agriculture, rice production, and project evaluation. In the original Project Agreement, a total of 23 person-months of consulting services had been anticipated, but given rising personnel and travel costs, it appears unlikely that this total will be reached; the Pro-Ag amendment therefore scaled it down to 21 person-months.

Local secretarial services have been obtained.

The project also had the services of five Peace Corps volunteers for a month before the April 1980 coup d' etat, and since that time three of the remaining volunteers have continued to assist the project team on activities relating to government administration, soils maps, and input-output data on oil palm production.

Technical Assistance (long term as of 11/198)

(25 PM)	Ag. Economics	Oct 1978	- Present
(25 PM)	Farm Mgmt	Oct 1978	- Present
(0 PM)	Statistics	-	- -
(50 PM)	Total		

Technical Assistance (short term as of 11/1980)

(1 PM)	Soils	Apr 1979
(1 PM)	Livestock	Apr 1979
(1 PM)	Forestry	Jan 1979
(2 PM)	Land tenure	Feb 1979 and Sept 1979
(3 PM)	Socio-economic	various 1979/80
(2 PM)	Statistics	Jan 1979 and Oct 1979
(1 PM)	Rice production	July 1979
(1 PM)	Evaluation	Nov 1979

B. Participant Training

Under the Grant Agreement, the MOA undertook to hire eight additional staff who would qualify for U.S. Masters Degree training in Agricultural Statistics and Agricultural Economics. Thus far, four participants have completed short-term training in project analysis, intermediate statistics, and in the Bureau of the Census ISPC program, while eight persons have completed or are completing Masters Degree level programs at various institutions in the U.S. in Agricultural Economics and Agricultural Statistics. However, one person who has completed his M.S. degree work appears unlikely to return to Liberia in the forseeable future. The total cost of training programs thus far has greatly

IX. Continued

exceeded originally planned budgetary levels, making necessary an increased budget allocation from $228,000 to $355,000 under the recently negotiated Project Agreement amendment.

Given generally low salary levels, the current freeze on salary increases in the public service, and alternative employment opportunities for persons with statistical and economic backgrounds, it is problematical how long returned participants will actually remain in the MOA's Planning Division.

3. Commodities Purchased

Vehicles (9)	$74,460.16	(6 remain operable)
Ag survey equipment	11,000.00	

X. What training techniques did the project use to develop the delivery system?

On-the-job training was given by the PASA team and short term advisers as mentioned in section IX above.

Participant training as described in IX above. Also see recommendations in in item B3 of Section VI.

Participant Training as of 11/80

Stanley (non-acad)	6 mos	1978
Hill (non-acad)	4 mos	1978
Bruce (non-acad)	12 mos	1978/79
Newman (non-acad)	12 mos	1978/79
Mason (acad)	24 mos	1978/80
Toe (acad)	24 mos	1978/80
Savage (acad)	26 mos	1978/81
PayBayee (acad)	24 mos	1979/81
Cummings (acad)	24 mos	1979/81
Varfley (acad)	24 mos	1979/81
Mambia (acad)	24 mos	1979/81
Logan (acad)	24 mos	1979/81

Commitments to date:

non academic	$ 10,300
academic	332,441

XI. What effect did the tranferred technology have upon those impacted by it?

The technology transfer, although not specifically defined, has obviously not taken place; therefore, there has been no measurable effect and whatever impact there may have been can not be attributed to the technology transfer envisioned by project planners.

Evaluation Executive Summary
AFR/DP/PPEA-BuCen

Sector/Subsector: Construction | Country: Mali

Project Title: Mali Rural Works Project | Project No.: 688-0204

LOP Funding: $1,200,000 | LOP Years: 3 years

Evaluation Type: Project Evaluation Summary

Evaluation Title & Dates: Mali Rural Works Project

Evaluation Author: George Thompson, USAID General Development Officer

Other Sources of Information:

Note: The goal of the project was institutionalization, primarily.

Questions

I. What constraint did this project attempt to relieve?

Apparently, no attempt was made to identify constraints. The project was based on the assumption that community generated local development initiatives can provide a significant measure of improvement in the production and level of living of rural populations. The evaluation report indicates that obvious political problems were not identified during project design that affected attainment of institutionalization at the local level but no comment was made on constraints to local development that could be relieved by public works. The methodology or rigor with which constraints should have been identified was not described, either.

II. What technology did the project promote to relieve this constraint?

Based on the assumptions stated in the answer to question I, a variety of technologies were to be selected to meet locally identified needs. Actually, the technology, generally promoted was well construction. Eleven wells were completed as well as an irrigated small town vegetable garden, a water channel to aid irrigation flooding, and the repair of a dike were completed. These were all done during the last months of the project in anticipation of cancellation. Prior to the last ditch effort only two wells and a water channel had been done. The technologies were apparently selected by the government of Mali and reflected their understanding of the needs of the people. The knowledge of how to plan, formulate policy, select appropriate technology or generally perform institutional functions was not identified as technology by the evaluation report.

III. What technology did the project attempt to replace?

The evaluation report does not describe the existing technology. Without the description, the gap to be bridged by the project technologies cannot be assessed.

IV. Why did project planners believe that intended beneficiaries would adopt the proposed technology?

The project planners apparently did not address this question. The evaluation report indicates that a political constraint existed in the form of a highly centralized, authoritative government which would prevent transfer of local institutionalization technology. The report also indicated that insufficient qualified personnel were available to staff the local, regional, and central offices.

V. What characteristics did the intended beneficiaries exhibit that had relevance to their adopting the proposed technology?

The report does not address important characteristics of adopters such as social status, education, social participation, ability to deal with abstractions, a more favorable attitude toward change, etc. nor the main elements in the diffusion of new villas. Since these characteristics were not addressed, neither were the sources of information on them.

VI. What adoption rate has this project achieved in transferring the proposed technology?

The evaluation report did not comment on the adoption rate directly. Generally it indicated that the delivery system was inadequate to accomplish the project purposes of institutionalization at the local level. The evaluators did not distinguish between goals and purposes. However, they did indicate tangentially that some progress had been made toward the project goal of more effective development and improvement in the economic well being of its inhabitants in that 18 subprojects, mostly wells, were completed.

Since the evaluators did not describe the technology, they did not provide a basis for defining adoption or measuring the adoption rate. With respect to the project goals, the adoption rate on this project could have been high. The completion of the 17 subprojects provided project output to about 30,000 beneficiaries. The beneficiaries of the 13 well projects number about 5,500 people and dikes account for the rest. The completion utilization of wells and other public works obviously improves economic efficiency and the quality of life.

The cancellation of the project was allegedly based on failure to achieve institutional purposes. The technology that was to be adopted by the institutions was described in vague terms such as planning local development projects and identifying local needs. Some conflicting information

VI. Continued

in the report indicated that "communities did generally identify rural works activities..." Evaluated within the context of the 11 questions, the report does not contain sufficient information to estimate the adoption rate or to determine success or failure of the project.

VII. Has the project set forces into motion that will induce further exploration of the constraint and improvements to the technical package proposed to overcome it?

This question is not addressed directly by the evaluation report and apparently no attempt was made to measure the time savings and relative advantage provided by the subprojects. Whatever forces were set in motion by the project with respect to the institutional purposes have apparently been aborted by cancellation of the project.

If the constraints to development had been stated properly during the design of this project, technology could have been selected for transfer to the delivery system as well as the beneficiaries that had the potential to relieve the constraint. This could have included training in policy formulation and planning.

VIII. Do private input suppliers have an incentive to examine the constraints addressed by the project and to come up with solutions?

Since the constraints were not identified it cannot be presumed that the evaluators considered this issue nor is there anything that indicates the existence of a private sector incentive.

IX. What delivery system did the project employ to transfer technology to intended beneficiaries?

While the evaluators did not consider delivery systems in the context of the Africa Bureau Evaluation Guidelines and this question, it is obvious that a rather efficient delivery system existed during the final months of the project (May-September) when 11 wells, an irrigated small-towns vegetable garden a water channel to irrigation flooding, and the repair of a dike were completed. This delivery system promoted the project goal of improved economic well being.

With respect to the project purposes of local institutionalization, the reports indicates that the strong central, authoritarian government would not have permitted local participation. Had this constraint been identified during the conceptual phase of the project, the project could have been designed to include transfer of technology including appropriate training to relieve this political constraint.

X. What training techniques did the project use to develop the delivery system?

Note: This question has been revised to the following: What technology does the project intend to transfer to the delivery system and what techniques does the project intend to use to make the transfer?

Apparently, agents provided on-the-job training for the delivery system associated with the project goal of improved economic well being. With respect to the project purpose of local participation the technology transfer to the delivery system was apparently inappropriate and inadequate. Unfortunately, the evaluation report does not provide sufficient information to make a reliable determination.

XI. What effect did the transferred technology have upon those impacted by it?

Again the evaluation report does not provide the information in this context. However, a careful reading of the entire report would indicated that the technology related to the project goal was successfully transferred and had a favorable effect on some 30,000 beneficiaries prior to cancellation of the project because of "near total failure to accomplish its stated goals and purposes." Apparently, the purpose of local institutionalization was not achieved nor did the project planners provide for technology transfer to the potential delivery system that had the potential of relieving the constraint related to this purpose.

General comment

The term information as used within the framework of an information system means data that has been processed into a form that is meaningful and relevant to the process under consideration. Within this meaning, this evaluation report provides considerable data but little information.

Evaluation Executive Summary
AFR/DP/PPEA-BuCen

Sector/Subsector: Education

Country: Nigeria

Project Title: Northern Nigeria Teacher Education Project (NNTEP)

Project No.: 620-0710

LOP Funding: AID - $2,723,000 Nigeria - $52,000
Ford Foundation - $2,635,000

LOP Years: Ford Foundation, 1965-1966
AID, 1967-1969

Evaluation Type: Impact Evaluation

Evaluation Title & Dates: Project Impact Evaluation No. 23

Evaluation Author: Robert E. Mitchell, Team Leader and Principal Author (Bureau for Near East)

Other Sources of Information: James M. Seymour, Anthropologist and Human Resources, (Bureau for Africa), Howard F. Tuckman, Public Finance and Human Resources Economics (Memphis State University)

Questions

I. What constraint did this project attempt to relieve?

Apparently, lack of education constrained development. This was attributed to lack of teacher training colleges (TTC's) and qualified staff in these colleges which resulted also in a lack of primary school teachers and shortages of learning materials. Irrelevant education techniques from the English educational system which lowered the quality and efficiency of teachers already being produced was thought to be constraining development of an efficient educational system.

Educational development was predicated primarily on the need for higher level manpower; the top of the pyramid--the end-products of the educational system--influenced what was to be offered at the base. The expansion of the base was constrained by a lack of primary school teachers, and their supply was constrained by a shortage of TTC's and qualified tutors in these colleges.

The TTC (or Grade II teachers college) is a specialized institution designed to serve a specific function, to prepare primary school teachers. Students in these colleges typically entered directly after completing 6 years of primary school; if they passed the West Africa Examinations at the end of their 5-year program, they were awarded the Higher Elementary (Grade II) Certificate. Only 48 percent of those sitting for the exams in 1961 passed them. The exams themselves influenced the curricula, syllabi, and teaching materials used in TTC's. Primary teachers were classified in one of four professional grade levels or as uncertified.

I. Continued

In 1961, only 14 percent of the teachers were certified as Grade II or higher; 41 percent were not certified at all. Educational expansion, therefore, had to address both the quality and quantity of teachers.

II. What technology did the project promote to relieve this constraint?

Participant and counterpart training in educational techniques. Development of a curriculum which emphasized problem solving, the scientific method, the inquiry method, the logical sequencing of materials, regular testing of student's progress (formative evaluation), and the investigation of related subject matter.

They promoted the use of team teaching, large group instruction accompanied by audio-visual aids, and individualized instruction with the use of language labs.

The complexity and duration of this training was not described.

III. What technology did the project attempt to replace?

Colleges already in operation did not select out students for poor performance, schools emphasized rote-learning and obedience, textbooks were England-oriented and largely irrelevant to Nigeria. The curriculum was a "teacher-talks, student-writes" and compartmentalized rather than integrated disciplines. The philosophy emphasized rote-learning, imitation, exam-cramming, and end-of-course examinations (summative evaluations).

The time required to completed this training was not provided.

IV. Why did project planners believe that intended beneficiaries would adopt the proposed technology?

Even before independence, AID supported education projects in Nigeria. Education was the Mission's oldest sizeable program sector. AID was responsive to the need for education development in the North. In 1962 the Mission entered into the first of several contracts with the University of Wisconsin to review and make recommendations on the development of primary education in the North. These studies resulted in the Northern Nigeria Teacher Education Project (NNTEP), a project supported primarily by Ford for calendar years 1965-66 and primarily by AID for the next 3 years.

Education was central to the development strategies of both outside powers and Nigeria. The sector was the cutting-edge of competition among the world powers for the friendship of newly independent African countries. The United States, which provided Nigeria with an "independence gift" of about $250 million, followed a four-fold educational strategy in Nigeria: scholarship students were sent to American colleges and universities; new schools were built in Nigeria with American funds; technical assistance and staff were provided to develop particular educational institutions; and

IV. Continued

American concepts of education, especially curriculum and teaching methods, were exported by means of particular projects.

After independence, education in general, and particularly in the North, became the centerpiece of development strategies. With support from the Carnegie Corporation, a Commission on Post-School Certificate and Higher Education was created in 1959. Its 1960 report (the Ashby Report) linking education to manpower development was based on three premises: (1) by 1980 Nigeria would become a nation of 50 million people with modern industries, oil, and agriculture; (2) Nigeria would have a massive need for higher level manpower--the number of senior level personnel would have to double from 15,000 to 30,000 by 1970, and intermediate personnel would more than triple; and (3) the present capacity of the education system was grossly inadequate. The educational pyramid needed to broaden to provide more post-primary pupils who in turn would attend post-secondary schools. The Commissioners emphasized that their recommendations were "massive, unconventional, and expensive." The rate of investment in education they sought far outstripped the expected growth of the economy by 1970.

Northern Nigerian education, teacher training, and U.S. assistance to the sector were not isolated developments. Other donors also contributed to Nigerian development programs, including those in education. In 1963, AID, 21 countries, 13 international agencies, and 8 private foundations provided Nigeria with assistance, including help in the education sector. Educational development, therefore, was an evolving system influenced by a number of different actors and specific projects. This "systemic" nature of education complicates the task of tracing the effects of a project that was terminated on December 31, 1969, more than 11 years prior to the present impact evaluation.

V. What characteristics did the intended beneficiaries exhibit that had relevance to their adopting the proposed technology?

Northern Nigeria was a region of 282,782 square miles and over 20 million people, the North was characterized by cultural diversity and economic underdevelopment. Eighty percent of the male working force was in the agricultural sector, living in dispersed small settlements. About 30 percent of the population engaged in subsistence farming. There were seven major tribes but over 100 distinct ones speaking some 59 languages and dialects. Moslems predominated in the northern tier of provinces; Protestant and Roman Catholic missionaries were active elsewhere, although a majority of the population in the middle southern tier of provinces followed traditional tribal religions.

The North was not as receptive as the other regions to Western formal education. Britian's policy of indirect rule--working through 13 provincial councils and some 66 native authority areas--helped preserve the region's educational disadvantage. The expansion of Christian missions and their schools was also closely controlled. It is little wonder, therefore, that in 1960 less than 10 percent of the North's primary-school age children

V. Continued

were enrolled in recognized formally organized primary schools, in contrast to 75 percent in Southern Nigeria.

No other characteristics were discussed.

VI. What adoption rate has this project achieved in transferring the proposed technology?

1. Fifteen persons trained in the United States helped to achieve the transfer (see VII).

2. An estimated 3,000 to 5,000 pupils were taught by the Wisconsin staff serving as tutors in the TTC's. These figures refer only to the AID-portion of the project and not the first 2 years under the Ford Foundation. In cascading fashion, these students in turn have taught between 180,000 and 900,000 primary school pupils since graduating from a TTC.

3. Curriculum

NNTEP's curriculum philosophy was consistent with the national reform movement. The traditional education philosophy tended to emphasize rote-learning, imitation, exam-cramming, and end of course examinations (summative evaluation). It was a "teacher-talks, student-writes" orientation. The curriculum compartmentalized rather than integrated disciplines: arithmetic and mathematics were separate, as were geography and history. In contrast, the NNTEP philosophy emphasized problem-solving, the scientific method, the inquiry method, the logical sequencing of materials, regular testing of students' progress (formative evaluation), and the integration of related subject matter. Other AID-support projects--particularly the Aiyetoro Comprehensive Secondary School (Harvard University) and Olunloyo College of Education (Ohio University) both in Western Nigeria--preceded NNTEP and influenced curriculum philosophy in the North. Through these various efforts, some of which AID supported, Nigeria went through at least five stages in the development of curriculum: (1) an emphasis on relevance, using Nigerian rather than English examples in the curriculum, (2) attention to technological transfer and development, with particular attention to improving mathematics, (3) use of objectives testing rather than mainly subjective evaluation, (4) frequent testing rather than relying on final-year examinations, and (5) a move toward universalism of the curriculum, away from state or tribal-specific examples and languages.

4. Impact of Quality

Improving the quality of primary teacher training was the first of NNTEP's two major purposes. Wisconsin's original projections called for significant increases both in the annual production of teachers and in their quality. Actual accomplishments fell behind these

VI. Continued

targets; in fact the trend was down, not up. Before the start of the NNTEP in 1961, 48 percent of the TTC graduates who sat for the final teacher certification (Grade II certificate) examinations passed them; 54 percent passed in 1964. Pass rate information for Kaduna State for the years after the NNTEP was instituted indicates that quality dropped drastically; only 27 percent passed in 1975-76; 15 percent passed in 1977-78.

5. Efficiency

NNTEP's second major purpose was improving the efficiency of primary teacher training through increasing the size of classes taught by the best qualified teachers and adopting innovative teaching techniques. Although progress was made in realizing this objective, little evidence exists that the innovations that were made are widely used today.

Similarly, progress in improving learning efficiency by adopting team teaching, programmed learning, and audio-visual aids has been less than anticipated.

6. Institution-Building

Political developments in Northern Nigeria during the course of the NNTEP radically altered the initial plans for institution-building. Wisconsin originally provided consultants to the single MOE for the Northern Region and to the IE. The reorganization of the Region into six states in April 1968 resulted in about 6 months of uncertainty and a loss of project momentum. Perhaps because no single Nigerian agency retained legal responsibility for developing the project, no clear sense of project-ownership developed. No one seemed to regard NNTEP as "their project," and because there was no plan for the host government to gradually assume financial commitment to NNTEP, much of the pressure to assure adoption and use of the project's innovations dissipated.

VII. Has the project set forces into motion that will induce further exploration of the constraint and improvements to the technical package proposed to overcome it?

First-order beneficiaries fell into two groups: participant-trainees and the counterparts of American staff in TTC's, the Institute of Education (IE) and the Ministry of Education (MOE). All 15 of the participant-trainees sent to Wisconsin have returned to Northern Nigeria. They are still in the education sectors, and they have in the past and continue today to play significant educational roles. Nine of them are employed in the state MOE; four occupy the top civil service position (Permanent Secretary), and five others are chief inspectors of education. Three others are either director, dean, or department chairman within a northern university, and the remaining three are principals of secondary or post-secondary schools.

VII. Continued

Six of the trainees earned at least one degree beyond the initial one they received from Wisconsin; three of them earned a second degree from Wisconsin.

The present leadership roles played by trainees and counterparts suggest that the project had a significant impact on the development and current operation of the educational system. At least one of the two or three highest educational posts in six of the ten current northern states is occupied by either a participant-trainee or a counterpart. In three states, at least two of the top three positions has an NNTEP-related incumbent. Only Bornu State has no NNTEP graduate in one of its top MOE posts; Bauchi, Kano, and Plateau have only relatively lower-ranking positions with NNTEP incumbents. On the other hand, over half (56 percent) of all trainees and counterparts are in two states only: Kaduna and Kwara. This concentration partially reflects the relatively limited geographical base of the beneficiaries. Geographical dispersion apparently was not a key feature in recruitment, although it was possible to build state-of-origin into the project, even after the creation of the six new states.

It seems clear that the AID project reinforced an educational approach which the Nigerian government found appealing. This is reflected in the government's continued efforts to encourage the growth of TTC's after the project was completed. Less clear is that this was the appropriate approach to providing a manpower base capable of raising the skills of the Nigerian workforce to a desirable level. Despite a decade of growth, there are only limited indications that the semi-skilled and unskilled labor force is better prepared to provide either agricultural or industrial labor sufficient to attract new industry. On the contrary, the evidence suggests some shrinkage in agricultural output and that the expansion of the educational sector may have diverted some trained personnel into education, removing them from manufacturing and other industrial activities. At present, the evidence does not seem to justify the initial premise that expansion of the primary schools will provide a more skilled labor force. In fairness to this argument, it should be noted that a decade may be too short a time period to inculcate new skills in the labor force. Nonetheless, a question remains as to whether the traditional educational approach employed in Northern Nigeria is the best one for meeting that area's manpower needs. And in the absence of a more successful economic development program, it is unclear that the products of Universal Primary Education (UPE) will find their career prospects substantially enhanced.

NNTEP participant-trainees, counterparts, and students played a significant role in the development of education in Northern Nigeria. All 15 trainees returned home and currently occupy prominent leadership roles in the education sector. At least one of the two or three highest educational posts in six of the ten current Northern states is occupied by either a trainee or a counterpart.

VIII. Do private input suppliers have an incentive to examine the constraint addressed by the project and to come up with solutions?

No information given.

IX. What delivery system did the project employ to transfer technology to the intended beneficiaries?

University of Wisconsin was hired to:

1. Develop curricular materials and new teaching techniques for the TTC's.

2. Encourage TTC's and education authorities to adopt and use these innovations in a professional manner.

3. Educate participant-trainees and counterparts to ensure project continuity.

4. Provide technical assistance to the MOE of the Government of Northern Nigeria and the IE at Ahmadu Bello University in Zaira.

The University of Wisconsin fulfilled these tasks by placing tutors in 7 TTC's and experts in the MOE and IE. The creation in 1967 of six states out of one region and the start of the civil war in the same year reduced the number of tutors to four, the number of TTC's assisted, and the amount of curriculum developed.

X. What training techniques did the project use to develop the delivery system?

1. Fifteen trainees were trained in the U.S.

2. The University of Wisconsin personnel also worked with teacher counterparts and gave assistance to the MOE and IE. These programs were not described (see item VII).

3. The University of Wisconsin staff also taught classes at the TTC (see item VI).

XI. What effect did the transferred technology have upon those impacted by it?

It is difficult to trace the impacts and acceptance of NNTEP-developed curricular materials. The project's curriculum philosophy was supportive of national reform trends at the time. NNTEP, however, was tardy in producing its teaching materials. The Wisconsin tutors were not experienced in curriculum development, and their TTC work assignments left them little time to devote to this feature of their assignment, one that AID felt was especially important. Although curriculum development efforts were delayed, the Wisconsin staff eventually produced materials in five subject areas. The contractor and the IE were able to encourage adoption, use and further

XI. Continued

development of these materials by channeling them through boards of study established for separate examination topics. These boards and and the IE also helped develop a regional consensus on examinations and curriculum, a major accomplishment in light of the potential cultural and educational balkanization of the region now split into several states.

Examination pass rates indicate that quality declined over the years. With the adoption of UPE, Nigeria emphasized quantity rather than quality, a central purpose of NNTEP. Organizational influences also affect quality. Nigerian education lacks the means to assure the adequate use of materials and techniques that will help improve quality. NNTEP ignored organizational influences on how schools operate and produce quality education.

The project also failed to impact positively on efficiency with regard to student learning and manpower utilization. NNTEP, however, did contribute to the development of the IE, a major educational resource and influence in Northern Nigeria. On balance, the project was judged to be a success by the evaluators.

Evaluation Executive Summary
AFR/DP/PPEA-BuCen

Sector/Subsector: Health

Country: Senegal

Project Title: Sine Saloum Rural Health Care

Project No.: 685-0210

LOP Funding: AID Grant $3,373,682
Host-Country $1,647,600
Total $5,021,282

LOP Years: 1977-81

Evaluation Type: Impact Evaluation

Evaluation Title & Dates: Project Impact Evaluation No. 9, October, 1980

Evaluation Author: Richard F. Weber (Bureau for Latin America and the Caribbean), Graham B. Kerr (Bureau for Program and Policy Coordination), Herbert B. Smith (Bureau for Program and Policy Coordination), and James M. Seymour (Bureau for Africa)

Other Sources of Information:

Questions

I. What constraint did this project attempt to relieve?

The evaluation report implies that poor health of rural people due to lack of health care facilities, equipment, and materials within readily, accessible distance of rural population, constrain development of these rural areas.

II. What technology did the project promote to relieve this constraint?

The Sine Saloum Rural Health Project is in many ways more about management and administration than it is about health. Its stated objectives are "(a) to establish a network of village health posts staffed and supported by community-level personnel throughout the region, and (b) to improve and strengthen the support infrastructure of the Government of Senegal for services to health centers." These involve establishing self-supporting Health Huts in 600 villages in five departments of the Sine Saloum Region serving some 880,000 rural people. Although the medical treatment involved is very simple, the potential impact on the health of rural people is immense. The project agreement, involving a grant of $3.3 million, was signed on August 2, 1977. Completion was scheduled for December 31, 1981.

A U.S. technical assistance team, provision of necessary vehicles, equipment, support, training and supervision, and purchase of initial inventory of medicines for health huts in rural areas was to be financed by USAID.

The project called for the staffing of 600 village Health Huts, with a health worker, a birth assistant, and a sanitary worker. The Huts were to

II. Continued

be equipped with basic medicines which would be dispensed for diseases common to the region. Villagers would pay for the medicines and services of the health team in order to cover costs and assure a continuous medicine supply. The villagers would also construct the Health Huts.

III. What technology did the project attempt to replace?

Existing Medical Facilities in Senegal and Sine Saloum at Beginning of Project

	Senegal	Sine Saloum	Percent in the Sine Saloum
Hospitals	9	1	11
Health Center	35	9	26
Maternities	231	89	39
Health Posts	448	83	19
Mother and Child Centers	65	10	15
Population per Hospital Bed	719	972	
Population per Physician	14,590	77,000	
Population per Nurse	1,668	4,797	

Government Expenditures on Health (CFA Millions)

Personnel	3596.8	322.8	9
Materials	798.3	68.3	9
Medication	459.8	43.3	9

Incidence of Various Diseases in Senegal and Sine Saloum

	Senegal	Rate	Sine Saloum	Rate
Cases of Malaria	184,731	(1/28)	32,655	(1/31)
Cases of Tuberculosis	932	(1/5456)	204	(1/9682)
Cases of Poliomyelitis	183	(1/27,789)	24	(1/41,958)
Cases of Tetanus	520	(1/9779)	21	(1/47,952)

Source: Government of Senegal: Statistiques Sanitares, 1974.

IV. Why did project planners believe that intended beneficiaries would adopt the proposed technology?

The Senegalese have serious health problems. Malaria, measles, tuberculosis, and venereal diseases are prevalent. Infant and childhood mortality are high, especially in rural areas. Diarrhea, respiratory complications, and perinatal tetanus contribute signficantly to these deaths. Most rural people do not receive even the most rudimentary modern health care because there are not enough Health Posts, the lowest level of government facilities, and these do not receive adequate financial support. There are large disparities in the allocation of health resources. Forty-seven percent of the Fourth Four-Year (1973-1977) Plan health budget was invested in hospitals. The Cap Vert Region (including Dakar), with 19 percent of the population, received 45 percent of the budget, and has one physician for every 3,800 persons. In contrast, the Sine Saloum Region, with 20 percent of the population, received 9 percent of the funds, and has only one physician for every 77,000 persons.

The Sine Saloum Rural Health Project was designed to provide better health care and to start to redress the imbalance in the allocation of health resources.

Other reasons for adoption including traditional values were not addressed.

V. What characteristics did the intended beneficiaries exhibit that had relevance to their adopting the proposed technology?

Since independence in 1960, Senegal has maintained an open society where political dissent is not supressed and intellectual life flourishes.

Economically, Senegal is a one-crop society. Peanuts account for some 80 percent of exports. There is little industry and the country is acutely vulnerable to the searing droughts that have plagued the Sahel in the past decade.

Senegal is ethnically diverse. The Wolof, Serrer, and Peul represent about 75 percent of the population. Wolof is the most common language; only about 20 percent speak French the official language. Eighty percent of Senegalese are Muslims as a result of the Islamic expansion from the north and east in the 19th century. Nevertheless, European influence is strong among the urban elites and national leaders of Dakar.

Sine Saloum covers the Saloum river basin, stretching from the coast some 150 miles along the north border of The Gambia. The people, who live in medium-sized (500-1500) evenly dispersed villages, grow peanuts as their major cash crop. About 800 mm of rain falls each year, during July to October. The terrain is flat; the soil is sandy; and transportation is relatively easy by foot or horse and cart.

All of the characteristics of adopters are not discussed in the report, (i.e., social participation, traditional values, education, etc.).

VI. What adoption rate has this project achieved in transferring the proposed technology?

Numbers Served

No exact numbers of persons receiving treatment at the huts were given except for a statement saying thousands of people have visited the Huts and found help for their common health problems.

There are no pre-project health status indicators and the Huts in Nioro have been operating for a maximum of only 9 months so the impact of this project on health cannot be measured. However, Health Post records suggest that many villagers are now being treated at their own village Health Huts rather than at Health Posts for some of their common ailments. This leads one to believe that the project has been, to a certain extent, successful in bringing primary health care to many villagers, eliminating costly trips to Health Posts, as well as providing a source of treatment for health problems that would otherwise go untreated.

A comparison of the average number of new clients diagnosed for specific ailments at the Posts before the Huts were opened with the numbers diagnosed after they were in operation, can be used to determine if there was a substitution of care at the Huts for care at the Posts, assuming that disease incidence was approximately the same at the same time of the year. Changes in averages in the 12 Health Posts in Nioro for 11 common ailments which may be treated in the village Hut were calculated. Because of seasonal variations in disease incidence, we compared averages for months from two seasons (Fall and Winter) were compared independently. The results indicate that a substitution is taking place with fewer cases being diagnosed at most Posts after the village Huts opened. This conclusion needs to be viewed with caution since the uniformity and consistency of diagnoses at the Posts are, to say the least, highly variable. However, this is the only data that now exist in a form that can be easily monitored. It should be exploited while efforts are made to improve diagnoses at Health Posts.

Survey Results

The Basic Health Care Project involves the whole population in Kaolack and Nioro Departments. However, as Health Huts are only established in villages selected for their polarizing effect on neighboring villages, it might be thought that people in villages with Huts benefit more from this new service. The survey confirms this hypothesis.

Health Huts were expected to deliver basic care to all segments of the population and in addition, provide assistance, a place for delivery and pre- and post-natal care to women. But the survey shows that there was low attendance by women (especially with respect to deliveries) though they are often responsible for taking their children to the Health Hut.

VI. Continued

The survey also sought to analyze possible differences in behavior between those people involved in project activities and beneficiaries, and, between different age groups of beneficiaries. The evaluation showed a high attendance at the Hut by a sizable group of project workers; and an often low use of Hut services by young people.

VII. Has the project set forces into motion that will induce further exploration of the constraint and improvements to the technical package proposed to overcome it?

A. Planned System

The project was to add a new and broader base to the existing structure of regional health services.

Figure 1: Health Facilities in Sine Saloum by Administrative Level

Health Facilities	Administrative Level
Kaolack Hospital	Region
Health Centers	Department
79 Health Posts/Maternities	Communaute Rurale
600 Village Health Huts	Village

The three top layers are part of the Ministry of Health system staffed by permanent government employees and provide free services. The fourth layer is based on community participation and is largely sustained by villagers' payments for services. This emphasis on decentralization and local participation in the health structure corresponds to the administrative reform implemented in Sine Saloum, which established the Communautes Rurales as the basic administrative units.

The entire operation is run by the Project Director, under the direct supervision of the Medecin Chef du Region. The Medecin Chef is also the Executive Secretary of the Project Executive Committee which is chaired by the Governor. Three public advisors (education, administration, and training) are provided by AID to help the Project Director and provide liaison with AID Dakar. The Regional Pharmacy in Kaolack is the link between the drug suppliers in Dakar (AID or Pharmapro) and the Departmental Medicine Depot.

There is clearly a dilemma: the project cannot support substantial payments to three village health workers from the sales of medicines at reasonable prices, yet a clear result of the training and increased skill of the workers is a desire for money payment. One approach to this dilemma might be to consider whether the Communautes Rurales could provide a small regular payment from the proceeds of the Community Tax. This would have the advantages of letting the health workers have some certainty about how much money they receive, of

VII. Continued

strengthening decentralization, of tending to stop speculation about the Ministry of Health's hiring the health workers, and helping to rationalize the medicine sales operation. It would also make clear to the villagers just how much money income their health workers were receiving and thus facilitate decisions about other forms of village support for the health teams.

The Project plan outlined above has unfortunately not been carried out in some of its most critical elements, notably the establishment of a functioning Project Executive Committee and the appointment of a Project Director. Instead the Regional Governor has apparently taken direct personal charge of project administration.

B. Major Problems

There are three vital elements which must function effectively from the beginning if the primary health care project is to survive:

- The Health Huts must be financially viable in the sense that they cover operating costs;

- The Senegalese bureaucracy must deliver effectively the needed support and supervision services; and

- An efficient medicine resupply system, which is the life-blood of the entire project, must be organized.

In a random survey it was found that nearly every Hut showed a significant reduction in their inventory of medicine. For the eight Huts, most of which had been in operation for 9 months, the opening inventory was 412,560 Francs, the present inventory was 265,007 Francs, and the cash on hand was 63,440 Francs giving a deficit of 84,113 Francs. At this rate, the Huts will soon cease operating because they will be unable to pay for medicine resupply. We compared reported receipts with reported expenditures and found that, with one exception, the villages did not have the cash on hand that their books indicated they should have.

VIII. Do private input suppliers have an incentive to examine the constraint addressed by the project and to come up with solutions?

Private enterprise was not involved in this project and no assessment was made of incentives for their involvement.

IX. What delivery system did the project employ to transfer technology to intended beneficiaries?

1. Progress

The project staff and villagers have demonstrated that it is possible to deliver basic health services to rural people in Sine Saloum. Huts have opened in more than 200 villages in Nioro and Kaolack Departments. This required considerable organization, energy, and commitment. Project staff were able to motivate villagers to build the Huts, organize management committees, and select Secouriste, Matronnes and Hygienistes. The training programs, Regional, Departmental, Post and Village were designed and implemented for two Departments. Training materials and reference manuals were developed and distributed. A records system was designed and staff were trained. Scheduled building and renovation of Health Posts were completed. Furniture was provided for the Huts. Horses and buggies for the Post supervisory staff, and cars for the Regional and Departmental staff were procured. The first allocation for medicines was delivered to the Huts and some resupply has taken place.

2. The Transportation Dilemma

The regular supervision of village health workers by Health Post personnel was recognized in the project design as essential. In order to assure that supervision took place regularly, horses and buggies were to be placed at the disposal of the Health Post. It was assumed that this "appropriate" mode of transport would be cheaper to buy and to maintain than motor vehicles. The buggy could, as well, be used to transport medicines to village Huts and to evacuate patients from villages to the Health Posts.

X. What training techniques did the project use to develop the delivery system?

Specific training was not mentioned, but a statement was made that village level staff had been trained.

XI. What effect did the tranferred technology have upon those impacted by it?

The "hands off" style of management conceived for this project does not appear to be working. The Dutch primary health care project in Fatick Department has almost identical objectives, but is being managed in a very firm "hands on" styled with close technical support to all aspects being provided by the Dutch project manager resident in Fatick. It may be that time will show the "hands off" style to be superior, although at this state the Fatick project is conceded to be working much better.

Evaluation Executive Summary
AFR/DP/PPEA-BuCen

Sector/Subsector: Agriculture

Country: Senegal

Project Title: Tivaouane Project

Project No. 698-0388-1

LOP Funding: $210,000

LOP year: 1977-1980

Evaluation Type: Project & Evaluation Summary

Evaluation Title & Dates: Tivaouame Evaluation Report, April 1980

Evaluation Author: Jeffalyn Johnson & Associates, Inc.

Other Sources of Information: None

Questions

I. What constraint did this project attempt to relieve?

The evaluation report states that the purpose of the project is to alleviate the heavy work load of women and to offer a variety of structure as work alternatives. This implies that the constraints consist of traditional manual work activities which are inefficient and unproductive. Also the report implies that the low quality of life is a constraint to development. The report does not tell us how the constraints were identified or if the identification was based on primary or secondary data or baseline surveys.

II. What technology did the project promote to relieve this constraint?

The primary technologies to relieve the heavy work load constraint are the use of millet mills and the provision of mills. The project apparently replaces grinding by hand technology with grinding by hand operated machine. Technology in the form of sheep raising and cultivation of fruit and nut trees is also provided. Additionally, tree growing, manioc and niebe production, should help improve the quality of life.

III. What technology did the project attempt to replace?

This is not stated in the report but it is safe to assume that traditional manual work methods will be replaced with new more efficient technology. Hand grinding is replaced by a hand operated machine. The other technologies appear to be new and do not replace anything.

IV. Why did project planners believe that intended beneficiaries would adopt the proposed technology?

This is not addressed specifically but it appears from the report that the villagers have some basic skills and a good attitude. It appears that they are anxious to learn new technologies and have sufficient background to have made constructive suggestions. For example, they suggested the substitution of fruit and nut trees in place of the eucalyptus trees. The report does not comment on the relative advantage of this technology nor does it address traditional values, the complexity of the technology, its divisibility which relates to risk aversion, its communicability, nor its acceptability to opinion leaders.

V. What characteristics did the intended beneficiaries exhibit that had relevance to their adopting the proposed technology?

A willingness to participate and some basic skills were the only characteristics reflected in the report. No mention is made of the education, age, degree of social participation, interest in innovations, net worth of intended adopters, nor their orientation towards traditional or modern values.

VI. What adoption rate has this project achieved in transferring the proposed technology?

The project has been delayed because of weather and other external factors. Millet milling has been adopted and resulted in production valued at $460. Some niebe has been produced and sold. Other than the above, no other project outputs have been achieved. The report indicates that adoption of all technologies will probably occur if the project is allowed to continue until completion. Adoption is not defined for each of the technologies nor is a system of measuring it specified. The source of information on adoption is not cited either.

VII. Has the project set forces into motion that will induce further exploration of the constraint and improvements to the technical package proposed to overcome it?

The sales of milled millet and niebe provide an incentive for people to continue these practices. The report cites the need for a market study to estimate the supply and demand for the goods produced from project activities. Government support through project managers from the implementing agency, Promotions Humaine, has been consistent and shows a commitment by the government. However, unless demand for the goods materialize, the resources needed to sustain the new technology will not be available.

VIII. Do private suppliers or buyers have an incentive to examine the constraint addressed by the project and to come up with solutions?

There is no indication in the report of who makes the mills and whether people could make them locally. It does not say anything about the buyer either. Nut buyers, for example, might stimulate efficiency in producing nuts.

IX. What delivery system did the project employ to transfer technology to intended beneficiaries?

Informal training through advisors from the implementing agency and technical assistance has been provided according to the report but insufficient information is provided to evaluate the adequacy of the delivery systems.

X. What training techniques did the project use to develop the delivery system?

Informal training and supervision of work activities are mentioned in the report.

XI. What effect did the transferred technology have upon those impacted by it?

The economic impact of millet milling and of niebe production was mentioned in the report together with the enthusiasm of the villagers toward the project as well as their substantial contribution in the form of work and the provision of food for construction workers, who build sheep pens and other facilities.

However, the report does not provide an assessment of the reliability of the information and the information is incomplete.

Evaluation Executive Summary
AFR/DP/PPEA-BuCen

Sector/Subsector: Agriculture/Health | Country: Senegal

Project Title: Senegal Kossack Nord Subproject | Project No. 698-0388.4

LOP Funding: $25,000 | LOP Years: 1977

Evaluation Type: Project Evaluation Summary by a contractor

Evaluation Title & Dates: Kossack Nord Evaluation Report, April 1980

Evaluation Author: Jeffalyn Johnson & Associates, Inc.

Other Sources of Information: None

Questions

I. What constraint did this project attempt to relieve?

Heavy work load for women in gathering wood, millet pounding, child rearing and farming, poor health and poor sanitation are the constraints mentioned in the evaluation report. Report does not relate project to a development constraint. Rather it sets a goal and attempts to achieve that goal. It seems that inefficient work methods and practices constrain the productivity of women and that the project promotes techniques to remove this constraint.

II. What technology did the project promote to relieve this constraint?

Improved agricultural production in the form of vegetable, rice and poultry production, literacy training, health training, fabric dyeing, animal traction (donkey and cart), and grain milling are stated in the report. However, as of April 1980, the only inputs provided consist of the construction of an eight building activity center, seeds, a grain mill, maternity instruction, literacy and hygiene instruction and crocheting.

III. What technology did the project attempt to replace?

The report gives no information regarding the past situation. It does not relate new techniques with environment they will penetrate. Apparently the project attempts to replace existing technology consisting of manual subsistance farming. In view of the amount of work for women implied in the new technology it must be assumed that the new work amounts to a reduction in the work load for women and, therefore, relieves that constraint. The report contains information to the contrary in that it notes that vegetable gardening ceased after one season due to women's involvement in rice production at a remote site and that the grain mill has been put into place but has not been utilized. The report notes that the rice fields are not yet in production but that the villagers live in temporary encampments near the remotely located rice fields for 5 months of the year.

IV. Why did project planners believe that intended beneficiaries would adopt the proposed technology?

Not stated in the report but apparently their social attitudes do not impede the adoption of new technology and their social attitudes tend to adjust to accommodate innovations that provide economic benefits. They also assumed that women had time available to undertake the activities.

V. What characteristics did the intended beneficiaries exhibit that had relevance to their adopting the proposed technology?

The report gives no information regarding education, family size, income, or crops grown by these people. Not stated in the report but subsequent events have indicated willingness on the part of the villagers to adopt new technology and to accept inconvenience if there is an expectation of economic benefit. They also assumed that women had time available to undertake the activities.

VI. What adoption rate has this project achieved in transferring the proposed technology?

Some raised vegetables but ceased after 1 year. Report concludes that women left vegetable gardens to work on rice and that in the coming year they will have time to manage vegetable gardens. Report covers adoption of practices only peripherilly. A possible conflict exists between rice and vegetable cropping. Project promotes both. Adoption is not defined. Adoption rate and the variables that make it up were not defined either.

VII. Has the project set forces into motion that will induce further exploration of the constraint and improvements to the technical package proposed to overcome it?

It is not possible to conclude that the political forces needed to sustain the new technology have been set into motion. In fact the report concludes that an increase in the amount of supervision provided by USAID will be needed before there can be much chance of successful implementation and that additional funding should not be provided without the additional supervision and technical assistance. The report does not reveal the disposition of the vegetable crops.

VIII. Do private input suppliers or output buyers have an incentive to examine the constraint addressed by the project and to come up with solutions?

The report does not address these questions specifically but in view of its general content it would be reasonable to assume that the answer is no. Nothing is described that might provide motivation to private input suppliers. Local market for material may provide an incentive for women to continue to produce cloth and to become more efficient in producing it. No mention is made of incentives related to vegetable production.

IX. What delivery system did the project employ to transfer technology to intended beneficiaries?

Formal classroom instruction was provided for literacy training, health training and sewing and knitting. Technical advisors were provided in other areas where implementation was attempted or partially achieved. The elements of the delivery were not described adequately to permit evaluation of the delivery system including timely performance or delivery.

X. What training techniques did the project use to develop the delivery system?

Formal classroom training and on-the-job training. Again the information provided in the report was insufficient to assess the adequacy of the training or the sources of information which describe the training.

XI. What effect did the transferred technology have upon those impacted by it?

It is not possible to determine the economic impact of the project because of the absence of quantifiable data but apparently it had some effect. Clothing sewed by village women has been used by village children and some has been sold to other villages. Many lived in temporary accommodations at remotely located unfinished rice fields to help prepare the fields. Many villagers are still enthusiastic about the project in spite of past failures, and look forward to its continuation.

Evaluation Executive Summary
AFR/DP/PPEA-BuCen

Sector/Subsector: Agricultural

Country: Senegal

Project Title: Casomance Vegetable Growers

Project No. 698-0388.7

LOP Funding: $170,000

LOP Years: 2 years

Evaluation Type: PES by a contractor

Evaluation Title & Dates: September 1980

Evaluation Author: Jeffalyn Johnson & Associates, Inc.

Other Sources of Information:

Questions

I. What constraint did this project attempt to relieve?

Limited production of vegetables by growers, substandard village social and economic conditions, limited income of women vegetable producers, inadequate nutrition of farm families, and the migration of girls and young women to the cities, are the constraints to be relieved by this project. The report does not tell us how the constraints were identified nor the sources of information used in identifying the constraint.

II. What technology did the project promote to relieve this constraint?

Increased vegetable production through the use of better seed, fertilizer, irrigation and knowledge. Literacy training, leadership and cooperative training to facilitate vegetable production and awareness of social and economic problems.

III. What technology did the project attempt to replace?

This is not stated but apparently the traditional manual methods of growing vegetables was to be replaced by the project technology. The report did not provide a comprehensive description of existing technology which would enable one to evaluate how intended beneficiaries are spending their work day nor the information sources from which the kind of information could be obtained.

IV. Why did project planners believe that intended beneficiaries would adopt the proposed technology?

Not stated but a definite need existed for more income, more vegetables, and more nutrition. Since the beneficiaries had agricultural experience the

IV. Continued

planners must have believed that they could adopt the new technology. The relative advantage of this technology was described in general terms, only. Traditional values were not discussed nor were complexity, divisibility, risk aversion, communicability nor acceptability to opinion leaders.

V. What characteristics did the intended beneficiaries exhibit that had relevance to their adopting the proposed technology?

Not stated. Obviously, some relevant characteristics were missing which contributed to the failure of this project. Namely, an aptitude for operating and maintaining pumps, irrigation systems, and other equipment used on this project. Such characteristics of adopters as education, age, degree of social participation, interest in innovations, net worth of intended adopters, nor orientation toward traditionally modern values were not mentioned in the report.

VI. What adoption rate has this project achieved in transferring the proposed technology?

Somewhere between 2 and 7 villages out of 13 apparently adopted the technology; however, the contractor evaluation team found evidence of adoption in only 2 villages. Adoption was not defined. The source of information on adoption was not mentioned. Adoption rate was not specified nor were the variables used to compute it.

VII. Has the project set forces into motion that will induce further exploration of the constraint and improvements to the technical package proposed to overcome it?

No. The increased supply of vegetables in adopting villages exceeded the demand and much of the production was wasted. The vehicles and irrigation equipment no longer function. No spare parts are available. Two pumps out of 20 are in working order due to poor quality, lack of spare parts and qualified maintenance personnel. The wells dry up during the dry season.

VIII. Do private input suppliers have an incentive to examine the constraint addressed by the project and to come up with solutions?

No. Until the marketing problem is resolved the revenues generated would not be sufficient to purchase needed supplies. Suppliers apparently do not have the connections to get spare parts from American companies.

IX. What delivery system did the project employ to transfer technology to intended beneficiaries?

The delivery system was not described nor was the schedule for implementing delivery. There are indications in the report that whatever the intended delivery system was, it was not implemented according to plan. For example, the report states that literacy training centers were not constructed in the numbers contemplated. Also it stated that the pipes for irrigation proved to be of little use.

X. What training techniques did the project use to develop the delivery system?

The techniques, per se, are not described but the report does state that the men, not the women were the beneficiares of the literacy training. Women indicated that they did not have time to attend classes or were not interested. The women did receive some training in cooperative management; however, few showed up for a seminar on vegetable production.

XI. What effect did the transferred technology have upon those impacted by it?

Some increase in income may have occurred in some villages along with some improvement in nutrition. However, the reports state that baseline data was not available and that conclusions are based on observations and interviews.

Evaluation Executive Summary
AFR/DP/PPEA-BuCen

Sector/Subsector: Agriculture — Country: Sierra Leone

Project Title: Rural Penetration Roads Project — Project No.: 636-0111

LOP Funding: USAID $5,136,800 CARE $2,572,000 LOP Years: 1975-1980
GOSL $2,294,600 Peace Corps/VSO $518,300
IBRD/IDA $1,198,900 Total $11,720,600

Evaluation Type: Impact

Evaluation Title & Dates: Effectiveness and Impact of the CARE/Sierra Leone Rural Penetration Roads Project, June 1980

Evaluation Author: William Anderson (Bureau for Program and Policy Coodination)

Other Sources of Information:

Questions

I. What constraint did this project attempt to relieve?

Lack of all-weather penetration or feeder roads which seriously hampered the delivery of agricultural inputs and extension advice to farmers and hindered the marketing of increased productivity. Increased production and access to market outlets was also supposed to allow Sierra Leone to export more agricultural products and alleviate part of their balance of payment problems.

II. What technology did the project promote to relieve this constraint?

Knowledge of the process of building and maintaining feeder roads with adequate drainage, heights of embankment and surface compaction that would be usable throughout the rainy season and agricultural technology needed to increase production were the technologies proposed for transfer.

III. What technology did the project attempt to replace?

Upgrade or replace dry weather roads or tracks that were impassable during the rainy season (June-August). This prevented the delivery of seeds and fertilizer as well as visits by extension agents during the rainy season.

IV. Why did project planners believe that intended beneficiaries would adopt the proposed technology?

As mineral exports declined during the 1970's the GOSL with the assistance of various aid donors, attempted to expand production of cocoa and rice, the principal food crop. These efforts also included diversification into other agricultural products, such as palm oil and peanuts.

IV. Continued

Previous experience with World Bank projects provided an indication that intended beneficiaries would adopt.

As the Eastern IADP project began, it was realized that a lack of all-weather penetration or feeder roads in the area would seriously hamper the delivery of agricultural inputs and extension advice to farmers (much of which takes place during the rainy season). Lack of roads could also hinder the marketing of increased production from the area. CARE, AID, and other AID donors were contacted, and a program for construction of penetration or feeder roads in the Eastern IADP area was designed.

V. What characteristics did the intended beneficiaries exhibit that had relevance to their adopting the proposed technology?

Population growth rate is 2.5. Sierre Leone has a population of 3.1 million and a GNP per capita of $200. Inflation is currently at 30-35 percent.

Rural people in Sierra Leone prefer the taste and texture of upland rice even though many grew swamp rice. Also Sierra Leonean tribal people probably share many of the attitudes of the Kpelle people in neighboring Liberia. Research in neighboring Liberia among the Kpelle people has confirmed farmers' preference for the taste of upland rice and a nutritional benefit to them of the other crops intercropped with upland rice. Moreover, the Kpelle see negative social implications to swamp rice versus upland rice cultivation.

Clearing and burning the bush, planting and tending the rice, and harvesting the crop are all communal events. The Kpelle value the occasion of cutting the forest, with its corporate rhythm of a group of men, spurred on by singers and drummers, laying into a piece of bush. Men show their strength and their zeal as they clear the field.

Harvesting is also a social as well as an agricultural event. There are tests of strength and speed, and the fastest worker receives a special hat for his labors as well as the largest portion of the food, palm wine, and cane juice which are integral parts of the process.

Swamp labor, on the other hand, is thought to be uncoordinated and dirty, not fit occasion for the display of strength in a corporate setting. Swamps, moreover, are thought of as the last resort for women whose husbands are dead or gone to another area. They sow their rice seed late in the season, when there is no hope of an upland farm, and they reap a small and uncertain harvest. By making a farm in a swamp, moreover, a man loses his claim to traditional ancestral farms, a fact that is certain to displease those who had farmed this area in the past and are now dead, but still present to the extended family as ancestral spirits.

V. Continued

Kpelle farmers do not articulate their objections to growing rice in the swamp unless pressured by a persistent (and thereby rude) inquirer, and even then not in abstract, narrative form. Furthermore, if the farmer is questioned by a government official impatient for change, he will almost certainly not quote the reasons mentioned above and will give the casual outside observer the impression of stupid, backward-looking reacalcitrance.[1]

The overall health, nutritional, and larger social consequences of an agricultural development strategy that strongly encourage farmers to substitute swamp rice for upland rice cultivation are unclear.

VI. What adoption rate has this project achieved in transferring the proposed technology?

Through 1980 the total cost of Phases I and II of the Rural Penetration Roads Project will have been $11.7 million. AID has contributed $5.1 million, about 44 percent of the total. If CARE builds its projected 102 miles of road in 1980, it will have constructed 417 miles of feeder roads in Sierra Leone under the project at an average cost per mile of $23,400 ($14,500 per kilometer). Of the total miles of road constructed, 348 miles will be relatively high standard feeder roads, known as "Class IV" roads under Sierra Leone's road classification system. Because over 99 percent of Sierra Leone's 592 miles of Class IV feeder roads were found to be in "bad" condition in 1974, the project will increase by more than half Sierra Leone's feeder roads in good condition.

Construction of this 417 miles of feeder roads compares to projected construction of 1,300 miles under both phases of the project. The principal reasons for construction shortfalls were:

--delays in AID funding which meant the loss of two out of six construction seasons;

--poor estimation by AID and CARE of the time necessary for the construction of relatively high standard Class IV feeder roads in Sierra Leone;

--higher than anticipated breakdowns of old construction equipment which was used early in the project; and

--the supply of volunteer engineers and technicians early in the project who did not have adequate skills.[2]

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[1]Michael Cole, The Cultural Context of Learning and Thinking, pp. 41-42.

[2]As organizations like the Peace Corps have worked to provide volunteers with appropriate skills, the use of such volunteers has proven to be a wise choice.

VI. Continued

Delays in implementing the project are outlined in subsequent paragraphs.

First, the AID grant for Phase I was not signed until July, 1975. FY 1976, the expected second year of the project had already begun, and one full construction season had been lost. Yet construction did not begin until November of that year because CARE had to wait for the GOSL's Feeder Road Coordinating Committee to select the roads to be built. Before CARE could begin construction in Phase I, it had lost 16 months (July, 1974 - November, 1975).

Second, the technique of using rehabilitated construction equipment to keep construction costs down proved uneconomical because more frequent repair and maintenance was necessary. Spare parts were difficult to obtain and required longer delivery times.

A third factor reducing mileage constructed in Phase I was the use of Peace Corps and British VSO volunteer engineers and technicians. Although lower cost than experienced engineers, some of these early volunteers did not have sufficient skills to meet CARE's needs. Volunteer engineers currently being provided by the Peace Corps and VSO have higher skills and function more effectively. Volunteers do often leave after one two-year tour; thus, there is a continual struggle to replace volunteer engineers in critical positions.

The fourth and most important causing lower than expected road construction was the GOSL's insistence that the CARE feeder roads be built to Class IV standards.

Construction of Class IV roads requires much more earth movement for embankments, hauling of select surfacing material for longer distances, surface compaction with equipment, installation of more elaborate structures, and other more complicated roads of Class IV standards has meant, in combination with the other factors mentioned above, that fewer miles of roads could be constructed with the available funding.

One must recognize that the construction or rehabilitation of 417 miles of feeder roads over five years in a country whose total feeder road network in 1974 was less than 600 miles (of which 587.3 miles were judged as in bad condition) is a significant accomplishment, if done at a reasonable cost.

VII. Has the project set forces into motion that will induce further exploration of the constraint and improvements to the technical package proposed to overcome it?

An important accomplishment by CARE, both developmental and innovative, has been the involvement of local chiefs and villagers in road construction and maintenance. For example, when CARE project staff begin to survey a road, villagers supply at no charge the stakes, sand, and stone as well as housing and food for the workers.

VII. Continued

Why, with an enormous budget deficit, pressure on Sierra Leone by the IMF to cut recurrent expenditures, and pressures to fund other programs, was the GOSL willing to allocate scarce funds for the maintenance of the CARE feeder roads? Obtaining this government commitment seems to have been the result of three factors;

-- the perception in Sierra Leone of the CARE Rural Penetration Roads Project as a successful program in building high quality feeder roads;

-- the personal interest of Sierra Leone's President, the Honorable Siaka Stephens, in seeing the program continue because the feeder roads were necessary for the success of the Eastern and Northern IADP's. Those efforts were basic to long-term improvement in the Sierra Leonean economy and;

-- the willingness of officials of the important Ministry of Development and Economic Planning to intervene to insure funding for MOW maintenance of the feeder roads.

Both national political figures as well as local paramount chiefs and the villagers regard the CARE Feeder Road Program as a success.

VIII. Do private input suppliers have an incentive to examine the constraints addressed by the project and to come up with solutions?

It is fairly clear that villages served by CARE roads receive more frequent visits by extension agents, both of the IADP's and of private companies--such as the Rokel Leaf Tobacco Development Corporation (RLTDC) and the Mobole Fruit Company. Likewise, the CARE roads have led to substantially increased traffic--although some CARE roads are carrying much traffic diverted from dilapidated, unmaintained trunk roads. CARE-affected villages are visited by more poda-podas (Mazda light vans providing local transportation for people and produce) and other vehicles. Inhabitants of villages served by CARE roads own more motorcycles and bicycles than persons living in communities without CARE roads. Because of the greater ease of transporting heavy items, CARE-affected villages use more cement in housing and building construction. Because of the greater ease of visits to market towns, inhabitants of communities served by CARE roads spend somewhat more of their increased income on basic consumer goods: umbrellas, plastic buckets, watches, radios, charcoal irons, and motorcycles or bicycles. Finally, CARE-affected villages benefit from more government and private health services than non-CARE affected villages.

IX. What delivery system did the project employ to transfer technology to intended beneficiaries?

Decisions on which road alignments are to benefit from the project are made by the IADP in cooperation with the local CARE construction engineer and the Feeder Road Project Coordinating Committee. This committee, formed in

1976 to depoliticize the selection process, is composed of the following members:

-- The First Vice President of Sierra Leone (ex-officio Chairman)
-- Ministry of Development and Economic Planning (The Permanent Secretary)
-- Ministry of Works (Chief Engineer Highways)
-- CARE (Director or Project Coordinator)
-- Peace Corps (Assistant Director)
-- Ministry of Agriculture (observer)
-- Ministry of Social Welfare (observer)
-- Ministry of Tourism (observer)

In May 1979 at the end of this year's construction season, CARE project personnel totaled 500 persons of whom 486 were Sierra Leonean.

X. What training techniques did the project use to develop the delivery system?

On-the-job training was provided by CARE/Sierra Leone, apparently.

XI. What effect did the transferred technology have upon those impacted by it?

The overall socio-economic effects of the CARE roads at present has been positive. At the same time, questions exist concerning negative impacts, which over time could overwhelm the positive effects. On the positive side, socio-economic surveys indicate that the CARE roads are associated with more frequent agricultural extension agent visits, increased traffic and transport services, higher quality cement construction in villages, higher purchases of consumer goods, and more health services in villages served by CARE roads. The CARE roads may have played some role in facilitating increased fertilizer use; in bringing about wider cultivation and marketing of cash crops; in expanding commercial activity; and in increasing educational opportunities. Neither the sources of this information nor the methodology is adequately described.

Although the passage of time may see a number of negative impacts of the CARE roads, at present clear evidence of negative impacts exists in only a few areas. Farmers in CARE-affected communities have generally reported a shorter range of fallow periods for rice cultivation than farmers not served by CARE roads. These phenomena of shorter fallow periods, more serious rice shortage and greater swamp rice cultivation would be consistent with the substitution of export crops (coffee, cacao, and oil palm) for food crops.

In summary, the available evidence suggests that the CARE roads have had in the short run more positive than negative impacts. Additional investigation is needed to determine the importance of negative effects of the roads and whether positive impacts will outweigh negative effects.

Evaluation Executive Summary
AFR/DP/PPEA-BuCen

Sector/Subsector: Intersectorial/Clothing

Country: Sierra Leone

Project Title: Gara Cloth Industry

Project No. 698-0388.2

LOP Funding: $115,165 initially with $205,000 added in Luly 1978

LOP Years: Dec. 1976-June 1978

Evaluation Type: Project Evaluation Summary July 1979-July 1981

Evaluation Title & Dates: Gara Cloth Industry Evaluation Report April 1980

Evaluation Author: Jeffalyn Johnson and Associates, Inc.

Other Sources of Information:

Questions

I. What constraint did this project attempt to relieve?

The evalution report states that the primary goal of this project was to assist in the growth and development of the indigenous Gara Cloth and handicraft industry in Sierra Leone. From this and related information it is assumed that the constraints to development were lack of capital, lack of organization, lack of marketing skills and the lack of foreign exchange to purchase raw materials.

II. What technology did the project promote to relieve this constraint?

Capital formation, budgeting, foreign trade practices, financial management, purchasing, marketing, scheduling and production are all implied by the report but are not specifically stated.

III. What technology did the project attempt to replace?

It apparently attempted to supplement existing technology which may be limited to production of clothing industry products with technology in the fields of financial management, marketing, etc. Existing technology is not described adequately.

IV. Why did project planners believe that intended beneficiaries would adopt the proposed technology?

They apparently believed that the beneficiaries had industrial skills that they wanted to utilize more efficiently and profitably and therefore would willingly adopt the new technology.

V. What characteristics did the intended beneficiaries exhibit that had relevance to their adopting the proposed technology?

The report implied that the intended beneficiaries and the government were enthusiastic about the opportunity to adopt these new skills. However, the illiteracy of many members of the Sierra Leone Arts and Crafts Cooperative Executive Council limits the type and amount of training in management techniques which can be provided to them.

VI. What adoption rate has this project achieved in transferring the proposed technology?

The evaluation was conducted during the ninth month of a 2 year project. At this point the Gara Cloth Industry Cooperative was functioning and had marketed quality items produced by the industry. The report was optimistic about the adoption of the other technologies by the end of the project. Adoption was not defined. Adoption rate and the variables used to compute it were not specified.

VII. Has the project set forces into motion that will induce further exploration of the constraint and improvements to the technical package proposed to overcome it?

To a limited extent it appears to have set forces in motion which induce further exploration of the constraints to economic development. However, the success of the project will depend on adoption of all of the technologies. The government is interested in the project but at the time of the evaluation there was a disagreement between the project staff and the government on the location of the production center.

VIII. Do private input suppliers have an incentive to examine the constraint addressed by the project and to come up with solutions?

Yes, but to a limited extent. The size of the industry is small and so is the economic incentive to suppliers. Depending on the marketing strategy there may be an opportunity for buyers from other countries to realize a profit from the purchase and sale of Gara Cloth products also.

IX. What delivery system did the project employ to transfer technology to intended beneficiaries?

The project staff was hired by October 1979 and included a U.S. advisor, a Sierra Leonian coordinator, two field representatives to work in the provinces, a driver, a tailor and a seamstress, managers for the export office and arts and crafts store, personnel from the GO & L Department of Cooperatives were functioning in their positions already.

X. What training techniques did the project use to develop the delivery system?

General meetings with cooperative members and the general public on the new agreement and the advantages of cooperatives. The evaluation report

X. Continued

contains a recommendation that the members of the Cooperative Executive Council be provided with additional technical assistance and trainiy.

XI. What effect did the transferred technology have upon those impacted by it?

The effect appears to have been negative for the most part. Problems of high cost and poor management have caused members to loose confidence in the cooperative.

Evaluation Executive Summary
AFT/DP/PPEA-BuCen

Sector/Subsector: Agriculture/Fisheries

Country: Sierra Leone

Project Title: Sierra Leone Fishpond Outreach
Intermediate Rural Technology

Project No. 698-0407.01

LOP Years: FY79-FY82 (3 yrs)

LOP Funding: $51,000

Evaluation Type: Executive Summary

Evaluation Title and Dates: Sierra Leone Fishpond - Intermediate Rural Technology

Evaluation Author: M. K. Brent

Other Sources of Information: None

Questions

I. What constraint did this project attempt to relieve?

A lack of sufficient protein in the diet of subsistence farmers.

II. What technology did the project promote to relieve this constraint?

Aquaculture in the form of small-scale fish farming.

III. What technology did the project attempt to replace?

None, but it attempts to supplement rice farming by using land more intensively and off season labor to raise fish.

IV. Why did project planners believe that intended beneficiaries would adopt the proposed technology?

The project was tested successfully in three chiefdoms. Technicians work first with local "big men" who are the opinion leaders to gain their support before teaching the intended beneficiaries how to construct and maintain ponds. Other reasons for adoption were not addressed.

V. What characteristics did the intended beneficiaries exhibit that had relevance to their adopting the proposed technology?

A need for more protein and the time and capability to fish farm. Other characteristics of adopters were not discussed.

VI. What adoption rate has this project achieved in transferring the proposed technology?

The report does not provide any information on the adoption rate, per se.

VII. Has the project set forces into motion that will induce further exploration of the constraint and improvements to the technical package proposed to overcome it?

Yes. The project has succeeded in providing average yields of 14 kilograms of fish per year per .01 hectare pond to adoptees. This translates to $6.69 per person-day of family labor.

VIII. Do private input suppliers have an incentive to examine the constraint addressed by the project and to come up with solutions?

The only information provided shows a negative effect in that rice millers in at least one chiefdom have started charging for rice millings.

IX. What delivery system did the project employ to transfer technology to intended beneficiaries?

The report does not describe the delivery system.

X. What training techniques did the project use to develop the delivery system?

This was not provided in the report.

XI. What effect did the transferred technology have upon impacted by it?

Increased protein in diet and increased income. The report provided a general assessment of the effects but did not comment on the reliability of the information.

Evaluation Executive Summary
AFR/DP/PPEA-BuCen

Sector/Subsector: Agriculture Country: Sudan

Project Title: Sudan: The Rahad Irrigation Project Project No.: 650-H-019

LOP Funding: USAID Loan $11,000,000
Total $400,000,000
LOP Years: 1973-1979

Evaluation Type: Impact

Evaluation Title & Dates: Impact Evaluation Report No. 31, March 1982

Evaluation Author: Peter Benedict (Bureau for Near East), Ahmed Humeida Ahmed (University of Khartoum), Rollo Ehrich (Bureau for Development Support), Stephen F. Lintner (Bureau for Near East, Jack Morgan (Consultant), Mohamed Abdulrahim Mohamed Salih (University of Khartoum)

Other Sources of Information:

Questions

I. What constraint did this project attempt to relieve?

Apparently, the government of Sudan and other international contributors including AID believed that development in Sudan was constrained by the lack of foreign exchange.

Under utilization of water resources and potentially arable lands had the potential to relieve the foreign exchange problems.

II. What technology did the project promote to relieve this constraint?

AID's portion of the project was the:

1. Supply of heavy equipment and spare parts for construction of the irrigation works and land preparation.

2. Technical services for the procurement and management of equipment. Ultimately, the Government planned to increase utilization of irrigated agriculture technology including irrigated cotton which accounted for 60 percent of their agricultural exports in 1981.

Note: The evaluation report did not define the technology being transferred by AID nor did it define the technology being transferred by the total project in a way that would facilitate defining adoption.

III. What technology did the project attempt to replace?

The land area utilized for the project is approximately 190 miles long. It is under utilized by an indigenous population of 80,000 people who have an unpredictable subsistence based economy. This project did not replace any technology. The work schedules and existing skills of the indigenous population are not described adequately as related to the AID project.

IV. Why did project planners believe that intended beneficiaries would adopt the proposed technology?

AID was only one of many contributors to the large irrigation project. AID's project contributed the hardware at the beginning stages of the larger project. The AID Rahad project was authorized in February 1973 as an $11,000,000 loan for the procurement of equipment and related services in support of the development of 300,000 acres into irrigated agriculture along the Rahad River in Eastern Sudan. The initial cost estimate for the project was $99 million, with the World Bank (IDA) and Kuwait providing $42 million and $11 million, respectively. The major components of the project include a pumping station at Meina on the Blue Nile, an 85 km supply canal from Meina to the Rahad River; a dam on the Rahad River, irrigation infrastructure for distribution and drainage for 300,000 acres; construction of headquarters, maintenance facilities, offices and houses; village infrastructure (including health and education); a road network; storage and processing facilities for cotton and groundnuts; and electrical system; seed production and research farms; and feasibility studies for the Phase II project.

Government experience on similar projects indicates that numerous problems remain to be solved.

V. What characteristics did the intended beneficiaries exhibit that had relevance to their adopting the proposed technology?

Farmers were dependent upon subsistence level production of rainfed sorghum, vegetables, and other crops under rudimentary floodplain irrigation, and animal husbandry. There were also some semi-nomads. The characteristics of beneficiaries were similar to those of adopters in other similar projects.

VI. What adoption rate has this project achieved in transferring the proposed technology?

In general, the AID contribution to the project achieved and is continuing to achieve its purpose of supporting irrigation works and agricultural development in the Rahad project. Some vehicles and heavy equipment have worn out as a result of the rough conditions which prevailed during the initial stages of the project.

Of 392 pieces of AID-financed equipment, approximately 47 percent is operating, 24 percent is not operating but repairable, 13 percent is not repairable due to cannabalization, and 16 percent is expended or has completed its useful

VI. Continued

life. Heavy equipment generally has not been used to its potential due to lack of spare parts; therefore, significant life remains in most heavy equipment units. Generally, the equipment provided was suited to the work required. Shortages of some essential spare parts contributed to the decline of some of this equipment and continues to constitute a major problem. Some of the equipment, particularly that procured for the Earthmoving Corporation, no longer is required for the Rahad project and can now be utilized for other development activities in Sudan.

It is significant that the major portion of AID's contribution to the project was delivered relatively promptly and efficiently. AID financed equipment was the first equipment available to the project and it contributed to the early start-up of construction. Sudanese officials who were interviewed acknowledged the critical role of AID inputs.

The general observations provided by the evaluation report probably constitutes the best information that could be obtained after the fact. Meaningful, reliable, evaluation information usually cannot be obtained without laying a proper foundation during the project conceptual phrase. This includes defining adoption and specifying the technology. In a complex cooperative project as this, the AID portions should be distinguished from the total and both should be evaluated to provide information for policy formulation.

Present Condition of Agricultural Machinery and Heavy Equipment Financed by USAID/SUDAN

Type & Name of Machine	No. of machines received	In good order	Out of order	Remarks
1. Crawler Tractors (Fiat - Allis 16-B)	12	6	6	-
2. Farm Tractors (Ford (5000-W)	30	-	30	-
3. Motor Grader (WABCO 555 & 444)	9	3	6	-
4. Lub & Compressor Units	12	2	10	
5. Heavy - Duty Disc Harrows (Rome)	6	6	-	

VI. Continued

Present Condition of Agricultural Machinery and Heavy Equipment Financed by USAID/SUDAN - Continued

Type & Name of Machine	No. of machines received	In good order	Out of order	Remarks
6. H. Duty Disc Harrows (Taylor - Way)	6	6	-	
7. Offset Disc Harrows (Allis Chalmers)	10	-	10	
8. Offset Disk Harrows (Bush Hog)	10	-	10	
9. Abu XX Ditcher (Eversman)	4	3	1	Received with missing parts

VII. Has the project set forces into motion that will induce further exploration of the constraint and improvements to the technical package proposed to overcome it?

The GOS has continued the project.

The current status of the Rahad project (apart from AID's contribution) is approximately 3 years behind schedule, and is expected to be completed by June 1981. The pumping station and main canal have been functioning for nearly 3 years, and the third crop on about 200,000 acres was harvested in early 1980. Contractors are completing housing and administration infrastructure, the road network and the electrical network. There are 38 inhabited villages out of a planned 46 villages on the irrigated lands. In view of the complexity of the project, implementation has been commendable. The World Bank loan of $62 million is all but about $8 million disbursed, with only $1.9 million uncommitted. Construction cost overruns have been primarily local costs and are being provided by the GOS. The primary outstanding problem is to obtain local currency and limited foreign exchange to complete the project.

VIII. Do private input suppliers have an incentive to examine the constraint addressed by the project and to come up with solutions?

The report indicates that the institutional framework established by the GOS and the project, including the Rahad Corporation which was authorized

VIII. Continued

by legislation in 1972 is highly structured and bureaucratic and provides little incentives for private enterprise. The role of private input supplier to project and post project activities is not completely explored.

IX. What delivery system did the project employ to transfer technology to intended beneficiaries?

AID contracted with Berger to procure the necessary equipment and manage it.

By early 1977, about $10 million was disbursed and the remaining $1 million committed. At this time AID considered de-obligating the remainder of the loan since all essential equipment in the loan agreement had been procured. However, the Rahad Corporation developed a plan to use the remaining funds for spare parts and other items. Therefore, the Berger procurement contract was renewed 1977. Despite three extensions in the terminal disbursement date (TDD), through April 1979, only a total of $10,348,047 was disbursed, largely because suppliers failed to make final deliveries, and/or Letters of Credit were not extended for a sufficient length of time. In addition, small cost-savings occurred in numerous orders. The committed but undisbursed amounts were not fully analysed and acknowledged until late February, 1979. Thus, major project implementation emphasis was placed on keeping Letters of Credit and Letters of Commitment extended rather than on placing new orders. Some dealers apparently no longer intended to make deliveries by the final stages of the project, even though Letters of Credit were open. Thus, the $651,943 which remained undisbursed as of April 27, 1979 were de-obligated. The items which were not delivered include six Ford trucks, a low-boy trailer, a tanker and various spare parts and tools.

AID's contribution would have been enhanced by further disbursements for essential spare parts, minor equipment, and additional vehicles. While the Berger contract fulfilled, in general, the services it was expected to provide, neither Berger, AID, nor the Government were effective in identifying the cause for slow disbursements during the final years of the project. Unfortunately, it is the fledgling Rahad Corporation which bears the consequences of this inability to disburse the entire loan.

X. What training techniques did the project use to develop the delivery system?

The report indicates that the training systems were inadequate. The report did not distinguish between the training needs of the AID portion of the project and the overall project.

XI. What effect did the transferred technology have upon those impacted by it?

The report indicated that the AID part of the project achieved the desired effects on time. Because the constraints and the technologies were not described accurately during the conceptual phase and the foundation laid for collecting and processing data, the information on effects of the project is largely subjective.

Evaluation Executive Summary
AFR/DP/PPEA-BuCen

Sector/Subsector: Agriculture Country: Swaziland

Project Title: Lundzi-Mpuluzi Pig Production Project No.: 645-0213

LOP Funding: Total $418,143 U.S. $309,275 LOP Years: 3 years

Evaluation Type: Regular Evaluation

Evaluation Title & Dates: 4/80 - 4/82 completed 6/16/82

Evaluation Author: Paul Tuebner

Other Sources of Information: Dr. Nicholas Gumede, Director Veterinary Services, Jimmy O. Philpott, Assistant Director, USAID/Swaziland

Questions

I. What constraint did this project attempt to relieve?

This project attempts to overcome cultural constraints that restrict Swazi women in rural areas from earning cash incomes. The evaluation report does not specify how the constraints to development were determined. To properly evaluate the appropriateness of the constraint and to estimate the level of confidence provided by information, the report should describe the research, special studies, case studies, baseline surveys, and other primary or secondary data that was used to identify the constraint.

II. What technology did the project promote to relieve this constraint?

This project introduces the concept of a self-supporting pig production cooperative which will provide both the inputs and marketing channels to enable rural Swazi women to earn cash incomes by raising pigs on the homestead. Such women already bear much of the responsibility for raising subsistence crops on the family homestead. The project will increase their opportunities to enter Swaziland's money economy.

III. What technology did the project attempt to replace?

The intended beneficiaries now engage in farming primarily for subsistence. Only a relatively few pigs are raised for consumption on the homestead but not for added income.

IV. Why did project planners believe that intended beneficiaries would adopt the proposed technology?

This technology will permit each beneficiary family to increase its income by up to $475 per year.

It appears that a relative advantage including profitability exists which is compatible with traditional values. The technology is not complex and essentially extends existing technology. The risk is small and the technology is highly divisible which enables potential adopters to limit their risk to an acceptable level. The technology is readily communicated to other adopters by first hand observation of its implementation and effects. The report does not discuss sources of information on the technologies but it is assumed that pig production technology is already known by potential early adopters and the delivery system established by the project will provide information on marketing and additional information on pig production (see questions IX and X).

V. What characteristics did the intended beneficiaries exhibit that had relevance to their adopting the proposed technology?

Over 50 percent of the intended beneficiaries have achieved the functional literacy level. In addition, there has been an estimated 70 percent participation by the target beneficiaries in project activities to date. Interviews with beneficiaries indicate a high level of enthusiasm for the project. The report does not comment on age, degree of social participation, interest in innovations, degree of participation in farm groups, or net worth of potential adopters.

VI. What adoption rate has this project achieved in transferring the proposed technology?

The evaluation report states that this is a pilot project and will not generate information on the adoption rate for another two years. However, such factors as relative advantage, compatability with traditional methods, complexity, divisibility, and communicability that correlate with adoption could have been assessed on a pilot project. These data could be used to predict the adoption rate.

VII. Has the project set forces onto motion that will induce further exploration of the constraint and improvements to the technical package proposed to overcome it?

The project will incorporate a system for continuous review and replanning. Constant improvements to the technology will be made throughout the life of the project and subsequent to project completion. Because this is a pilot effort, the expected replication of the model being developed will spread project benefits to other rural areas in Swaziland. AID project funding will constitute a substantial force during the life of the project. Some attempt should be made here to assess forces that have been or will be set in motion by this project. These forces could be technological forces resulting from

VII. Continued

the increased efficiency or economic advantage of the project or it could be a large political constituency that supports the technology transferred by the project.

VIII. Do private input suppliers have an incentive to examine the constraint addressed by the project and to come up with solutions?

Since the project will utilize inputs purchased through private commercial channels and the pigs produced will be marketed to commercial enterprises, it is expected that the local private sector will respond to the expanded market opportunities in a positive manner. The extent to which the private sector will be stimulated to examine the constraint and work out solutions will depend upon the extent to which replication of the project is able to increase market size.

IX. What delivery system did the project employ to transfer technology to intended beneficiaries?

The evaluation report generalizes that the project will deliver technology through a cooperative organization which will provide or facilitate training and extension services for the beneficiaries.

To enable others to evaluate the adequacy of the delivery system the report should include information on the key elements or outputs of the system, the schedule for implementing those elements, the actual dates of implementation, and numbers and types of people involved. Furthermore, the report should specify type of training--formal or on-the-job.

X. What training techniques did the project use to develop the deliver system?

The evaluation report states that the project will provide training and assistance in cooperative philosophy and practices and pig production techniques. The cooperative manager and technical advisor will provide the technical training which will focus on such matters as disease prevention, sanitation, proper rations, breeding, and other related subjects. In addition, instructtion will be given in recordkeeping procedures and cooperative development.

It is assumed that this training will include both on-the-job and formal training.

XI. What effect did the tranferred technology have upon those impacted by it?

This evaluation constitutes the mid-point external evaluation. An AID Operating Program Grant of $309,275 was authorized for the Lundzi-Mpuluzi Pig Production Project on February 10, 1980. AID funds totalling $95,251 had been disbursed as of September 1981.

The Lundzi-Mpuluzi Pig Production Project is an experimental project to introduce pig production in a cooperative manner to Swazi women. The project's purpose is to increase the income of families in the target area through the development of a pig production and marketing cooperative.

XI. Continued

The project has not progressed as planned. In other words, the technology transfer has been only partial. First, there was considerable delay in the development of a water system. Second, no cooperative has yet been formed and there is currently no cooperative manager. Third, the piggery has not been constructed. Fourth, the project has suffered from inadequate managerial procedures. Fifth, technical and logistical problems have delayed construction of essential facilities at the project site.

Evaluation Executive Summary
AFR/DP/PPEA-BuCen

Sector/Subsector: Construction

Country: Tanzania

Project Title: Rural Water Projects in Tanzania Technical, Social and Administrative Issues

Project No.: unknown

LOP Funding: unknown

LOP Years: unknown

Evaluation Type: Special Study #3 (PPC/E)

Evaluation Title & Dates: 11/80

Evaluation Author: Daniel Dworkin, Office of Evaluation
Bureau for Program and Policy Coordination

Other Sources of Information:

Questions

I. What constraint did this project attempt to relieve?

This study was an assessment of the possibilities for developing, implementing, and administering a rural water system. The rural water supply development financed by donors was examined.

Ninety percent of the cost of the rural water supply development program is being financed by donors. The Swedish International Development Authority (SIDA) has been involved since 1965; through 1978 it has provided nearly $50 million. Ten other countries and several multilateral donors (including IBRD, UNICEF, UNDP, and WHO) have also provided assistance. The United States has included rural domestic water supply as part of its rangeland project and is now including water supply as part of the Arusha Integrated Rural Development Project.

The project planners apparently believed that lack of a rural water system was a constraint to development which could be overcome if it was economically and otherwise feasible to develop a rural water systems.

II. What technology did the project promote to relieve this constraint?

Recommended technology

1. Develop regional water master plans that are compatible and could be used for national planning.

II. Continued

2. Use shallow wells with handpumps for village water projects.

3. Have users pay the full costs of operating and maintaining the systems. Before developing the wells, rural water projects should always incorporate a method for assessing users and collecting sufficient funds to cover operating and maintenance.

4. Integrate the project activities by having a local counterpart work with the Regional Water Engineer.

5. Train counterpart technicians in developing, operating, and maintaining wells. Information on the complexity of the technology and its effect on work schedules.

III. What technology did the project attempt to replace?

The lack of a national program has resulted in a wide variation in projects. Complex technologies predominate in one region while simple systems are emphasized in another. Donors chose technologies on the basis of their interest and traditional approach, rather than on the most appropriate solutions for the physical and social setting. The guidelines of the Third Five-Year Development Plan have been almost completely ignored or contradicted. In Shinyanga, a rural water system means hand-dug shallow wells with Shinyanga handpumps. In Singida, with much the same physical and social setting, the technology used is predominantly deep wells with dual pumps: a windmill and a standby diesel unit. Iringa, they emphasize gravity systems. Morogoro emphasizes hand-drilled shallow wells with kangaroo handpumps. Tanga is served by an extensive gravity pipeline. In the West Lakes area, systems are diesel pumped.

IV. Why did project planners believe that intended beneficiaries would adopt the proposed technology?

The Government encourages rural people to resettle in villages. This policy makes it easier to provide people with an improved source of water, since a number of families can be served by each communal water source.

The village relocation program is proceeding. In mid-1977, 12 million people out of a total population of 14 million lived in 7,300 villages. Projections are that by 1981, virtually all the 15.7 million people of the country will be living in 8,000 communities.

Estimates vary on the number of persons currently served by rural water supply systems. MA.'I stated recently that 6.5 million persons, or 38 percent of the rural population, had "clean water." Presumably this

IV. Continued

includes the design population of all systems built in the country. Other estimates are lower. A recent report estimates that six MAJI schemes in rural areas have a design population of 4.5 million.

Design population, however, differs from the actual population served because a system might not be operating or might not be serving the population for which it was planned. The same report estimates that three million actually are served from existing MAJI systems.

A rural water system should deliver water reliably. Measure of reliability is the number of months in a year that water is actually available. The data we gathered are based on the statements of villagers, operators, and Regional Water Officials, since no operating logs are kept. We transformed their statements about the systems into approximate figures for the year, which are shown in Table 1. The data demonstrate that shallow wells and windmill/diesel systems are the most reliable systems, gravity systems are less reliable, and diesels are the least reliable.

Table 1

THE AVAILABILITY OF WATER IN DIFFERENT WATER SYSTEMS

Region and Technology	Water Available Months Per Year	Region and Technology	Water Available Months Per Year
Shinyanaga		Singida	
Shallow Well	9.0	Shallow Well[c]	1.0
Shallow Well	11.7	Windmill/Diesel	12.0
Shallow Well	11.8	Windmill/Diesel	12.0
Shallow Well[a]	12.0	Diesel	5.0
Shallow Well	11.6		
Shallow Well	12.0	Mbeya	
		Gravity	9.0
Morogoro		Gravity	11.0
Shallow Well	12.0	Gravity	10.0
Shallow Well[b]	12.0	Diesel	9.0
Gravity	9.0		
Diesel	10.5	Iringa	
Diesel	6.5	Gravity	12.0

a. This shallow well replaced a completely unreliable diesel system.
b. A project and nonproject system.
c. A MAJI system.

IV. Continued

Most of the capital costs for developing rural water systems have been provided by outside donors. The capital costs of the type of well developed by the donors was analyzed and the results are in Table 2.

Table 2

CAPITAL COSTS FROM REPORTS OF REGIONAL WATER ENGINEERS

Type of Well	Costs/person in Sh
Shallow wells	80 Sh
Windmill/diesel systems	600 Sh
Diesel System	360 Sh
Gravity	213 Sh

V. What characteristics did the intended beneficiaries exhibit that had relevance to their adopting the proposed technology?

The report did not provide any information on potential adopters.

VI. What adoption rate has this project achieved in transferring the proposed technology?

Such factors as relative advantage and traditional values that have a bearing on adoption were not discussed.

VII. Has the project set forces into motion that will induce further exploration of the constraint and improvements to the technical package proposed to overcome it?

The previous outside donors are not willing to provide funding for the continued operation of the system. These operation and maintenance costs are critical. The Government budgets of Tanzania have never provided adequate funds for the systems in place and, because of rapidly escalating costs, this may become an increasing problem.

Operating and maintenance costs are lowest for shallow wells and are closely followed by the costs of gravity systems. Pumped surface water and pumped wells which are predominantly diesel-powered are the most expensive to operate and maintain (Table 3). There is not enough experience with windmill/diesel systems to estimate costs.

VII. Continued

Table 3

PER CAPITAL ANNUAL COSTS OF OPERATING AND MAINTAINING WATER SYSTEMS ($US)

Type of System	Fuel and Lubricant	Spare Parts, Transport	Salaries to: Maintain	Salaries to: Operate	Total
Shallow Well	-	.40	.26	-	.66
Gravity	-	.32	.26	.38	.96
Pumped Surface	.51	.63	.26	.38	1.78
Pumped Well	.51	.81	.26	.38	1.96

Source: World Health Organization/World Bank Cooperative Program, United Republic of Tanzania Rural Water Supply Sector Study, (Geneva, Jan. 1977), Second Draft Annex 9, pp. 23-28. No estimates are available for windmill/diesel units.

The present level of funding is inadequate to ensure the continued operation of the rural systems already in place. With the exception of the shallow well projects in Shinyanaga and Morogoro, most systems are not working well. MAJI stated that 60 percent of the operating water schemes in the Lake Zone regions needed rehabilitation. A survey of water systems run by MAJI indicates water is provided on an average of only eight months out of the year in these regions. Two-thirds of the pump units there need replacement or require a complete overhaul.

There is extensive evidence that users will pay for service if it meets their needs and if they consider the assessed rates to be fair. Most rural water systems in Latin America use the willingness to participate in the financing of a water supply as a major criterion for selecting villages to receive water supplies; in other areas of the world the willingness to participate is not considered as important. To provide the necessary funding, the Government should consider the willingness to contribute as an important criterion for selecting communities to receive improved supplies.

There are some problems in getting communities to pay for systems that are seen as Government choices rather than individual choices. Individuals who are asked to pay should be as deeply involved in the water supply decision as possible. The community should at least be aware of what will be done and should help develop the rate structure. Whenever possible, they should also be involved in choosing technologies and should be aware of the costs of the technology that they choose.

Users pay when they can perceive benefits from the improved supply. Of the 20 communities visited, 16 perceive an improvement in health,

VII. Continued

three do not, and in one community the opinion is divided. Health improvements are perceived even though some of the systems are unreliable and could provide few real health benefits. The communities also claim that the system improves productivity and provides more free time for the women.

The difficulty in raising funds for water is understandable. The Government provides the systems and in most instances no villager is asked to contribute. In the shallow well projects, installation labor is paid. When water systems are built by the Government, people naturally believe that the Government should pay for the operation. At times of economic austerity, when users are asked to pay, the questions of who pays how much then becomes important: should the fee be by use, by proximity to a communal facility, or by ability to pay? These questions are settled and adjusted more readily if an adequate rate structure is determined before any system is built.

VIII. Do private input suppliers have an incentive to examine the constraint addressed by the project and to come up with solutions?

No information was provided on this issue.

IX. What delivery system did the project employ to transfer technology to intended beneficiaries?

Very little attention was paid to transferring the technology developed or selected under this project.

X. What training techniques did the project use to develop the delivery system?

No consideration was given to training or technology needed for the delivery or special techniques needed to transfer the technology to the adopters.

XI. What effect did the tranferred technology have upon those impacted by it?

Not applicable because this was an assessment.

Evaluation Executive Summary
AFR/DP/PPEA-BuCen

Sector/Subsector: Transportation

Country: Upper Volta

Project Title: Eastern ORD Rural Roads Project

Project No.: 686-0215

LOP Funding: AID: $2,323,000
Total: $3,010,000

LOP Years: FY 77/79

Evaluation Type: Final Evaluation

Evaluation Title & Dates: Evaluation of Eastern ORD RUral Roads Project, March 1, 1982

Evaluation Author: Richard Braida (Team Leader), Lucian Bonkowski, James L. Robinson, Jerry Rolland

Other Sources of Information:

Questions

I. What constraint did this project attempt to relieve?

The constraint the project attempted to relieve is the lack of access to markets, health, educational, and other services as well as poor communication between the project area residents and the national and regional administrative authorities. These constraints are hindering the social and economic development of Eastern Upper Volta.

II. What technology did the project promote to relieve this constraint?

The project promoted the construction of three modern rural roads totaling 159 kilometers in Eastern Upper Volta. Adequate road access is a necessary pre-condition for the agricultural progress and general economic and social development of the project area.

Project objectives focused upon the stimulation of agricultural production through better access to markets, improvment in access to health and educational services for local residents, and improvement in administrative access to the region by the Office of Regional Development, all to be accomplished through better all-year passable rural roads.

The technology promoted by the project consists of a combination of knowledge and modern technique in road design, management methods for rural road construction and transfer of knowledge in the utilization of the proper use of road equipment. In concise terms the combination of knowledge and proper equipment mix for improving the approach to rural road construction and maintenance.

III. What technology did the project attempt to replace?

Traffic on the Project road before its construction was considered nonexistant. Formerly, the lack of a road connecting with all-weather routes leading to Ouagadougou isolated the Project Area from the rest of the country.

Consequently, the project is not replacing any old technology, but creating new infrastructure for the economic and social development of the target area.

IV. Why did project planners believe that intended beneficiaries would adopt the proposed technology?

Because the new all-weather roads will bring many benefits to the people living in the project area (beneficiaries) which are presently isolated from the rest of the country. New roads will open or improve access to markets and to health and educational services for local residents and will promote more direct administrative attention from regional authorities (Office of Regional Development) due to better access to the target area.

V. What characteristics did the intended beneficiaries exhibit that had relevance to their adopting the proposed technology?

The social, cultural, and educational characteristics of the beneficiaries are not described in the report. Most of the residents in the area are farmers who would benefit with improved marketing channels for their products and access to market where they can buy cheaper household supplies and agricultural inputs.

The evaluation stated that unskilled village labor has been recruited both for pay and without pay. Cultural traditions in this region reflect a communal work tradition which has benefited the project. Village labor was observed to be well-motivated. During the dry season the villagers work without compensation, while at planting time and in the rainy season, consistent with their system of communal labor, they are compensated with food payments equivalent to U.S. $2.40 per man-day.

VI. What adoption rate has this project achieved in transferring the proposed technology?

The report does not define adoption rate or show any specific calculation for this indicator. The evaluation does describe in detail field observations and other sources of information related to the beneficiaries' use of the new technology (all weather road) as follows:

1) Increased number farmers and traders using regional markets. Resident missionaries have observed a noticeable increase in market day participation; a rise of about 50 percent at regional markets.

VI. Continued

2) Medical missionaries at Maadaga have seen an increase in the number of outpatients using health facilities in the past year, rising to 10,000 in 1981. The road facilitates their travel from as far off as 60 km.

3) Loans extended by the Small Economic Development Activity Project (AID project number 686-0215) to area farmers, merchants, and artisans have increased from 8-10 loans per month to 20 loans per month.

VII. Has the project set forces into motion that will induce further exploration of the constraint and improvements to the technical package proposed to overcome it?

The project had definitely stimulated a variety of activities which consititute a set of social and economic forces that will induce further exploration of the constraint and eventually overcome it.

For example there are other development projects, all of which require access to the Project Area, which will be provided by the roads. Some of these developmental activities are mentioned below.

1) Farm credits for agricultural inputs. The road will facilitate the travel of farm bank representatives to farm sites to inspect farms and approve credit. With the credit farmers can buy fertilizers, pesticides, and insecticides. The road will ease the transport of these agricultural inputs to the farm sites.

2) A livestock vaccination program, which envisages the construction of corrals and related structures for the innoculation of animals. The road will facilitate transport of program technicians and supplies to the project area.

3) Anti-erosion activities which call for the movement of vehicles and heavy equipment along the Project Road.

4) Technical assistance to ORD personnel to improve the agricultural extension services they will provide.

5) Assistance in improving the in-house administrative capabilities of the ORD organization.

6) Construction of village dispensaries and wells.

All of these activities (AID Project 696-0244) are financed by AID to increase the production, income and quality of life of the rural population.

VIII. Do private input suppliers have an incentive to examine the constraints addressed by the project and to come up with solutions?

Construction of the road has stimulated commerce and small agricultural processing industries, and has reoriented the population toward Ouagadougou and Niamey and away from geographically closer sources of goods in neighboring Benin.

Before, commerce in this enclave depended upon the services of petty traders engaged in smuggling consumer goods across the Benin/Upper Volta frontier from locations as far off as 100 km.

Petty traders visiting Project Area villages on bicycles and in small trucks have increased in number. Now, with a better road people are turning to the project area (Ouagadougou) as the principal source of supply for their needs. The volume of supplies carried now by trucks from Ouagadougou is substantially greater than before and includes bulk commodities which bicycle-transported contraband could not easily provide, e.g.: gasoline, sugar, soap, etc. The road has already resulted in a noticeable increase in the quantity and variety of consumables available for purchase. A general supply store was built recently along the road; Maadaga has emerged as a significant trading center. Here a grain mill was installed, which was later expanded to provide rice decortication as well. It seems natural that private suppliers and buyers have an economic incentive to promote better roads to enhance the access to these markets.

IX. What delivery system did the project employ to transfer technology to intended beneficiaries?

The project employed a combination of advisory management and technical expertise in different aspects of the design and construction of rural roads with heavy equipment, materials, and related services and with the unskilled native labor (construction brigade) to construct three rural roads in this region.

The evaluation team reported they saw evidence of road suffering severe erosion damage probably caused by culvert beds improperly compacted, culverts improperly aligned, headwall built without foundations and other technical problems.

In general the evaluation stated that the rate of construction progress was relatively slow and that road costs were excessive and its quality lower than anticipated. They stated that this was largely the consequence of inadequate project implementation planning at the project paper stage, insufficient emphasis on competent technical assistance and poor project management.

X. What training techniques did the project use to develop the delivery system?

No formal training was planned or were provided under the project. No reliable description was provided of the technology being transferred to the delivery system or of the training technologies that were to be used to make the transfer.

XI. What effect did the transferred technology have upon those impacted by it?

The evaluation explicitly stated some impacts that the new roads affected upon the project's beneficiaries as follows:

1) Marketing - Resident missionaries have observed a noticeable increase in market day participation; a rise of about 50 percent at regional markets.

2) Prices - Improved prices for farm products, enhanced by recent GOUV commodity price support efforts, will have an impact on family farm income and output.

3) Production - Farmers have not had adequate time to react in terms of increased production. Consequently, no substantial change in the volume of agricultural commodities moving to market during the first harvest season was observed by local personnel.

   Agricultural technology has not yet noticeably changed as a consequence of the road.

   The road is only now nearing completion. Only one harvest season has passed since it was available to through traffic; it may require another 5 years for the road to achieve its full economic impact.

4) Social Services - the road had increased access of villagers to health and education services not previously received because of isolation. It had increased the demand from rural people for services from health and education facilites, financial institutions, and government, particularly East ORD offices.

Other benefits attributable to the road were assumed to be in the same proportion to total economic and social benefits expected from the integrated agricultural development effort realized in the project area, as road construction and maintenance costs are to the total cost of inputs to the Eastern ORD investment package.

Evaluation Executive Summary
AFR/DP/PPEA-BuCen

Sector/Subsector: Agriculture

Country: Upper Volta

Project Title: Upper Volta: Income Producing Feasibility

Project No. 698-0388.5

LOP Funding: N/A

Evaluation Type: Project Evaluation Summary

Evaluation Title & Dates: Silkworm and Vegetal Report, Upper Volta, April 1980

Evaluation Author: Jeffalyn Johnson and Associates, Inc.

Other Sources of Information: None

Questions

I. What constraint did this project attempt to relieve?

The lack of economic oportunities for women was the constraint that is to be relieved if the project is approached and implemented. This study concluded that the relief is feasible.

II. What technology did the project promote to relieve this constraint?

Harvesting of the seed pod of the acacia nilotica plant for use in tanning leather and the cultivation of silkworms will be the technologies promoted to relieve the constraint if the project is implemented. The study concluded, in effect, that the promotion of these technologies is feasible.

III. What technology did the project attempt to replace?

The evaluation report on the study does not discuss this but it is assumed that less productive manual labor will be replaced.

IV. Why did project planners believe that intended beneficiaries would adopt the proposed technology?

The Government of Upper Volta requested these studies to enhance industrial development in their country. An Italian firm was considering building a shoe manufacturing plant in Bobo-Doulasso and a tanning capability was needed to support this venture. The silk production could be exported and improve foreign exchange. Labor, particularly women were available in large supply to work on the project.

V. What characteristics did the intended beneficiaries exhibit that had relevance to their adopting the proposed technology?

The evaluation report does not specifically cover this but it is assumed that since the proper environment exists for these projects and since the labor needed is readily available and willing to work and the work can be done by women as well as men. It was also assumed from this that the beneficiaries would adopt the project.

VI. What adoption rate has this project achieved in transferring the proposed technology?

This project consists of a feasibility study and did not include the transfer of technology.

No attempt was made to monitor factors that lead to adoption so that adoption rates could be estimated.

VII. Has the project set forces into motion that will induce further exploration of the constraint and improvements to the technical package proposed to overcome it?

No, but the study concluded that the projects were feasible but recommended that they not be carried out unless the mechanism which would involve women in the project was defined and unless market conditions were properly evaluated and other alternatives were properly explored.

VIII. Do private input suppliers have an incentive to examine the constraint addressed by the project and to come up with solutions?

No attempt is made to assess the market for these products.

IX. What delivery system did the project employ to transfer technology to intended beneficiaries?

None

X. What training techniques did the project use to develop the deliver system?

None

XI. What effect did the transferred technology have upon those impacted by it?

None

Evaluation Executive Summary
AFT/DP/PPEA-BuCen

Sector/Subsector: All

Country: Upper Volta

Project Title: Upper Volta: Feasibility Study

Project No. 698-0388.8

LOP Funding: $65,000

LOP Years: 3/77-1/80

Evaluation Type: Project Evaluation Summary

Evaluation Title & Dates: Income Producing Feasibility Study

Evaluation Author: Jeffalyn Johnson and Associates, Inc.

Other Sources of Information:

Questions

I. What constraint did this project attempt to relieve?

One of the study goals was to identify potential constraints to project implementation but the evaluation report does not say what these constraints were, except that it noted that the inability to read, write and accept certain types of formal training were constraints.

II. What technology did the project promote to relieve this constraint?

The study recommended training emphasizing visual-oral techniques in sectors such as agriculture, livestock, health and nutrition education programs.

III. What technology did the project attempt to replace?

This was not stated but it can be assumed that the project technology would fill a void.

IV. Why did project planners believe that intended beneficiaries would adopt the proposed technology?

None of the reasons for adopting were mentioned in the report.

V. What characteristics did the intended beneficiaries exhibit that had relevance to their adopting the proposed technology?

This report did not describe the characteristics of potential adopters.

VI. What adoption rate has this project achieved in transferring the proposed technology?

None of the reasons for adoption were examined in the report.

VII. Has the project set forces into motion that will induce further exploration of the constraint and improvements to the technical package proposed to overcome it?

The report did not comment on this.

VIII. Do private input suppliers have an incentive to examine the constraint addressed by the project and to come up with solutions?

The report did not attempt to estimate the incentives to the private sector.

IX. What delivery system did the project employ to transfer technology to intended beneficiaries?

The study apparently identified certain forms of training that would optimize technology transfer.

X. What training techniques did the project use to develop the delivery system?

None

XI. What effect did the transferred technology have upon those impacted by it?

None

Evaluation Executive Summary
AFR/DP/PPEA-BuCen

Sector/Subsector: Agriculture

Country: Zaire

Project Title: North Shaba Rural Development

Project No.: 660-0059

LOP Funding: Total - $23,000,000
13,400,000

LOP Years: 6 years

Evaluation Type: Special evaluation

Evaluation Title & Dates: 5/80 - 5/82 completed 6/15/82

Evaluation Author: David Ridding

Other Sources of Information: Project Officer, David Soroko
Contractor, Kenneth Koehn
Project Director, Mateso Wabubyala

Note: This executive summary was apparently written by the Mission and provides information relevant to the eleven questions not contained in the evaluation report.

Questions

I. What constraint did this project attempt to relieve?

This project seeks to relieve both marketing and production constraints in the project area. Before project implementation, small farmers' marketing opportunities were limited and they were regressing into subsistence agriculture. While relieving key marketing constraints, the project concurrently addresses production constraints to allow farmers to capitalize on their increased marketing opportunities.

II. What technology did the project promote to relieve this constraint?

Inasmuch as this is an integrated rural development project, a multidisciplinary approach was taken. A number of outputs collectively contribute to achievement of project objectives. Following is a summation of project outputs/technologies.

Infrastructure: This project subsystem is designed to rehabilitate and maintain 724 kilometer of rural roads in the project area. After the mechanized rehabilitation was completed, a system of manual maintenance was instituted. With the reopening of the roads, farmers and merchants gained access to markets and agricultural products respectively. This has provided the opportunity and the incentive for farmers to increase production beyond subsistence levels.

II. Continued

Marketing and Credit: This project subsystem assists small farmer groups and merchants to promote the timely export of harvested produce.

Farmer Group Development: This project subsystem organizes small farmers into groups, and those groups into larger farmers councils. Farmer groups allow the small farmers to participate in larger economic units for collective bargaining and market promotion. Farmer councils address an information constraint, acting as a dissemination point for information from farmers to the project and vice-versa.

Research and Extension: This project subsystem has two components. The research component concentrates on adaptive research collecting data on the various farming systems in the area, then selecting the best methods for further research and extension. The extension component trains extension agents and mid-level staff to promote the use of improved corn seed and improved agronomic cultural practices.

Intermediate Technology: This activity addresses the acute tool shortage in the project area. This subsystem utilizes scrap metal to fabricate appropriate hand tools (machetes, hoes, etc). These tools are sold throughout the project area.

III. What technology did the project attempt to replace?

Project-area farmers were using degenerated corn seed, cultivated in an inefficient manner. The project has introduced improved seeds and agricultural practices to replace these. These improvements are buttressed by the supporting marketing infrastructure of improved roads and organized farmer groups.

The complexity of the existing technology is not fully described and the work schedules are not provided.

IV. Why did project planners believe that intended beneficiaries would adopt the proposed technology?

With the reopening of project area roads, farmers are provided access to market towns with railhead facilities. Accompanying this new access are activities addressing production constraints. It was believed by project designers that these inputs would encourage adoption of the new technologies. The 1982 project evaluation concluded that 75 percent of the area farmers have adopted some elements of the technological package. However, front end costs, relative advantage, traditional values and other reasons for adoption were not fully explored.

V. What characteristics did the intended beneficiaries exhibit that had relevance to their adopting the proposed technology?

The farmers in the project area long have been corn cultivators. Through the project's improved extension services, they have discovered ways to increase corn production; through the project's improved marketing services,

V. Continued

they have discovered an incentive for increasing production. Not all area farmers have adopted all technologies promoted by the project. The project is continuing to adapt technologies to the needs of farmers. Characteristics of adopters including education, wealth, etc., were not considered.

VI. What adoption rate has this project achieved in transferring the proposed technology?

An estimated 75 percent of farmers in the project area have adopted the improved corn seed. An estimated 25 percent have adopted both seed and some improved practices. It was noted in the 1982 evaluation that the technological package extended is one of the most successful observed in West/Central Africa. This is attributed principally to the improved seeds that have increased yields by up to 50 percent. These statistics were provided without any explanation of how adoption and the adoption rate were defined and measured.

VII. Has the project set forces onto motion that will induce further exploration of the constraint and improvements to the technical package proposed to overcome it?

Construction of a Research/Training center is scheduled to be completed in late 1982. At this center, research on area farming systems, including corn and other crops grown in the project area, has already been conducted. Upon completion of the training facilities, further training of extension agents and farmers is planned.

VIII. Do private input suppliers have an incentive to examine the constraint addressed by the project and to come up with solutions?

The revitalized area production and marketing system established by the project provides multiple incentives for private sector suppliers of agricultural commodity inputs. Area merchants have already increased the number of trucks to haul produce. Given the high demand for improved seed, private firms engaged in marketing also could distribute seed on a commercial sales basis. A private firm is providing maintenance to secondary roads in the area. Marketing firms contribute to the transportation network by repairing tertiary roads leading to productive areas off the main project roads.

IX. What delivery system did the project employ to transfer technology to intended beneficiaries?

The project plans to establish 75 farm centers throughout the project area. To date 60 farm centers have been established. Project extension agents work through these centers to introduce new technologies to farming communities. This system is augmented by the organization of Farm Groups and Farm Councils. Thirty Groups and fifteen Councils have been modified.

X. What training techniques did the project use to develop the delivery system?

Extension workers were trained and deployed through projects established from centers to train farmers in implementing the new technology.

XI. What effect did the tranferred technology have upon those impacted by it?

Some increase in income was reported but these increase have been slight due to government price policies. However, the evaluation report indicates that the data on crop yields and income may not be reliable.

Evaluation Executive Summary
AFR/DP/PPEA-BuCen

Sector/Subsector: Agriculture

Country: Zaire

Project Title: INERA Support

Project No.: 660-0064

LOP Funding: U.S. (AID) $3,850,000
Total $6,659,000

LOP Years: FY 81/83

Evaluation Type: Regular

Evaluation Title & Dates: INERA Support Project, February 1981
Mid-term Evaluation Report

Evaluation Author: Jocylin Albert, Roy Bronson, James Keyser

Other Sources of Information:

Questions

I. What constraint did this project attempt to relieve?

The most important constraints this project attempted to relieve are:

a) Soil erosion which is a serious problem in the project area. Erosion in Zaire is due mainly to the deforestation caused by the population's need for land on which to grow food and expand cash crop production, and

b) low nutritional quality and quantity of the food consumed by the low-income majority in Zaire.

The eastern portion of the Bukavu region, in which the research station of Mulungu is located, is an area of above-average population densities for Zaire. One of the staples in the local diet is beans, the principal crop with which the project is concerned. Due to increasing population pressures, demands are being felt for higher yields and production. Also, due to the population pressure on the land, erosion problems are becoming serious. The local government is seriously concerned with these problems, and the project may be able to respond to that concern.

II. What technology did the project promote to relieve this constraint?

To solve or relieve the above-mentioned problems, the project planners intend to promote the following technologies:

(a) modern techniques for land classification;

(b) introduction of advance soil testing techniques;

II. Continued

(c) development of high yielding legume varieties;

(d) advanced knowledge to improve the research and training capabilities of local research institutions as well as to develop some simple extension methods that can work in the project.

Therefore, increasing pressure is being applied to speed up research, to distribute more legume seeds in the area, and to look at what might be done to increase other food crop production.

III. What technology did the project attempt to replace?

The project attempted to replace an indigenous agricultural system based on primitive techniques which do not take into consideration erosion control or any other advanced cultural practices. The natives (Shi) were grouped into chiefdoms and practiced shifting cultivation using steeper slopes and marshes for pasture. As population density grew, pasture gave way to cropping. As this use of heretofore marginal land increased so did erosion. Moreover pressure on arable land and continued parcelling left open the dangers of famine in the case of unfavorable fluctuations of rainfall or crop failure.

Also, the project proposed to replace the old Belgian agricultural extension system which mixes agricultural promotion services with tax collection and other administrative duties.

IV. Why did project planners believe that intended beneficiaries would adopt the proposed technology?

In regard to the ultimate beneficiaries (small farmers) the evaluation report does not provide much information in answer to this question. Planners expect that intended beneficiaries would perceive the project's benefits of providing new high yielding varieties and better extension services.

The evaluation report, however, does indicate that the direct beneficiaries of this project will be the people who will receive training during the project's life and all of them are committed to adopt and promote the new acquired technology (knowledge).

V. What characteristics did the intended beneficiaries exhibit that had relevance to their adopting the proposed technology?

The evaluation report does not provide any specific information regarding the social cultural and economic characteristics of the ultimate beneficiaries. Only that they are very low income farmers residing in erosion affected rural areas of Zaire. Neither are the characteristics of the 35 direct beneficiaries of the project described in the evaluation report. It is assumed that those receiving training to a Master of Science level or getting high technical on-the-job training are college graduates.

V. Continued

The evaluation report shows some results from a recent survey conducted by a German contractor. Their sample showed that 32 percent of the farmers disposed of less than 0.4 hectares, 48 percent disposed of 0.4 to 1.0 hectares, 20 percent of more than 1 hectare. It is likely that the ownership of animals follows this pattern. They conclude that the 32 percent of farming families living on less than 0.4 hectares, the group most vulnerable to malnutrition, are beyond help. No extension program can be of benefit to a farmer who lacks the means to profit from it.

VI. What adoption rate has this project achieved in transferring the proposed technology?

The evaluation report indicates that the seed multiplication activity in 1981 will provide some 8,000 farmers with improved corn seed, 1,000 with improved bean seed, and 1,400 farmers with improved soybean seed. However, the report failed to indicate the percentage of intended beneficiaries who had adopted the new techniques or planted high-yielding varieties promoted by the project. Moreover, the report does not define adoption rate or provide data to calculate it.

VII. Has the project set forces into motion that will induce further exploration of the constraint and improvements to the technical package proposed to overcome it?

The report does not provide meaningful information on this question.

The report explains that previously the Belgian system for introducing crop improvements, better practices, terrace and road maintenance was backed by legal sanctions. In the present political climate of Zaire these means are not to be applied in the same way, so an effective program will have to rely on enlightened self interest and a highly professional extension service. The contractor sociologist's attempts to generate community interest and activity have been in theory warrented under these circumstances. Moreover, given the general inertia of the project his work stands out, but strictly speaking it was not carefully planned and premature. On the other hand, the contractor's sociologist activities may yet be of some value, depending upon the future directive of the project. At the time of the evaluation he had made contact with all of the various development groups in the area. Many of these were privately funded and were attempting to organize local, autonomous community development projects. Continued observation of their efforts will be instructive.

VIII. Do private input suppliers have an incentive to examine the constraints addressed by the project and to come up with solutions?

The report did not indicate that private input suppliers have an incentive to examine the constraints addressed by the project and to explore their solutions.

IX. What delivery system did the project employ to transfer technology to intended beneficiaries?

The project supports a research facility to supply innovations based on improved local farming practices directed to meet farmer needs.

A central feature of the Project is the involvement of farmers from surrounding villages in a participatory model of agricultural research. As applied to production and the development of improved production "package," this means that the farmer must be an early evaluator of the practicability of the introduced technology and participate from the beginning in the testing of introduced inputs, technologies, methods, systems or complete production package. In this participatory role, the farmer provides judgments useful and essential to the orientation of research and to its further improvement.

At the same time, the direct contact of the extension agent or adaptive researcher with the farmer through on-farm test provides a pipeline through which current farmers reactions can be used to avoid waste of costly effort on inappropriate technologies. When effectively implemented, the relationship forms a closed loop through which the farmer feedback works to the benefit of not only the farmer but the researcher as well.

The evaluation reports the poor planning and logistical problems encountered by the contractor (MASI) in implementing the project. The staff arrived before housing was ready for them. Equipment did not arrive, or, in at least one instance, the wrong equipment arrived with the result that the soils laboratory was still not in operation 18 months after the start.

X. What training techniques did the project use to develop the delivery system?

The project had a strong training component. INERA was to supply 11 counterparts in various agricultural related disciplines who would work with the research team and who would receive graduate training in the United States.

These include three soil scientists, two agronomists, four land classifiers, one plant pathologist, and one entomologist, who will receive training to the Master of Science level. In addition, 24 more counterparts will receive on-the-job training in soil survey, rural technology, and extension methods including data collection and the basic aspects of food legumes production.

Also separate activities for women have been organized under the sponsorship of foyers sociaux (social circles). The idea of the foyer dates back to the Belgian missionaries sewing circles where women learned the European domestic arts of sewing, cooking and homemaking.

Using the commonly known idea and name of foyers, the extension team tried to reorganize the women, keeping the name and hence a certain set of expectations, but changing the curriculum to concentrate on nutrition and health. The organization model is similar to the "modern farmer" or training of trainers approach used in agricultural extension. Each village group selects

X. Continued

two or sometimes three women to attend lectures given at the INERA headquarters. These women will in turn communicate the information and skills to the women in their own villages.

XI. What effect did the transferred technology have upon those impacted by it?

The evaluation team judged that the major objectives of the project namely increase the level, availability, and the nutritional quality of food production for the low-income majority in Zaire were not being met, and that it was unlikely that all of them would be met by project completion date in 1983.

The project will develop certain critical tools that can help achieve the objectives. But these tools must be augmented by incentive farm prices, improved agricultural extension activities, amelioration of marketing constraints, and other factors outside the scope of the project.

The comparison between the modern farmer experimental plots and the land cultivated in the traditional manner are inconclusive. Only where corn was planted in rows was the increase in productivity said to be noticeable. Soy and dry beans seem to yield similarly whether planted in rows or planted traditionally.

To fully realize the benefits of project research efforts, a more effective extension service and information dissemination system must be developed. This may be a large order in view of the state of the Department of Agriculture present system. Nevertheless, it should be borne in mind that research and extension should go hand in hand if the potential value of the research is to be realized.