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REPORT ON THE
MIDTERM EVALUATION
OF THE
TANZANIA SCHOOL HEALTH PROJECT
PROJECT NO. 621-0150
USAID CONTRACT NO. AID/afr-C-1648

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EXECUTIVE SUMMARY

The Tanzania School Health Project (No. 621-0150) began in September 1980 and is due to conclude on September 30, 1983. Its purpose is to initiate a comprehensive school health program with emphasis on six major components: (1) Health education instruction at the primary school and teachers' training college levels; (2) health services-health screening, simple diagnosis and treatment, first aid treatment, basic self-care, and CHILD-to-child methods; (3) nutrition-improved output from school farms, crop storage, and use for school feeding programs; (4) environmental health-school latrine and water supply construction; (5) institution of a student health record system; and (6) training of personnel in health, education, and management skills. The final result of this pilot project is to be a five-year development plan for extending comprehensive school health services throughout Tanzania.

The executing agencies are the Ministries of Health and National Education; technical assistance and project management is provided by John Snow Public Health Group, Inc. (JSI).

This midterm evaluation was undertaken in August 1982 and entailed four weeks of documentation review, interviews, and travel to project activity sites in Dodoma and Singida Regions. The pilot phase covers 80 schools with 30,000 students in these two regions.

The project has experienced considerable delays in implementation due to contractual difficulties over reimbursement to JSI for construction activities, unavailability of transport, a cholera epidemic that diverted the energies of the project field coordinators for several months, and difficulties with procuring construction materials. It was not possible because of limited field activity to evaluate many of the expected project impacts. The evaluation team was able to observe community acceptance of program objectives and active community participation on a self-reliance basis, particularly in construction activities. Primary school teachers and district health officers who carry the principal responsibilities for delivering the program were observed to be motivated and eager to participate.

A task the project faces is the definition of roles and responsibilities of Ministry of National Education officials at the central, regional, and district levels. Their importance to the progress of the project had been underestimated in initial project planning. Major recommendations made by the evaluation team include the extension of project life until September 1985, subject to availability of funds; the addition of technical assistance personnel to aid with the preparation of educational materials and project management; the expansion of the management training

component to include Ministry of National Education personnel; the urgent need for a training work plan and increased assumption of local training costs by the Tanzanian Government; and the development of detailed work plans and budgets by JSI to assist program component planning and analysis. The evaluation team considers project objectives and assumptions to be valid and all EOPS conditions to be achievable by September 1985.

ABBREVIATIONS

| | |
|-------|--|
| CCM | Chama Cha Mapinduzi - the national political party |
| CSHP | Comprehensive School Health Project (80 test schools) |
| DDD | District Development Director |
| DEO | District Education Offices |
| DMO | District Medical Officer |
| DSHO | District School Health Officer |
| DSM | Dar-es-Salaam, present center of government |
| JSI | John Snow Public Health Group, Incorporated, headquartered in Boston, Massachusetts |
| MCH | Maternal and Child Health Program, Ministry of Health |
| MOH | Ministry of Health |
| MONE | Ministry of National Education |
| MOWME | Ministry of Water, Minerals and Energy |
| RC | Regional Commissioner |
| RDD | Regional Development Director |
| REO | Regional Education Officer |
| RHO | Regional Health Officer |
| RSHO | Regional School Health Officer |
| RMO | Regional Medical Officer |
| SHC | School Health Coordinator |
| TSHP | Tanzania School Health Program |
| USAID | United States Agency for International Development |

I. INTRODUCTION

I. INTRODUCTION

This document presents the findings and recommendations resulting from the midterm evaluation of the Tanzania School Health Project (USAID Project No. 621-0150).

The Tanzanian School Health Project provides three years of assistance by the United States Agency for International Development (USAID) to the Tanzanian Government for the implementation of a pilot project to test the means of delivery of a spectrum of school health services, including health education, health screening, firstaid treatment, student health recordkeeping, technical aid for school farm and husbandry production, a school feeding program, and improved school sanitation and water supply.

The project is implemented for USAID through a contract with the John Snow Public Health Group, Inc. (JSI) of Boston, Mass. in cooperation with the Tanzanian Ministries of Health and National Education. Project funds support two long-term JSI technical advisors, short-term consultants, various training programs, the purchase of selected commodities, and management of the project by JSI.

The Evaluation was carried out by a team of 13 people, including short-term outside consultants, officials of the Government of the United Republic of Tanzania, and representatives for JSI and USAID, Tanzania. The evaluation was conducted between August 3-27, 1982, 22 months after the arrival of JSI technical assistance personnel in Tanzania. The JSI contract ends on July 31, 1983, but expenditures are permitted until September 30, 1983. Tables 1 and 2 summarize project dates and funds.

Table 1. Project Contractual Dates

| | |
|--|--------------------|
| Project agreement signed: USAID/Tanzanian Government | August 16, 1979 |
| Contract signed: USAID/John Snow, Inc. (JSI) | August 1, 1980 |
| Implementation began (date of arrival of JSI technical assistance personnel) | October 1, 1980 |
| Contract amendment signed: USAID/JSI | August 1981 |
| Contract amendment signed: USAID/JSI | May 1982 |
| Midterm evaluation dates | August 3-27, 1982 |
| Contract completion date: USAID/JSI | July 31, 1983 |
| Project assistance completion date: USAID/Tanzanian Government | September 30, 1983 |

Table 2. Project Funds

| | | <u>Dollars</u> |
|--|------------------|----------------|
| USAID/JSI technical assistance contract | 8/1/80 - 7/31/83 | \$4,018,176 |
| Contingency funds | 8/1/80 - 9/30/83 | \$1,725,824 |
| Total appropriated project funds | 8/1/80 - 9/30/83 | \$5,744,000 |

II. BACKGROUND

II. BACKGROUND

The Tanzania School Health Project

In 1977, USAID/Tanzania was asked by the Ministry of Health on behalf of the Tanzanian Government to collaborate in the development of a national school health program as a way of extending the health system to the population of school-age children. In most areas of rural Tanzania, the formal health services system was not serving this population. The ongoing Maternal Child Health (MCH) program was establishing a system of MCH clinics in the existing rural health facilities by training MCH aides and organizing a national MCH structure. It was noted that when children began school they were no longer followed by the MCH Program. Promoting better health in the primary schools was envisioned as an appropriate goal to increase the potential for academic learning as well as the ability to engage in productive self-reliance activities at this level.

A design team was constituted to prepare a project proposal agreeable to the Government of Tanzania for presentation to USAID/ Washington for funding. In January-February 1979, a team composed of representatives from a contractor in the United States, USAID/Tanzania, and the Tanzanian Ministries of Health and National Education met in Dar-es-Salaam and traveled to other areas of Tanzania in an effort to develop a comprehensive school health program that would lead to both health and environmental improvements in the primary schools. USAID indicated its interest in supporting a three-year pilot phase, which would be undertaken in the Central Zone of Tanzania, comprising Dodoma and Singida Regions. At that time these regions were among the poorest in Tanzania, and USAID/Tanzania was committed to addressing the needs of the poorest areas. In addition, with Dodoma being chosen as the site of the new capital, it was thought to be the appropriate place from which to begin a new national program.

The completed project paper, which evolved from the work of the design team and further work with the Ministry of Health and USAID/Tanzania, was presented to USAID/Washington in May 1979. This document proposed an integrated health program for the primary schools, to be implemented by the Ministry of Health and carried out by existing health and educational personnel, who, with additional training, were expected to take on additional responsibilities for school health. It was finally agreed that, due to the technical nature of most aspects of the project, the Ministry of Health would act as the implementing agency.

Development of the USAID/JSI Contract

The project was authorized by USAID/Washington in June 1979 with an approved life of project (LOP) funding level of \$5,744,000. The project agreement, under the procurement section, stated that USAID would utilize grant funds under the project to contract with a U.S. firm or institution. Following AID procedures in this regard, a project implementation order for technical services (PIO/T) was prepared by USAID/Tanzania in conjunction with the Ministry of Health and submitted to USAID/Washington in November 1979. The PIO/T (No. 621-0151-0-90157) instructed USAID/Washington to seek proposals, negotiate, and execute a contract to implement the project in Tanzania. The contractor was to be responsible for "all aspects of project implementation (including participant training, procurement and construction components) except for ordering vehicles and spare parts, which will be done by USAID/Tanzania."

Normal USAID procedures allowed USAID/Washington to proceed with the identification and selection of a contractor, with input from USAID/Tanzania and the Ministry of Health (MOH), once the PIO/T was issued. Drafting, negotiating, and signing of the final contract were to be carried out by the Contracts Office in Washington, D.C. Representatives from USAID/Tanzania and the Ministry of Health traveled to the United States in March 1980 to participate in final contractor selection. Negotiations with the firm with the highest rated technical proposal were begun, and USAID/Tanzania was notified on August 6, 1980, that a contract for project implementation had been awarded to the John Snow Public Health Group, Inc. (JSI), effective August 1, 1980 to July 31, 1983.

Contractual Problems and Project Delays

The two long-term technicians proposed by the contractor were approved by the Ministry of Health and USAID/Tanzania, and Dr. Ian Berger and Richard Pollard arrived in Tanzania in October 1980 to take up their duties with the project.

Upon arrival in Tanzania the technicians were confronted with two problems: lack of project transportation and insufficient authority under the contract to carry out any procurement or construction activities.

Lack of Transportation

Ten Landrovers were to be purchased by the USAID/Tanzania Mission for support of activities in the eight test districts. These vehicles were ordered following the signing of the project agreement in 1979 and

arrived in May 1980. Good planning called for the vehicles to arrive prior to the arrival of the long-term technicians so that activities requiring transport could begin immediately. Unfortunately, by the time the technicians arrived in October 1980, thieves had broken into the vehicles and a number of essential parts were stolen, most notably, the alternators. These parts were in very short supply in Tanzania, and the project experienced long delays in getting all the vehicles on the road. It was not until June 1981 that the stolen parts were replaced and September 1981 when all vehicles were operating in the project as planned. The delays in repairing the vehicles considerably hampered project progress in such areas, as school selection, initial site visits, and baseline surveys. Due to the substantial logistics problems encountered, one additional Landrover for the Tanzanian Program director, one small vehicle for the JSI office in DSM, and four motorcycles for use in DSM and the urban areas of Singida and Dodoma were additionally approved by USAID.

Insufficient Contract Authority

When the two JSI long-term technicians arrived in Tanzania, neither the Ministry of Health nor the USAID/Tanzania Mission had seen a copy of the USAID/JSI contract, which had inadvertently omitted all procurement and construction activities from the scope of work of the contractor and, thus, also from the budget. The contract was signed in the amount of \$1,801,634. Site assessments, surveys, and a construction schedule at the schools for the water and sanitation components were authorized, but materials procurement and implementation of construction plans could not be undertaken through the existing contract mechanism.

Following discussions in Tanzania with JSI representatives, a decision was made to continue, with JSI being responsible for all aspects of project implementation, including financing of all construction inputs. A PIO/T amendment was issued, instructing USAID/Washington to renegotiate the contract to allow for procurement and construction activities by JSI. This document was carried to Washington in February 1981 by a USAID/Tanzania staff member, and its implications were discussed there with the Contracts Office. In May 1981, approval was received by the Noncompetitive Review Board, and JSI was asked to submit cost proposals for an increase in the contract. Delays were created by an attempt to verify detailed plans and cost estimates as part of the negotiation process, resulting in the revised contract being signed in August 1981. This was one full year after the original contract had been effected. The revised contract sum was \$4,018,176.

Another problem with financing and money flow further impeded progress. Procurement in Tanzania had to be arranged on a cash basis. Since financing under the contract was arranged through the cost reimbursement method, JSI was expected to advance its own funds in support of project activities and to be later reimbursed by USAID upon

presentation of monthly vouchers. JSI had to borrow money through ordinary commercial channels in the United States to advance support of project activities in Tanzania. With interest rates rising rapidly, JSI was reluctant to advance too much money to the field without receiving reimbursement. Payments made for interest charges incurred while financing implementation are not allowable expenses for reimbursement under USAID contracts. Further contract negotiations resulted in an increase in the fee payable under the contract to compensate for the financing charges JSI would incur. This amendment, signed in May 1982, coupled with a more efficient voucher approval process appears to have solved the cash flow problem. However, the contractual problems result in a delay of more than one year in the implementation of the proposed 1980 JSI work plan.

External Factors

External factors that affected the progress of the project include:

Materials Availability

Economic conditions in Tanzania made the location and purchase of material inputs for the project a difficult and very time-consuming task. There is a strong and effective government policy to reduce imports of any kind. A decision was made by the project to purchase materials locally to bolster local industry, which is sometimes hampered by fuel shortages and inoperable machinery due to unavailability of spare parts. The Government has a policy of uniform distribution of available items on a regional basis not necessarily related to actual demand in each region. Availability of items changes on a daily basis and purchase is on a first-come, first-served, cash-only basis. These conditions made the orderly planning of materials procurement a difficult task.

Cholera Outbreak in Dodoma and Singida Regions

A serious outbreak of cholera in the two regions during the last quarter of 1981 and the first quarter of 1982 required the school health officers to give priority to working with the campaign mounted to combat the outbreak. The date of return to project activities depended on the abatement success in each district.

Evaluation Methodology

The evaluation was a midterm assessment of the Tanzanian School Health Project. The evaluation examined the progress to date of the TSHP in achieving its objectives, assessed the adequacy of the project's time frame in relation to the achievement of its objectives, and made recommendations for changes in identified problem areas.

The 1979 project paper called for a formal evaluation at the end of the first year of the project, at the 20th month, and at the 30th month. The first two evaluations were in fact postponed due to the delays.

The evaluation was conducted between August 3-27, 1982. The two outside consultants spent 25 days in Tanzania; 10 days were spent visiting project schools. Appendix I lists the persons contacted during the evaluation; and Appendix II, the schools visited by the evaluation team. The team members were, in alphabetical order:

Dr. Ian Berger, John Snow, Inc., Dar-es-Salaam
Paul Ehmer, USAID Mission, Dar-es-Salaam
Dr. Jacques Faigenblum, outside consultant, Chairman
Susan Klein, John Snow, Inc., Boston, MA
R. M. Kukula, Regional School Health Officer, Singida
Region
V. M. B. Kyara, Ministry of National Education,
Dar-es-Salaam
Jackson Mwaga, Regional Education Officer, Dodoma Region
Sophie Ngahyoma, Ministry of Health, Dar-es-Salaam
Richard Pollard, John Snow, Inc., Dodoma
Hildegard Rugemalira, Ministry of Health, Dar-es-Salaam
E. N. Sangalala, Ministry of Health, Dar-es-Salaam
Dr. J. A. Tesha, Regional Medical Officer, Dodoma Region,
Co-Chairman
Dr. Marilyn Tonon, outside consultant

The evaluation team based its findings on:

- o A thorough examination of project reports, documents, and records.
- o Observations made at a purposive sample of 25 schools in Dodoma and Singida Regions (see Appendix II).
- o Discussions held with school health officers, head teachers, school health coordinators, primary school teachers, and village School Health Committee members.

- o Discussions in the field with regional and district medical, educational, health, agricultural, and development officials as well as Zonal and District Health Committee members.
- o A meeting with the Curriculum Development and MOH Project Advisory Committees in Dar-es-Salaam.
- o Briefings, interviews, and meetings at USAID/Washington, USAID/Tanzania, Ministry of Health and Ministry of National Education, Dar-es-Salaam.

This report of findings is a joint effort by all members of the evaluation team. After a review of project documents and initial briefings, the team traveled throughout Dodoma and Singida Regions in small groups visiting different project sites. Upon return to Dar-es-Salaam, working committees were formed to review relevant data and to develop conclusions and recommendations, which were presented for discussion and approval by the entire team. The process was useful in encouraging communication, fostering better working relationships, and clarifying the responsibilities and limitations of the principals involved.

III. PROJECT INPUTS

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Project Management Inputs

Organizational Structure

Definition of Roles and Responsibilities. A lack of clarity exists for the roles and responsibilities of central office staff, expatriate technical advisers, and regional and district medical and education officers. The evaluation team observed strained working relationships, which were particularly acute at the central office and regional levels. To some extent these strains resulted from misinformation and misunderstandings caused by the change in roles of the JSI technicians, who were initially defined to be solely technical advisers but who functioned as administrators due to the complete responsibility that the contract gave JSI for project expenditures.

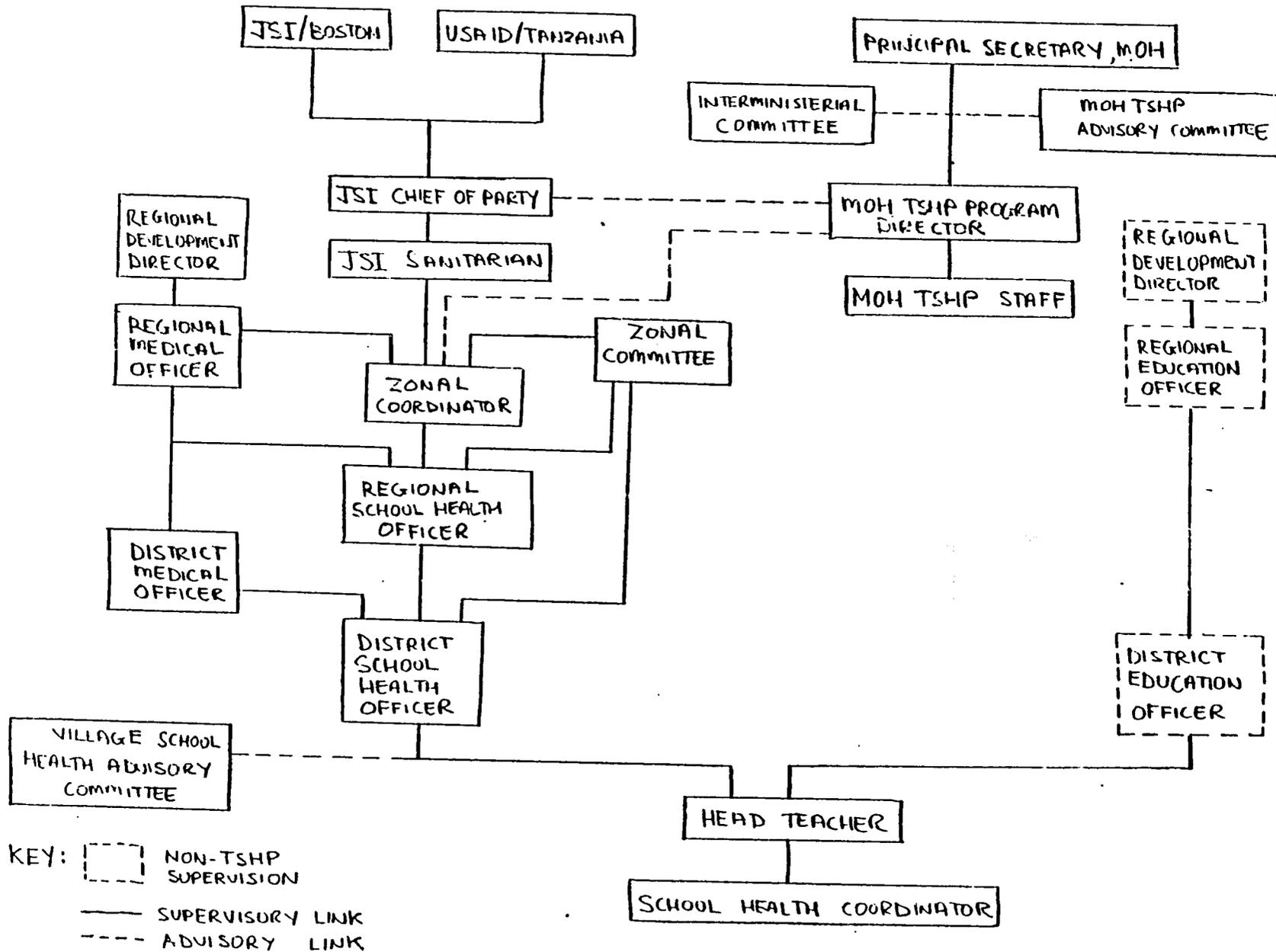
Figure 1 shows the TSHP organizational structure as drawn by the Evaluation team chairman. The project is implemented in the 80 CSHP schools by 160 teachers with the assistance and supervision of eight district school health officers. The DSHOs are responsible for the coordination of inputs into the various project components. The DSHOs are supervised by a number of people, including district medical officers, two regional health officers, and the JSI Sanitarian Zonal Committee.

The Zonal Committee is considered to be the most effective coordinating, planning, and supervisory body in the project. Its role and responsibilities were defined by the minutes of the meetings and by the makeup of the group attending the bimonthly sessions, which alternate in location between Dodoma and Singida. The consistent members are the DSHOs, RSHO's, JSI, and MOH central staff; other frequent attendees include the DMOs, RMOs, and regional education officers.

The links shown in figure 1 for the MOH program director may be controversial, but that role has never been clarified in the area of authority over central office ministry staff, JSI personnel, TSHP field, staff and in the area of financial and managerial decision-making.

The dotted lines shown in figure 1 for the educational officials reflect vagueness about their position in the TSHP. Previous organizational charts have not shown direct roles for the educational officers and the Ministry of National Education in the TSHP. Yet the ministry and its officers have legal responsibility

FIGURE 1: TSHP Organization Chart



for overseeing and controlling all activities and matters affecting schools, and it is difficult to envisage a national TSHP functioning without the direct participation of the MONE. Over the past few months, steps have been taken to invite ministry officers to regional and zonal meetings, but project roles and responsibilities have not been defined. An important relationship could be that between the district education and school health officers; there is potential for mutual aid in implementation, monitoring, and supervision of teacher activities.

A further problem is that the TSHP structure and operating procedures have often been in conflict with those of established Government programs. Since the staff used by the TSHP are formal members of those established programs, some TSHP operation procedures--use of vehicles, disbursement of cash for materials, procurement, expenditure reporting format--have led occasionally to bad feelings on the part of senior officials or to confusion as to how to treat the project. Officials sense they have some measure of responsibility for the project but are not certain as to their authority or control over it. This confusion applies to regional and district medical officers as well as their education counterparts.

Absence of the MOH program director. The MOH program director's absence had had a significant effect on the project's ability to provide continuity and maintain progress in meeting its objectives. The administrative vacuum created by his absence can only be partially filled by the JSI project director. It is suggested that the principal secretary of the MOH assign someone temporarily to that position during Dr. Ngaliwa's absence.

Communications. Failure to define mutually acceptable roles and lack of communication led to problems in working relationships and to unnecessary delays in resolving issues. A lack of direct communication was obvious at the central office level between the MOH program director, the JSI chief of party, and the USAID project monitors. Any two of these parties had meetings, but not all three at the same time. Without all three sharing information, misunderstandings persisted on such issues as project funding, expenditures, housing, per diem payments, and others. The suggestion was made that in the future all three parties should meet regularly to discuss pertinent concerns.

It is important that project management receive prompt reporting of activities and needs in the field. The DSHOs are supposed to present monthly reports on vehicle costs; completed, current, and planned activities; and materials used and needed. These reports are passed to the central office. Delays of up to three months cause difficulties for the central office in assembling statistical analyses and summary progress data. It is suggested

that some form of disciplinary action be taken against DSHOs who are late in reporting, such as withholding further project disbursements.

The JSI Sanitarian/Zonal committee coordinator stated that his reports to the central office are verbal. The central office needs to consider whether written reports available for project documentation would improve project management control.

Government Reporting Requirements. JSI has fully adhered to the contractual requirements for financial reporting stipulated by USAID. However, dissatisfaction with this system of reporting has been expressed by the regional and central government officials involved with the project. They are under pressure to make reports according to a standard government format that differs greatly from the USAID format. Even though this is a pilot project, they understand themselves to be accountable for it to their superiors in the same manner as for other programs under their responsibility.

MOH Planning Unit staff complained that requested quarterly expenditure reports were not reaching them. JSI in turn expressed dissatisfaction with the lack of a specifically designated person within the Planning Unit to whom information should go and maintained that some reports were sent but apparently lost. Use of the official dispatch book system and designation of a Planning Unit TSHP specialist would resolve these problems.

Government officials expressed dissatisfaction with the JSI mode of reporting project inventory. They felt that government procedures should be followed. This issue would be resolved if all durable items purchased by the project were marked with a unique identification number and if copies of the JSI inventories were sent to regional medical and education officials.

Zonal Level Management. JSI field headquarters are at present located at the JSI technician's residence in Dodoma. There is inadequate security for the materials and supplies being warehoused there and inadequate space for maintaining a needed filing system.

The departure of the Tanzanian zonal coordinator for training puts a burden on the JSI counterpart at a time when the purchase and delivery of materials and supplies for construction require most of the effort at the zonal level. There is limited monitoring of individual DSHO accounts at the zonal level, and accurate information on the relationship between disbursements made to DSHOs and expenditures by them is not currently available. These issues would be resolved by a temporary replacement for the Tanzanian zonal coordinator and the establishment of a project zonal office with adequate filing space and security and the hiring of a local secretary/bookkeeper. Expenditure receipts submitted by DSHOs are passed on to DSM headquarters.

Central Office Procurement. Procurement of materials and supplies requires much more time and effort than initially envisaged. The Tanzanian accountant hired by JSI devotes most of his time to procurement, with resulting detrimental effects on accounting output. This problem would be resolved by the addition to staff of a procurements officer, either from government service or from the private sector.

Programmatic/Component Budgeting. One of the difficulties encountered during team discussions of the project was the lack of readily available budgeting information for exploring the effect of budget trade-offs between project components. When increased expenditures are considered for one part of a fixed budget project, the implication is that compensating reductions will have to be made elsewhere. There were discussions about increased expenditures for the water supply, health services delivery training, and the health kit components.

The present budget format, specified by USAID, requires all expenditures to be placed into one of nine categories: Salaries; consultants; overhead; travel and transportation; allowances; other direct costs; equipment, vehicles, materials and supplies; and participant training and fees. There is no breakdown of costs by project component or project output. Project management, control, and decision-making has been hampered by the lack of budgeting on a component basis.

Project Planning. The project work plan is in urgent need of revision in terms of the specific action steps needed to achieve goals and objectives as well as the estimated dates for completion. Project monitoring by USAID has been hampered and the Project evaluation frustrated by the lack of project documentation detailing the activities, resources, and funds needed for achieving project output targets. Areas in particular need of attention include water supplies, handbook testing, teacher training in handbook use and health services delivery, school farm and feeding program development, student health record system, and project evaluation data systems development.

Materials and Supplies Inputs

Procurement is presently a significant limiting factor impeding project progress. The lots sold by the Government Regional Trading Center or other parastatal organizations are inadequate and, at times, items needed for the project are available only through unofficial sources, where prices range from 100 to 300 percent of

official prices. presently, procurement of materials occurs at all levels. District, regional, zonal, and DSM headquarters personnel are all making an effort to purchase materials and equipment. To reduce redundant procurement and better monitor materials flow, procurement should be emphasized at the zonal and headquarter levels and deemphasized at the regional and district levels.

Transportation Inputs

Vehicle Distribution and Use

Presently, eight Landrover pickups, three Landrover station-wagons, three Yamaha 125cc motorcycles, and one Ford Escort station-wagon are in use by the project. The eight pickups are assigned to the eight districts in the Central Zone and are the responsibility of the DSHOs. One Landrover stationwagon is distributed to each of the JSI technicians and to the MOH program director. The Ford Escort and one motorcycle are assigned to the DSM office. The other two motorcycles are located in Dodoma and Singida towns where they are used predominantly by the regional school health officers (RSHOs).

Except for the vehicle assigned to the MOH program director, all project vehicles are driven by the persons to whom they are assigned, as specified in the 1979 project paper. In order to comply with government regulations concerning the use of government/project vehicles, all DSHOs have obtained permits from their respective RDDs, which allow them to drive the project vehicles without use of a government driver.

The assignment of the vehicles presently available is considered adequate. However, transportation continues to be a restrictive factor in Singida Region, where the RSHO, who is assigned a motor-cycle, is regularly faced with a lack of suitable transport- ation for traveling to the rural districts to supervise and monitor the activities of his eight DSHOs.

Vehicle use is monitored through the use of standard government vehicle logbooks submitted with monthly reports from the district to the DSM and Central Zone offices. All vehicles are maintained at private garages and not by the DSHOs themselves, as originally planned. This idea was found to be impractical. Maintenance of the vehicles is impaired by the severe scarcity and expense of spare parts. The vehicle use and maintenance system is considered generally adequate.

Project Housing Inputs

Present Situation

The contract called for the construction of two houses in Dodoma to be used by the two JSI technicians during the life of the project. At the end of the project, USAID/Tanzania was to have use of the houses for other health projects. At such time that USAID/Tanzania no longer wished to use the houses, they were to become the sole property of the Ministry of Health.

The houses were to have been completed by 1981, but at the time of evaluation the decision as to an acceptable design for the houses had not yet been made by the MOH.

The delay has been caused by disagreements between USAID and the MOH over suitability of plots, house designs, and disposition of the houses after the project; difficulties between MOH and Dodoma housing officials over acceptability of architectural designs; and disagreements and misunderstandings between the MOH program director and JSI technicians over plot location, housing design, and housing costs. In the main, these difficulties were exacerbated by a lack of communication between the principal parties involved.

As the situation stands now, USAID has sent a memorandum to the principal secretary of the MOH in which USAID has proposed that one house be used by the MOH for the project or at its discretion and that the other be used by USAID on this or other health projects until it, too, is handed over to the MOH.

Technical Services Inputs

Long-Term Consultants

JSI maintains two long-term advisers in Tanzania on the project--Dr. Ian Berger, chief of party and project director, and Richard Pollard, zonal coordinator and sanitation and agricultural specialist. Necessity has demanded that more of their efforts be devoted to management, coordination, and materials procurement than envisaged at the start of the project. JSI has not provided the long-term technical assistance in health education specified in the contract.

Short-Term Consultants

JSI, in their 1980 work plan, had suggested a group of 16 people who might be valuable as short-term consultants in the project. In a 1981 protocol developed by USAID/Tanzania, a request for an outside consultant has to be made by the MOH program director after it has been ascertained that no consultant is available in Tanzania. The MOH program director specifies the scope of work and the time needed for the outside consultant.

Five short-term consultants have contributed to the project: Drs. Hirschhorn, Willett, and Ericsson, Ms. Klein and Mr. Robertson. All but one of these consultants were considered to be satisfactory by the program director. Effectiveness of some of the consultants was impeded by the shortness of their stays in Tanzania, and it is suggested that consultants stay for not less than three weeks.

Technical Inputs from Other Ministries and Agencies

The following inputs from other agencies have been important for project progress and institutionalization:

Ministry of Water, Minerals and Energy (MOWME). The Ministry of Water, Minerals and Energy, through its regional and district offices, developed water supply improvement recommendations for all the project schools in Singida Region. A similar survey is underway in Dodoma Region. In return, the TSHP has assisted MOWME by providing transport for the surveys.

Ministry of Agriculture (MOA). MOA participation has been most consistent and active at the district level. A MOA representative is also assisting with the writing of the agriculture section of the teachers' handbook.

Ministry of Natural Resources (MONR). The district departments of the Ministry of Natural Resources have supplied some DSHOs with fruit and shade tree seedlings as well as information on their care, for distribution to project schools, in support of the school farm development component.

Ministry of Lands, Housing and Urban Development Ardhi, Institute. During August and September 1982, two nonproject health officers assigned to the Ardhi Institute will be in consultation

with the TSHP to assist with latrine slab and foundation construction. All DSHOs attended a two-week short course at the Ardhi Institute, which dealt with VIP latrine construction and promotion and health education techniques.

Arusha Appropriate Technology Project (AATP). AAPT was employed to conduct a training workshop for DSHOs which covered community organization methodologies, handpump maintenance, and ferrocement water tank construction.

Morogoro Wells Construction Project (MWCP). All handpumps used on protected shallow wells at the TSHP schools are purchased from the MWCP.

Tanzanian Australian Groundwater Development Project (TAGDP). Operating in Singida Region only, TAGDP agreed to supply the TSHP with limited quantities of cement, handpumps, and possibly reinforcing metal on the understanding that the TSHP will pay for or replace such materials eventually. The TAGDP acts as the implementation arm of the MOWME in the Singida Region and has constructed shallow wells at TSHP schools. TAGDP also provided a half-day training workshop for the DSHOs on Landrover maintenance and operation.

Blair Research Institute, Zimbabwe. Mr. A. Kahesa and Richard Pollard spent one week at the Blair Research Institute investigating the VIP latrine design and construction techniques used in Zimbabwe's successful rural latrine promotion program.

Catholic Relief Services (CRS). During the first year of the project, CRS was called upon for planning advice. CRS representatives attended initial training and orientation seminars and gave lectures on the methodology for community participation.

Danish International Development Agency (DANIDA). DANIDA's interest in the TSHp dates back to 1980. DANIDA was interested in promoting dental health education in Tanzania and saw the TSHP as a promising vehicle. In May and June 1981, a team of Danish dentist consultants were in Tanzania to look at specific placement opportunities for professionals, particularly in the area of dental health education materials development. DANIDA had planned to participate in the TSHP baseline medical survey to do the dental section. However, as the survey was ultimately conducted by the RMOs and their staffs, the DANIDA dentists were not directly involved.

In October 1981, two DANIDA dentists Drs. Sten Normark and Keld Jensen--began to work closely with the project. Dr. Normark

joined the teachers' handbook Planning Committee, and both he and Dr. Jensen attended the workshops for development of the Teachers' School Health Handbook. Dr. Normark and Dr. Muya of Muhumbili Medical School developed the chapter on dental hygiene, in Kiswahili, for the handbook.

Training Inputs

In-Country Training

District School Health Officers. The school health officers, as the key initiators of project activities in the districts, receive ongoing, in-country training to provide them with necessary orientation, knowledge, and skills to implement the pilot program in 10 project schools in each district.

Training has been organized in workshops and seminars held locally every two or three months. Since January 1981, some 35 days of training in 1- to 12 day workshops have been carried out. The content of the workshops addressed the objectives of the TSHP and technical aspects related to job functioning, latrine and well construction, vehicle maintenance, school farms and grain storage improvement, as well as such aspects of project implementation as medical surveys, community organization, and development of village advisory groups. The DSHOs interviewed were enthusiastic about the project and thought that the training they had received was very good. Because these components are not ready for implementation, the DSHOs have not yet received training on the Handbook, health education, health services delivery, and maintenance of the school health record system.

School Health Coordinators. The school health coordinators, as the key implementers of the project in the schools, are to receive training to provide orientation, knowledge, and skills to use the methodologies presented in the School Health Handbook, provide health services, teach self-care and CHILD-to-child techniques, and maintain a student health record system. In March 1982, two 2-day project orientation sessions were held for the 80 school health coordinators (SHCs). The orientation sessions addressed the history and organization of the TSHP, the role of the SHC in the project, the development of the School Health Handbook, and selected public health issues. TSHP staff and others from the Ministries of Health and National Education conducted the orientation sessions, which also served as vehicles for involvement of district and regional health and education officers.

Since the handbook has not been completed and the health services delivery and student health records components are not ready for implementation, no substantive training of the school health coordinators has taken place beyond orientation. The teachers have been involved in organizing and supervising latrine pit digging, brickmaking, and introducing and discussing the TSHP with village leaders. Teachers interviewed were very positive about the project and the orientation.

Head Teachers. The decision to include head teachers in the training of the SHCs was made in early 1982. Some of the considerations that led to this decision include: the leadership role of the head teachers in the school and often in the community; the greater promise of program continuity due to their lower rate of transfer compared with the other teachers; and a lighter classroom teaching load, leaving them greater opportunity for implementation of the school health program.

Two 2-day orientation sessions were held in July 1982 to introduce head teachers from the 80 project schools to their role and responsibilities in the TSHP and to provide some technical knowledge related to public health aspects of the project. Format and organizational structure were similar to the sessions provided for the school health coordinators in March. All head teachers attended.

Head teachers interviewed during evaluation team visits confirmed that the orientation sessions adequately prepared them for their roles in the project. Almost all were enthusiastic about having the project in their schools and participated fully in planning the program components to be implemented in their schools.

Teacher Training Plans. The Contract requires that one teacher in each of the 800 Central Zone schools be selected and designated as a school health coordinator. The responsibility for training rests jointly with the DSHOs and the project staff, with the DSHOs assuming more and more responsibility as training progresses. These 800 SHCs are to receive training in the use of the School Health Handbook, provision of health services, and maintenance of the student health record system. Training in all cases is to start with the teachers in the 80 CSHP schools.

The goal is that the 800 teachers will train the remaining 6,500 or so teachers in their schools. There is no evidence that the project has worked out the logistics or calculated the costs of reaching these objectives, and it is very probable that the number of teachers receiving direct training will have to be substantially reduced.

For example, present plans call for the 80 SHCs and 80 head

teachers in CSHP schools to receive six continuous weeks of training in the provision of health services and use of the Health Kit. The cost of this one-time training is estimated to be \$150,000. The budget for all in-country and out-of-country training is \$206,000.

The bulk of the training costs are the transport and per diem payments to teachers to attend the training sessions. The project agreement calls for the Tanzanian Government to pick up all such costs. However, due to lack of project planning, ministry and regional health and education officials were not informed about training costs and so did not include them in their 1982 budget requests. As a result, the MOH and MONE state that they are unable to assume the considerable expenses of the proposed training for the coming year. Training costs will have to be provided by the project alone, presumably from the contingency funds.

If the estimated costs of partial training, i.e., handbook training not included, of 160 teachers are \$150,000, the feasibility of supporting the full training of 800 teachers is questionable.

Ministry of National Education Personnel. As the project expands, REOs, DEOs, Domestic Science Coordinators and others will share responsibilities in carrying out the school health program. Appropriate in-service training opportunities should be extended to them in order to develop resources on which a national school health program will depend. In-service needs should be assessed by the (proposed) health education technician and training should be planned and carried out using district and regional resources.

Out-of-Country Training

OnGoing Training. To insure the ongoing operation of the Tanzania School Health program, advanced training of three Ministry of Health staff members in aspects of school health administration is provided for during the project period by the contract. In 1981, the contractor identified suitable educational opportunities and assisted the ministry in its review and selection of programs.

During the evaluation period, two of the three candidates selected by the Ministry of Health for training abroad departed for the United States. Dr. Simon Ngaliwa, Senior Medical Officer and Director of the Tanzanian School Health Program, will pursue a Master's Degree in School Health Administration at Tulane University's School of Public Health, and Andrew Kahesa, Regional Health Officer in Dodoma and Zonal Coordinator for the TSHP, will pursue a Master of Science in Environmental Health and Technology at East Carolina University. Training has been delayed for the third candidate, Hildegard Rugemalira, Assistant Medical Officer and a

member of the MOH TSHP staff in Dar-es-Salaam, who was to participate in a special program at the University of Massachusetts.

Adequacy of Current Scope of Candidates. From its inception, the School Health Program was organized to encourage interministerial inputs and cooperative arrangements. It is increasingly apparent that the management and implementation of the program at all levels-- national, regional, district, and local--need to be shared with professional staff in the Ministry of National Education. It is likely that this sharing of responsibilities will grow over time.

The project directly affects primary schools, the responsibility of education officers, through improved school health education in the classroom, full acceptance and use of a teachers' guide, institutionlization of improved teacher training in school health at the National Colleges of Education, and teacher involvement in the provision of health services and recordkeeping. Currently there is no specialist in school health education in the Ministry of National Education. This role is taken by the domestic science (home economics) adviser. Yet current candidates who are being trained are drawn exclusively from the Ministry of Health. The evaluation team considers the current scope of candidates for training to be too narrow.

IV. PROJECT OUTPUTS

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School Health Handbook/Teachers' Guide

Initial Objectives and Plans

The original project design called for the development of a new school health curriculum. This was to be integrated with the existing primary school domestic science curriculum. A teachers' guide to support the new school health curriculum was also to be prepared. In February 1981, it was learned that the Institute for Curriculum Development, Ministry of National Education, had just completed a new health education syllabus covering the salient aspects of the proposed school health curriculum. The project ended its work on the curriculum and concentrated its energies on the production of the Teachers' Guide to support the new curriculum.

The September 1981 JSI work plan estimated that, by May 1982, the handbook would be written, tested, revised, approved, printed, and distributed to the 80 CSHP schools. The contract calls for the distribution of the handbook to the other schools in the Central Zone and, eventually, to all the other primary schools in the country. Given the magnitude of the distribution task, this could not be accomplished until the end of the project.

Actual Progress

Workshops held late in December 1981 and June 1982 produced a 400-page rough draft in Kiswahili of the School Health handbook. At the time of the evaluation, two chapters of the handbook had been revised and were in a format suitable for pretesting in the schools. One chapter on dental hygiene, prepared by DANIDA, had been distributed to some of the project schools approximately three weeks prior to the site visits by the evaluation team. It was estimated that it would require up to two years to meet the objectives slated for achievement by May 1982.

Factors Affecting Progress

Limited availability of technical assistance. Among the full-time technical assistance personnel provided by JSI, there is

no health education specialist, as called for in the project paper. Late in 1981, JSI partially addressed this problem through the inputs of a short-term health education consultant, Susan Klein. Considerable technical inputs into the research and development of specialized chapters has been and continues to be provided by Tanzanians from other ministries who are part of the Curriculum Development Committee. However, their participation is constrained by ongoing demands and responsibilities in their parent ministries.

Limited Production Capacity. Breakdowns in office equipment, scarcity of paper, and insufficient stenographic, translation, and graphic art support contributed to the delays. Translations from Kiswahili to English are especially slow because no one person assigned to the project is fully bilingual. Only one chapter is available in English. This constrains the ability of using outside consultants to provide technical assistance unless they are fluent in technical Kiswahili.

Implementation Approach. A Health handbook Planning Committee was formed in September 1981 to provide direction for the manual preparation. This committee, made up of 10 persons from JSI, MOH, and the MONE, decided that the handbook would best be developed by means of a workshop attended by people who either had the technical expertise needed for the different chapters or who represented the users of the final product from the ministerial to the local levels. Twenty-seven people attended the first workshop held at Marangu Teachers' Training College from December 1-14, 1981. Completed at this workshop was the first 400-page, 14-chapter draft of the handbook. The final exercise on the agenda was the development of a workplan for completion of the handbook. Major tasks were identified, responsibilities assigned, and completion dates specified. Participation in the workshop was enthusiastic.

Dr. Ngaliwa, the TSHP program director, took on the principal responsibility of coordinating the revision to the draft for each chapter. The chosen implementation process for the handbook, group consensus, is a more time-consuming approach than that of having one individual writing it. Consensus management is the norm at all levels of government, and the project directors felt that if this approach were not followed, the handbook would run the risk of not being accepted for use in the schools by the MONE no matter how excellent the product. They also felt that, by setting up the committee approach, the foundation will have been laid for the continued revision and updating of the handbook after the pilot phase. The implementation approach used to produce the handbook must be monitored closely to ensure timely completion. If progress is inadequate, the use of the current approach should be reevaluated.

Quality and Acceptability of the Handbook

The evaluation team was not able to assess the quality of the existing draft, nor was it able to adequately assess teacher response to the completed portion of the handbook. Many teachers at project schools had not received the section ready for pretesting due to distribution problems.

Of those teachers who had received and reviewed the handbook chapter, most were favorably impressed. Content was particularly useful to the teachers whose preparation did not include specialized training in domestic sciences (under which health has been covered). The suggestions for applied health education projects in the classroom were well received because they were practical and could be carried out with the limited local resources available. In some cases, teachers had already incorporated these activities into their classroom routine.

Schedule for Achievement of Objectives

With additional full-time technical assistance in health education, the objective of completing the handbook and introducing it to the 80 project schools can realistically be achieved by August 1983. Six months thereafter, allowing for a sufficient operational trial, the manual would be ready for revisions. By August 1985, the manual should be introduced to all 800 primary schools in the Central Zone.

Teachers' Training College Curriculum

The project paper calls for the development of a teacher training curriculum to be used in all of the teacher training colleges in Tanzania as one of the vehicles for disseminating the School Health Program throughout the country.

Since the teacher training curriculum should be based on the handbook, it would be premature to begin any actual design work on the curriculum until the handbook is in nearfinal form. However, it is not too early to begin planning in a general way. Contact has now been made with the director of teacher training, who has been briefed about the project and is receptive to the suggested collaboration with the TSHP in developing an appropriate curriculum. As soon as a formal request is made by the MOH, he will assign a staff member to work with the project.

By September 1983, a working relationship between TSHP and the Office for Teacher Training should be firmly established. By September 1984, the detailed curriculum should be completed and distributed through the Office of Teacher Training for pilot testing at teacher training colleges. By August 1985, final revisions and adoption throughout the National Colleges of Education can be expected. The principal constraint in meeting this goal is the lack of full-time staff to develop an educational curriculum and coordinate the required inputs.

Health Services Delivery

The 1980 contract called for the implementation of health screening and firstaid treatment by some 8,000 teachers in the 800 schools of the Central Zone by the end of the project. The September 1981 JSI action plan restates this objective but does not include a specific timetable for this project component; instead, it links it to that for the handbook.

A preliminary list of illnesses to be screened, prevented, and treated by the SHC's was compiled by consensus at a December 1981 work-shop. Screening activities focus on identifying malnutrition, anemia, visual and auditory impairment, and developmental disabilities. Prevention activities focus on oral hygiene and infectious diseases. Diagnostic and treatment activities focus on firstaid treatment, diarrheal diseases, fever, malaria, and parasitic infections.

The development of protocols for the teachers were completed in draft form in March 1982. An existing curriculum used for the training of village health workers (VHW) has been modified for use with the teachers. The district medical officers, who are normally responsible for the training of VHWs, are to be responsible for training the teachers and have received copies of the revised curriculum. Training has been tentatively scheduled for the end of October 1982 to minimize interference with the teachers' other duties.

Health Kit

Objectives and Plans

The contract refers to the provision of firstaid treatment without specific reference to a Health Kit. The original plan was for a first aid box to be distributed to each of the 800 Central

Zone schools. The concept of first aid treatment was expanded to include distribution by the teacher of appropriate drugs for treating designated diseases, medical supplies and equipment, health education materials, as well as a first-aid room at the school in which medical supplies were to be kept.

The idea of constructing firstaid rooms arose spontaneously from the communities, and several have either been constructed or are in the process of being constructed. Some communities have decided to donate existing structures for use as firstaid rooms.

The objective of supplying Health kits has been reduced from 800 Central Zone schools to the 80 CSHP schools in light of the costs of the kits.

Progress

The contents of the Health Kit have been defined and the list of needed drugs and supplies sent to JSI/Boston for purchase. The drugs and firstaid supplies will not be distributed to the CSHP schools until the teachers have received the training for their proper administration and use.

Issues

The health services component will create a new community health resource in the form of trained teachers, equipped with supplies and provided with medication to treat diseases common to school age children. Being so trained and equipped, others in the community with similar ailments will almost certainly call upon them for treatment. This effect will be most pronounced in villages where there is no rural health post or dispensary. The result could bring added benefits to the community, if this eventuality is anticipated and planned for. Otherwise, it will siphon off the resources of the TSHP. Possible solutions might call for additional drugs and first aid materials to be supplied by the district medical officer to treat those who do not qualify under the School Health Program.

Student Health Record System

The contract calls for the development of a data collection format to yield data on weight, immunization status, highrisk status of self and sibling attendance record (sic), illness record, and

other items. The same format may be used to display school and community averages. The objective of the September 1981 action plan is the development of an individual student record form listing health indicators, illnesses, and absences and referrals plus the development of forms for aggregating data by grade and school. The purpose of the handbook is to explain the use of the data system to the teachers. No target date is given for the institution of the system and the target is stated to be the 800 Central Zone schools.

The school health card has been drafted and is ready for printing. No final plans for printing and distribution have been made. The project has no apparent plans detailing how the system will work at the school level or how it will be integrated into the health data collection system of the MOH.

Detailed plans specifying how the project intends to develop an individual and aggregated student health records system and introduce it into the 800 Zone schools would be helpful. Also needed are plans for the use to which this information will be put to use at the district, regional, and national levels, including training programs needed for district, regional, or national officials.

Agricultural and Nutritional Programs

Encouragement of a food and nutrition program in the 80 CSHP schools was to be accomplished through the promotion of good methods of cultivation on the school farms, selection of nutritious crops, storage of school crop output, encouragement of schools to use their farm harvests to feed the students, school meal menu planning and food preparation. The food and nutrition program was to start in October 1981 and continue for the life of the project. Two assumptions underlying these objectives are:

- o That consistent increases in yields can be brought about with such techniques as the introduction of new crops, vegetables, and fruits; improved seeds and seedlings; and improved methods of planting, fertilizing, cultivating crops, and animal husbandry.
- o That, with proper storage facilities, yields from improved farms will produce sufficient foodstuffs to support a routine school feeding program.

These assumptions are questionable when applied to the particularly harsh environment of the Central Zone. For example, should successful introduction of new agricultural technologies

occur, weather conditions such as frequent droughts would continue to produce marked inconsistencies in agricultural yields from year to year. In addition, even when the best possible conditions are anticipated, it is doubtful that a school's acreage can support a standard feeding program consisting of the provision of one nutritious meal per child per day of the entire school year for an average population of 400 pupils.

It is more appropriate to consider the school farm/feeding component as a local demonstration program. Through this demonstration, students and villagers may learn to broaden the range of foodstuffs eaten as a means of improving diet, learn improved agricultural methods, and develop mechanisms that will gradually support a complete feeding program.

School Crop Output and Storage Program

Present Objectives. The September 1981 JSI action plan specifies completion of a survey in the 80 CSHP schools to determine the needs for short- and long-term improvements; to calculate ideal farm size based on student population, nutritional needs, and environmental conditions; to establish a model plot in Dodoma for the training of DSHOs, agricultural extension agents, and teachers in intensive agriculture, composting, and water conservation techniques; to coordinate with Catholic Relief Services the supply of information and other inputs, procurement and distribution of agricultural tools to the schools. Most of this was scheduled to be done by February 1982, except for training, which was to continue until the end of the project.

Actual Progress. Progress had been achieved in each of the aforementioned activities, but it was difficult for the evaluation team to assess the real impact of the project to date on school farming. All rural and most urban schools have school farms and/or vegetable gardens. This resource is part of the self-reliance activities of the school and was not initiated by the project. Although a number of schools were reported, in the 1982 midterm report, to have had major increases in acreage and yields as a result of the project, lack of data on harvests and crops grown in previous years limited objective confirmation.

The project has brought some farm implements, seeds, and seedlings to schools and has encouraged the planting of vegetable gardens and fruit trees to supplement the grains, such as millet, sorghum, and maize, which are currently planted. The availability of water is the key factor in the success of this program. For the past two years, rainfall has been poor in both Dodoma and Singida Regions. This has significantly reduced school farm production

levels and has exacerbated the chronic food scarcity in the Central Zone. Poor rainfall and a lack of available irrigation water also led in some cases to the demise of newly introduced seedlings and vegetables.

One important criterion for this program is that it minimize the dependence of these improvements on the use of physical and chemical inputs not readily available to the community. The JSI technician in charge of the agricultural component has been active in getting information and making contacts with agencies that might aid the program, but specific techniques for improved cultivation, crop selection, and animal husbandry have not as yet been identified.

Improvements in or provision of storage facilities to insure that production increases would not be lost due to poor storage conditions are being planned by the project. At the time of evaluation, specific storage methods appropriate to the schools were still being explored.

School Feeding Program

Initial Objectives and Plans. The initial hope for this program was that each school could produce enough food to provide one meal a day to each pupil for each day of the school year. However, little consideration was given in the project paper to the complexities and expense of undertaking such a program. They involve cooking facilities, people to prepare the food, the time needed for food preparation, facilities and water for cleaning utensils, and facilities for eating the meals.

Actual Progress. The 1982 Midterm report stated that three schools had commenced school feeding programs and that a large proportion of the schools were expected to begin programs by July 1982. Only 1 of the 25 schools visited during the evaluation had begun any type of feeding program. Most indicated they were planning to begin such a program "in the near future." When further questioned as to plans for supplying enough food to feed the children, all indicated that school farm production would have to be supplemented from outside by family contributions of cash or food, or by other means.

The actual yields now being obtained and observed in schools visited was sufficient in most cases to feed the children for only a few months, or even weeks. In many cases the school farms were growing crops (e.g., millet) which are mandated by the government but which are not favored as food by the people of the area. The usual practice has been for the school to sell this produce and use

the revenue for various purposes within the school. Some schools had mechanisms for raising additional money, such as selling charcoal, wood, and clay pots made by the students, by keeping chickens for egg production, or selling items sewn by the children. However, it is unlikely that these sales could completely cover the additional costs of a long-term feeding program.

In most cases, schools indicated that they would not begin feeding until kitchen utensils and facilities for food preparation were obtained. In several schools, the village and school had already constructed a kitchen and were awaiting pots and pans to be supplied by the project. Plans for who would actually prepare the food varied--some had no plans, some indicated their girls in Standards V to VII would cook, others indicated that parents would be organized to prepare the meals.

The project had proposed the establishment of proper cooking facilities, the provision of cooking utensils, and the possibility of support for the building of dining halls. A decision was made by USAID not to support dining hall construction. There is still a need for more precise definition of how the project can support the school feeding objectives.

In general, the team felt that the concept of school feeding was well received in the communities, and enthusiasm to begin such a program was evident.

Water Supply

Initial and Current Objectives

The original 1979 project paper objectives called for providing the 80 test schools with safe water systems and providing the remaining 720 zonal schools with safe water system plans. This latter objective was eliminated in the actual contract. The current objectives stated in the 1981 JSI Action Plan call for:

1. Survey of the 80 test schools for safe water supply needs.
2. Categorization of the 80 schools as to type of improvement needed--shallow well, repair or extension of existing piped system, deep well.
3. Development of construction plans.
4. Repair or improvement of existing systems by December, 1982.

5. Building of water storage tanks by December 1982.
6. Construction of safe shallow wells or protected spring sources by December 1982.
7. Review of appropriate technology options and estimation of costs for schools without existing systems and that are unsuited for shallow wells.

All current objectives are still considered to be relevant, except for the development of construction plans for each system when standardized plans for shallow well construction can be used.

Actual Progress

All schools were surveyed by the TSHP staff and were roughly categorized as to type of water supply improvement needed. Additional professional surveys of all schools in the Singida Region were made by regional MOWME staff. Both recommended systems and estimated costs for each system. In Dodoma Region, similar surveys were completed in half of the schools and are continuing in the remainder. Two districts in this region, Kondoa and Mpwapwa, report that no construction plans have been drawn up. Repairs had been made to one existing piped system. Unfortunately, the system was not working when visited by the evaluation team.

No water storage tanks have been constructed. Four shallow wells with handpumps are completed and are operating. Initial recommendations including rough costs and materials estimates, were made for schools requiring complex systems, although feasibility studies for these systems have not been carried out.

There has been active community support of shallow well construction. In three-fourths of the completed systems, community participation was in the form of organizing and providing food and lodging for the construction personnel throughout the construction period. In most communities, scarcity of water is a major concern and the team was shocked to see the water supply conditions in some communities. When asked by the evaluation team to rank the various TSHP components, head teachers and villagers consistently considered water to be the top priority. Although unanticipated by the project paper, water systems introduced by the project are used by the whole community and not just the school.

Other factors that have facilitated progress of the water program include the cooperation of the regional MOWME departments, the Morogoro Shallow Well Project, and the Australian Water

Project. Factors impeding progress include lack of funds due to contractual funding problems; unavailability of necessary materials when needed; high cost of materials; lack of geohydrological information for the zone; road conditions affecting access to schools during the rainy season; lack of available personnel, equipment, vehicles, and fuel by the regional MOWME departments; and delays in appointment of school health officers in certain districts.

It is clear that the project will not be able to achieve its objectives by the target date specified in the 1981 action plan.

Latrine Construction

Initial and Current Objectives

The original objectives in the 1979 project paper called for the construction of new complete latrines in the 80 test schools and for the improvement of latrines in the remaining 720 schools in the Central zone. The latter objective was dropped in the actual contract. Current objectives (1981 JSI workplan) call for:

1. A survey of existing latrine facilities in the 80 schools.
2. Community preparation of latrine pit and production of bricks for pit lining, dividing walls, and superstructure.
3. Construction plans for each system.
4. Procurement and delivery of materials for pit lining and slab laying.
5. Design of latrine superstructures.
6. Procurement and delivery of materials.
7. Completion of latrine construction in all 80 schools.

All current objectives are considered to be relevant. Changes involve the use of one standard latrine construction plan for all schools, the provision of roofing and door trusses for latrine superstructures by the project, and latrine walls by the community. The 1981 JSI workplan states that all latrines are to be completed by January 1983.

Actual Progress

All schools have been surveyed for sanitation conditions by TSHP staff. As for latrine construction: 33 schools have begun pit digging; 25 schools have completed pits; 44 schools have commenced brickmaking for pit lining and superstructure; 3 schools have commenced pit lining and slab production; 3 schools have completed slab production; and no schools have built superstructures or have completed latrines.

Active interest in the latrine program was evident at every project school. Some were discouraged when pits dug in the 1981 dry season collapsed in the 1982 wet season because materials for pit lining and slab construction were not available at the required time due to procurement funding problems. When latrine construction was delayed, the community or school used prepared bricks for other projects. Factors facilitating the progress of latrine building include active village and school response and participation in pit digging and brickmaking, skills in making hardened brick and in kiln construction, and the school health officers' previous training and experience with latrine construction.

Factors impeding progress include initial delays in fund flow for materials purchase; periodic unavailability of cement and reinforcement metal; pit collapse during wet season; difficulty in brick making during wet season; access to water for brickmaking during the two months of the dry season in Dodoma; initial lack of consensus by TSHP officials on size of pit, need for vent pipe, quality of superstructure materials, need for pit compartment walls, installation of urinals, and handwashing facilities; eight-month delay in availability of vehicles for SHOs; and delays in inspections and materials delivery by SHOs due to scarcity of petrol, spare parts, and vehicle breakdown.

Community Involvement

General Observations

Although the students and villagers of the Central Zone had minimal opportunity to participate in the design of the project, community acceptance and support was unusually good. Tanzanians have traditionally been enthusiastic participants in self-help activities espoused by the Government in its attempt to achieve self-reliance.

The institution of the primary school is held in high esteem by the communities, which considered it to be a "community education

center" designed to serve the entire village, not merely the children. The Government of Tanzania has given considerable power to each village to develop local government. Government policy on implementation and adherence to the self-reliance philosophy includes mechanisms in the village to enforce participation. Thus, once a village decision is made, the village is expected to act on it.

As part of the village structure, each village must have five standard committees: school matters come under the Education Committee and health matters under the Social Welfare Committee. The scope of village participation varies in each of the project communities. In some, labor and manpower were volunteered to dig pits or make bricks; in others, cash contributions by parents were used to hire local workers to dig the pit for the school latrine. Both cash contributions and contributions in kind were discussed with regard to providing school lunches for children. Some communities donated buildings for grain storage, first aid rooms, kitchens, and dining halls. Lastly, participation has taken the form of supporting water supply technicians with food and lodging during periods when they were working in the village.

In 27 communities, latrine pits dug before the 1982 rainy season but not lined, because materials were unavailable, collapsed. Considerable discouragement and loss of credibility in the project resulted. Other factors influencing participation were:

1. The relationship previously established between school leadership and village leadership.
2. Direction and leadership by the village chairman.
3. Leadership, interest, and enthusiasm of head teachers and school health coordinators.
4. The individual style, skills, and attitudes of the district school health officer assigned to promote the project in a given district.

School Health Committees

At project schools, participation and support were expressed in a wide variety of ways. The planned structure to organize community involvement in the TSHP was a School Health Advisory Committee. Although membership varied, the group usually consisted of some 10 to 15 persons, including the village chairman, village party secretary, members of the village Education and Social Welfare

Committees, health workers (such as MCH aides or medical assistants), the head teacher, the school health coordinator, parents, and older students. This group assumed the responsibility for determining the manner and schedule for implementing the school health program in the village. There was a School Health Advisory Committee in most TSHP villages. Meetings were held as often as once per month or as seldom as three times per year. Difficulties in organization of the group that occurred were due to factors peculiar to the village. This prompts the general suggestion that, in the future, a sociological study be considered of the factors that affect community response and criteria with which to assess the readiness of individual communities for program participation.

Baseline Surveys

Initial Objectives and Plans

The first step in developing an expansion plan for the TSHP is the evaluation of data collected during the pilot phase. In the first three months of the project, a Health Information Committee recommended focusing data collection activities on five major areas:

1. A baseline survey of environmental conditions of the 80 CSHP schools.
2. A baseline survey of environmental conditions in the villages in which the schools are situated.
3. A baseline survey of the health status of the school pupils.
4. Routine collection of data at the schools.
5. The data handling needs and capabilities of the project.

The baseline surveys were scheduled for completion by November 1981.

Revised Objectives and Plans

The original proposal called for a tight experimental design in which changes in health status in TSHP school pupils would be compared with changes in two control groups, the non-TSHP school children in the Central Zone and pupils from other regions of the country. Very early on, it became obvious that it would not be possible for the project to survey such an extensive population.

A consultant recommended a cohort study of Standard II (eight year-old) students in one TSHP and one non-TSHP school in each of the eight project districts. The medical survey was to involve an examination of the student's skin, eyes, teeth, blood, urine, stool and nutritional status. The study was to include an environmental survey of the households to which each examined student belonged. The health of a group of Standard II students in the Morogoro Region was to be assessed. This region was chosen because of its similarities to the Dodoma Region.

Actual Progress

A survey of environmental conditions at all 80 project schools was completed in January 1981, detailing water supply and water consumption, condition of the school latrines, proximity of the school to a dispensary or other health care provision unit, and size of the school farm and disposition of its yield.

The baseline medical survey was scheduled for June 1981, but was delayed for several reasons until March 1982. A total of 785 students from the 18 schools selected were examined: 359 from TSHP schools and 426 from non-TSHP schools. The examination of Morogoro students is expected to take place in September or October 1982.

Project Data Evaluation System

Since the volume of data anticipated from the project is considerable, the Health Information Committee recommended that a computer be purchased with project contingency funds. A formal proposal was drafted and accepted by USAID. The computer is expected to arrive in Tanzania at any time. A space has been allocated and prepared for it in the Division of Community Medicine at the Institute of Medical Research, DSM. As the project was not very far along in its preparation of detailed protocols to support a project data evaluation system, the following is recommended:

Prepare dummy dataset files of all the information the project intends to collect, analyze the dummy data sets, and demonstrate the purpose for each piece of data collected and how the results will be analyzed and presented.

Plans for National Expansion of the TSHP

According to the 1979 project paper, the results and recommendations of the mid-term evaluation are to be used as input for planning the national expansion of the TSHP. The plan is scheduled to be completed by August, 1983 in the 1981 JSI Action Plan.

The evaluation team discussed the capacity of the Government to maintain or institute an expansion of the TSHP. The recurrent costs of a TSHP would include: training of personnel; some level of transportation support for program coordinators, supervisors, and managers; maintenance of health services activities; aid to schools for farm development and feeding programs; maintenance of a student health record system; development of a sanitary environment at the schools; and the construction and maintenance of water supplies. No actual estimates of recurrent costs or the Government's capacity to support them could be made at this time.

It is highly probable that only selected aspects of the TSHP could be implemented at the national level using the current pilot phase model. Therefore, it is suggested that, to the extent possible with existing resources, the project explore the Government's ability to provide resources and the use of alternative inputs. Such alternative approaches might include:

- o Use of other community health workers, such as medical or health assistants, to assist the district health officers; and the use of other education workers, such as the domestic science coordinators, to assist the district education officers. The district officers would retain responsibility for program implementation and their assistants would retain responsibility for all necessary organizing.
- o Use of other community health workers to completely replace the health officers at the district level, with the health officers acting as program administrators with education officers at the regional level.
- o Use of alternative means of transport to the Landrovers.
- o Gradual inclusion of recurrent program support costs into the district and regional budget requests made by MOH and MONE officials.
- o Support for the TSHP, after the end of the pilot phase, from other bilateral and multilateral aid donors.
- o Development of options for the national plan to correspond with different levels of recurrent cost commitments.

V. PURPOSE

V. PURPOSE

The purpose of the project is to initiate a comprehensive school health program in Tanzania that develops health instruction, health service, and nutritional and environmental improvements within the primary schools and that is integrated into the national health services system and the national development plan.

Progress Towards End of Project Status Conditions

The end of project status (EOPS) conditions for this project are listed in Annex A of the 1979 project paper and are defined as follows:

1. Tanzania school health program operating at national, regional, and district levels.
2. Comprehensive school health services provided at 80 pilot CSHP schools.
3. School Health Program curriculum used in all 35 national education colleges.
4. Health, education, water, and agriculture development programs integrated at primary school level.
5. Plan accepted for extending comprehensive school health services throughout the country.

The important assumptions for these EOPS conditions are: (1) that Tanzania continue to place a high priority on the development of a School Health Program; (2) that teachers will be interested in implementing School Health Program activities; (3) that curriculum revisions are accepted; (4) that the project is not interfered with by war or other disasters; and (5) that personnel to be trained by the project can assimilate the training. The evaluation team consider all these assumptions to still be valid.

Project Extension Proposal

In the light of the considerable delays the project has experienced, the evaluation team was to examine the possibility

of extending project support by USAID beyond the contracted end date of September 30, 1983. The recommendation of the evaluation team is that the project should be extended for a minimum period of one year, until September 30, 1984, and preferably for a period of 24 months, until September 30, 1985.

Impact of Untoward Events

1. Because of the difficulties faced by JSI with transport and in getting funds from USAID to purchase materials and start field activities, the components of project workplan were delayed between 12-20 months.
- 2. The cholera epidemic of late 1981 to early 1982 diverted the energies of the DSHOs away from the TSHP, thus causing a slowdown in TSHP activities.

Project Enhancement

1. Time should be allowed to implement and evaluate the impacts of a rethought and replanned school feeding component of the project.
2. Time should be allowed for training and integration of educational officials into the TSHP structure.
3. Time is needed for the villages to mobilize themselves and absorb the changes introduced as a result of the project's delayed activities.

Project Funding

1. An extension of project funding will give Tanzanian Government officials at the ministerial, regional, and district levels time to specify funds for training and other project support into their annual budget requests, submitted by March preceding the budget year: July 1, 1983, to June 30, 1984.
2. As of July 31, 1982, \$971,239 or 24 percent of the total JSI contract funds have been expended in the two years since the signing of the unamended contract. If non-contract expenditures taken from the project contingency

fund during this same time period are included, the project has consumed 20 percent of the total funds committed by USAID. Given that project expenditures have increased rapidly in the past few months with the progress of the water supply and latrine construction components, that inflation will affect purchasing budgets, and that some of the recommendations made in the evaluation report imply increased costs for certain project components, a two-year extension would still permit the project to exist within its fixed total budget.

Training Utilization

The TSHP Program Director, Dr. Simon Ngaliwa, and the Zonal Coordinator, Mr. A. Kahesa, will be in the United States until September 1983, the month the project is presently due to end. The purpose of the training is increased planning and management skills for direction of a national program. With a project extension, Dr. Ngaliwa and Mr. Kahesa would have time to apply their new skills to the development of plans for implementation of the national school health program.

Development of the National Expansion Plan

An extension would allow:

1. Adequate testing of modifications to the project to more closely stimulate the conditions facing the TSHP in the absence of USAID support, i.e., absorption of the program into the national educational and health delivery systems.
2. The opportunity to expand the project to more schools in the test districts to test the Government's ability to provide and manage project resources.
3. Expansion of the project into additional schools, using medical assistants to implement and coordinate TSHP activities under the supervision of a district health officer.
4. Sufficient experience with the implementation process to test the program under nonexternally supported conditions in the remaining schools in the two regions or in the schools in other regions of the country.

5. Sufficient progress to interest another donor in supporting some aspect of the program when USAID support stops.

Vehicle Replacement Issue

Project vehicles are acknowledged by government officials to be in better condition than expected for standard government vehicles. This is due to the special training the users have been given on the importance of maintenance and timely repairs. Road conditions in the project area are very hard on all vehicles and, whereas most of the vehicles will likely remain usable for the life of the project, it is possible that the project will have to replace some. Given the very high costs of vehicle maintenance and repair in Tanzania--present running costs are \$800 per month per Landrover--it may be more economic at times to buy a new vehicle than to continue to repair an old one.

It is recognized by all concerned that the purchase of additional vehicles is a thorny issue with USAID. However, the pilot phase will not be able to function without adequate transport. The decline of public transport services in the Central Zone and the chronic shortage of Government vehicles make it very unlikely that alternative solutions can be found.

The scale of the project is an important factor. Since only 10 out of 80 schools per district are project schools, larger distances are faced by a TSHP official implementing the pilot program. At the expanded program level, there is more cost-effective use of vehicles and alternative means of transport such as motorcycles or bicycles. The evaluation team recommends that the project manager study expected vehicle lives and prepare a schedule for vehicle replacement. Such a study should consider using the present-value-of-expected-expenditure approach to compare repair with replacement costs and combinations of the two to arrive at the lowest cost proposal.

Expected EOPS without Extension

The field activities are now moving well and the results are tangible. It would be a disservice to deny the TSHP the time to demonstrate its potential because of delays in project implementation. Should the project end on September 30, 1983, it will have achieved the following:

Health Instruction Component

1. Completion of the Teacher's Handbook, but without its trial beyond the 80 test schools.

Health Services Delivery Component

1. Training of the 160 teachers in the 80 test schools in delivery of the health services packages, but without time to evaluate the effectiveness of the training or the impact of the services on the health of pupils.

Student Health Information Component

1. Completion of baseline health surveys in a selected sample of school children.
2. Design and introduction of a student health record card into the 80 schools.

Environmental Health Component

1. Construction of 40 percent of shallow wells, repair and extension of 30 percent of the piped systems, construction of 10 percent of the water storage tanks for the piped systems, and construction of about 5 percent of the systems requiring deep wells.
2. Completion of 75-85 percent of latrines.

School Farm Development Component

1. Expansion of the acreage of farms at 85 percent of the project schools.
2. Distribution of basic agricultural implements such as hoes and shovels to all schools and ox plows to a few selected schools.

3. Increased agricultural production through intensification at not more than 10 percent of the schools (water is the major limiting factor).
4. Construction of improved food storage facilities at 5 percent to 10 percent of the schools.
5. Start of special food production projects at two to three schools.
6. Introduction of vegetable production and use of animal waste as fertilizer in all 80 schools.

School Feeding Program Component

1. Start of a student feeding program at 60 percent of the schools.
2. Completion of improved cooking facilities at 40 percent of schools.

Data Processing Component

1. A full-fledged data collection and management information system will be functioning, ready to complete project data analysis.

Extension Requirements for Full EOPS Achievement

It is estimated that:

1. The School Health Handbook would be fully field tested, distributed to all Central Zone schools, and ready for distribution to all primary schools in Tanzania by March 31, 1985.
2. The detailed curriculum would be completed, distributed, and ready for introduction into the training programs at the 35 National Education Colleges by December 1984.
3. The effectiveness and impact of the school health services delivery activities could be evaluated by September 30, 1984.

4. The student health record system in the Central Zone schools would be integrated into the Ministry of Health system at the district, regional, and national levels by September 30, 1985.
5. All shallow well water supply systems would be completed by March 31, 1985.
6. All piped water systems would be repaired or extended and storage tanks installed by September 30, 1985.
7. All other feasible water supply systems would be completed by September 30, 1987.
8. All latrines would be completed by September 30, 1984.
9. The introduction of all new farm development techniques would be completed by September 30, 1984.
10. The introduction of some type of school feeding program in all 80 schools would be in effect by September 30, 1984.
11. Ministry of Health and Ministry of National Education officials would be trained for management role in the TSHP by September 30, 1985.

Table 3 summarizes the trade-offs between expected EOPS conditions and length of project extension period. It is regretted that cost figures could not be attached to any of these EOPS estimates.

Table 3: EOPS Conditions vs. Project Extension Periods

| Project Component \ Extension Period | 0 Months 9.30.83 | 12 Months 9.30.84 | 18 Months 3.3.85 | 24 Months 9.30.85 |
|--------------------------------------|---------------------|-----------------------|-------------------------|-----------------------|
| Management Training | Completed MOH | Completed MONE | + experience | ++ experience |
| School Health Handbook | Completed | Testing Completed | Introduced Central Zone | National Distribution |
| Teachers' Training Curriculum | Not Completed | Completed | Introduced into Program | --- |
| Health Services Delivery | Completed CSHP | Evaluation Completed | + Evaluation | ++ Evaluation |
| Student Health Records | Introduced CSHP | Introduced Central Z. | System development | Integrated MOH |
| Shallow Wells | + 40% Completed | + 80% Completed | 100% Completed | --- |
| Piped Systems/ Storage Tanks | +30/+10% Completed | + 50% Completed | + 75% Completed | 100% Completed |
| Complex systems | + 5% Completed | + 25% Completed | + 40% Completed | 50% Completed |
| Latrines | + 80% Completed | 100% Completed | --- | --- |
| Shamba Development | + 10% | 100% | + Evaluation | ++ Evaluation |
| School Feeding | + 60% | 100% | + Evaluation | ++ Evaluation |
| National Expansion Plan | Basic Plan | + Experience | ++ Experience | Implementation |

VI. PROJECT GOALS, BENEFICIARIES,
AND UNPLANNED EFFECTS

VI. PROJECT GOALS, BENEFICIARIES, AND UNPLANNED EFFECTS

Project Goals

The goal of the project is to help Tanzania develop a health services system that will improve the health status of people sufficiently for them to enjoy life and participate in community development activities and contribute to the national goal of self-reliance. The project is to make its contribution towards this goal by preparing the young people of Tanzania to deal with the health problems of their environment and by reducing the inefficiencies in their education caused by absence and poor performance due to illness.

The project has not progressed sufficiently for the evaluation team to observe or predict the impacts it will have on the health status of students or their families. However, it was possible to observe that the project has produced community and school participation; it has stimulated self-reliance activities in the schools and the communities; and it has led to an improvement in the quality of life through the introduction of safe and adequate water supplies.

The subgoal of the project is to initiate the pilot phase of a comprehensive school health program in 80 primary schools in the Dodoma and Singida Regions of central Tanzania. This project is to develop health instruction, health services, and nutritional and environmental improvements within these selected primary schools. The project is required to demonstrate the effectiveness of using the primary school system to address the complex health needs of the students. As a result of the pilot phase, a five-year comprehensive school health program plan is to be developed and integrated into the national health services and educational systems and the national development plan. It is expected that expansion of the program to complete coverage of all primary schools in Tanzania would take 10 to 15 years.

The evaluation team was able to observe that the project is making progress in all aspects of the comprehensive school health program. The gauging of the program's effectiveness will require two to three more years of implementation and evaluation information. The team was also able to observe that the program is being integrated into the regional and district health and education systems.

Project Beneficiaries

The direct beneficiaries in terms of health services delivery, health instruction, and environmental improvements will be the 30,000 students attending the 80 project schools in Dodoma and Singida Regions. The direct beneficiaries of training will be the teachers chosen to implement the program, the district and regional health officers chosen to coordinate the program, and the persons chosen for management skills development. Where the installed water supply has become a community amenity, the users are also direct beneficiaries of the project.

Eventually, the secondary beneficiaries will include the families of the students, as the project emphasizes spreading benefits through the CHILD-to-child approach and the lessening of disease transmission by the students.

At this time, the secondary beneficiaries are the communities to which the schools belong. They are seeing improvements being made to their infrastructure through their own self-reliance efforts and are benefiting from the introduction of outside resources in the areas of environmental health and agricultural technology. The communities are also benefiting from the introduction of a health focus into the mandated village governance system. The communities as a whole may benefit from the services of the school health coordinator as a new health services delivery resource.

The Government will stand to benefit from the introduction of a new and well-managed program and from the improvement in skills of officials at all levels of the governmental structure. The Government also will benefit from the introduction of such resources such as housing, vehicles, and a computer that are financed by the project.

The main tertiary beneficiaries of the project are the Tanzanian people who stand to enjoy the benefits of healthier children, who miss less school due to illness, who perform better at school, and who contribute more to their families and to the development efforts of their communities. Further benefits should accrue to society from a reduction in the demand for costly curative medical services as the project's preventive approach are reflected in lower rates of student illness.

Unplanned Effects

The unplanned effects result from activities or impacts not identified in the 1979 project paper or subsequent documents. With the field implementation of the project only getting underway at the time of the evaluation, there is little that can be said about the eventual range of unplanned effects.

Impacts of Water Supplies

It is difficult to say whether the originators of this project realized the severity of the water supply situation in many of the schools and their surrounding communities. Some of these communities have been promised aid by the Government for years with no results. The introduction of a water supply by the project will change the quality of life in some communities, will restore people's trust in the Government's word, and will stimulate support for the project and the program more effectively than any other project component.

Impact of the Health Kit

The intent of the project in teacher training has been broadened to preparation of the teacher in basic treatment and medication. It is expected that the use of the medications, supplies, and skills of the teachers will not be limited to the students in communities where access to the nearest dispensary or clinic is difficult or time-consuming. Increasing demands will be made on the TSHP to respond to the general community and on the district and regional levels of the health structure to provide continuous support and medical resources. The impact of this new program must be integrated into the health structure resource plans and budgets.

Integration of the Ministry of National Education

The initiators of the project underestimated the importance to the progress of the TSHP of the close involvement of Ministry of National Education personnel at the district and regional levels. The project became viewed as one of the preventive services components of the MOH operated by MOH staff. In the districts and regions, the MONE staff took umbrage at the unsolicited and often unexplained intrusion of MOH staff into their schools. In terms of the introduction of new educational materials, the use of teachers' time for health activities and health training, teacher supervision, disciplinary action, and evaluation of performance, it is obvious that these matters are the responsibility of the MONE structure. To deal with this unplanned effect, the project has to expend more effort and resources in giving MONE its logical roles and responsibilities within the TSHP.

Special Comments

Control Over Expenditures

In this project, the contractor, JSI, has ultimate responsibility to USAID for all expenditures. Tanzanian officials associated with the project perceive that the Government therefore has a secondary decision-making role for expenditures compared with that of the contractor. Some confusion may have been created for the Government officials because of the MOH's previous experience with USAID support, the Maternal and Child Health Aide Training Project, in which the Ministry did have primary control and was reimbursed for expenditures by USAID. The consequences of using different expenditure control mechanisms should be examined by the Agency.

Departure of Key Personnel for Training

The short-term funding mechanism for this contract has resulted in the removal of key personnel from participation in the project during the crucial startup period. USAID should examine the option of preproject training for key personnel in future projects.

VII. RECOMMENDATIONS

VII. RECOMMENDATIONS

Organizational Structure

There should be written definitions of roles and responsibilities for all personnel and entities involved with the TSHP. These definitions should be part of a project policy and procedures Manual.

Educational officers should be integrated into the TSHP and, once involved, they should receive equal training and share project support with their MOH counterparts.

A mutually acceptable working relationship should be defined and instituted for the school health and education district officers, with some sharing of responsibilities and activities.

Expenditure Reporting

It is recommended that the USAID project monitor relay requested financial reporting format specifications from the Government to JSI. JSI should produce monthly reports according to the requested format in addition to the reports prepared to contract specifications. Costs to JSI for these added reporting requirements should be taken from the budgeted amount set aside for the national program development component of the TSHP.

Budgeting

It is recommended that:

- (1) The USAID project monitor specify to JSI a format for the monthly reporting of project expenditures on a programmatic/component basis. JSI should be reimbursed for the increased costs of this reporting from the contingency funds.
- (2) JSI prepare a detailed programmatic/component budget analysis for past and future expenditures as soon as possible.

Project Planning

The recommendations are that:

- (1) Detailed work plans, with target dates for input use and output completion, together with best available cost estimates should be prepared by project objective as soon as possible.
- (2) JSI consider bringing a management consultant to Tanzania for a period of three months to institute the proposed budget format changes, review project management and administration at the DSM and Dodoma offices, and assist with the preparation of detailed work plans.

Transportation

The recommendations are that:

- (1) One more vehicle be purchased for use by the RSHO in Singida Region.
- (2) If a zonal coordinator is appointed to the project, an additional vehicle should be purchased to support this position (see section on Zonal Level Management).

Project Housing

The recommendations are that:

- (1) Dr. J. A. Tesha, Paul Ehmer, and Richard Pollard present information on housing plans and current expected construction costs to the principal secretary for his consideration by the end of October 1982.
- (2) Housing construction start by December 1982, after receiving all necessary approvals from the MOH.

Teachers Training

It is crucial that the project management specify a new set of objectives for the training of teachers in the use of the handbook, the provision of health services, and the maintenance of the student health record system. These new objectives must be accompanied by a detailed work plan specifying action steps, target dates and expected costs. This task must be completed by March 1983.

Estimates of the transport and per diem training costs should be given to MOH and MONE central and regional officers by March 1983 for inclusion in the budget year commencing July 1, 1983.

Because qualifications for teaching primary school are extended both to Standard VII leavers and Form IV graduates, teachers attending workshops vary considerably in their academic training in domestic science and health-related subjects and in their capacity to absorb new material. It is suggested that practical demonstrations, visual aids, and experimental learning techniques be included in any future training in order to accommodate a broader range of individual learning, styles, and back-grounds.

Training leaders should model the specific new teaching methodologies the project is trying to introduce and provide opportunities for teachers to observe and practice self-care approaches and the CHILD-to-child approach to learning. The latter must be given considerable emphasis if the project is to judge the usefulness of this approach in the Tanzanian context.

Because Ministry of Health professionals have little training in pedagogy, educational specialists will be needed to plan these seminars. This would be an appropriate role for the health education technician discussed elsewhere in this Report.

Out of Country Training

It is recommended that three additional non-MOH candidates be provided with one year training. Funding for this training would come from the contingency fund. At least one of these candidates should come from the Ministry of National Education (from the headquarters, regional, or district level). This person should be sent for graduate training in health education with a specialization in school health.

This training at the graduate level should be contingent on an understanding between the MOH, MONE, and USAID that, upon return, the person trained would be assigned to work full time on the TSHP

for the remainder of the project-period as the Tanzanian counterpart to the proposed health education technical adviser recommended elsewhere in the report. Other candidates should be trained in fields related to the TSHP and consistent with project needs as determined by project management.

School Health Handbook

Further development of the handbook is severely constrained by the lack of full-time technical assistance in health education. Unless additional technical assistance is provided, a useful product will not be produced within the existing time frame of the project.

It is recommended that a full-time technical adviser, a specialist in health education, be assigned to the TSHP to complete and pretest the School Health Handbook and coordinate production and distribution. This person would also have the responsibilities of developing training seminars to improve teaching and usage of the handbook and of coordinating with the National Ministry of Education the appropriate alterations in the curriculum of the National Colleges of Education. Should a project extension occur, it is recommended that this adviser be maintained throughout the project period. The specifications for this full-time technical adviser are as follows:

Position: Coordinator of Educational Materials Development

Responsibilities:

- o To coordinate the work of the Curriculum Development Committee, the MONE, the MOH, and JSI staff in completing the School Health Handbook. Key activities would include: plan any future workshops, determine adequacy of methodologies and progress, coordinate technical inputs, arrange for editing, arrange for translation, plan and carry out pilot testing, plan final layout, and supervise production and printing of drafts and final copies.
- o To plan and carry out teacher training needed for the introduction of the handbook, with emphasis on principles and methodology of school health education.
- o To work with the Curriculum Development Committee, the MOH, JSI staff, and a representative of the Office for Teacher Training, MONE, to develop a pretest and implement the changes in teacher training in school health at the National Colleges of Education.

Qualifications:

- o Minimum of a Master's Degree in Health Education.
- o Experience in the development of instructional manuals.
- o Experience in training curriculum development.
- o Kiswahili fluency desirable, but less-than-fluency not necessarily disadvantageous.

Time frame: At least one year, full time, beginning immediately.

Health Kit

The recommendation is that project management, in collaboration with regional and district medical officers and appropriate Ministry of Health personnel, begin planning ways to respond to the anticipated community demand for medical supplies and materials as a result of the school health coordinator's activities in the schools.

Agricultural Program

The evaluation team recommends that the Project specify the innovative agricultural, animal husbandry, and crop storage methods it proposes to introduce and promote in the schools as soon as possible and prepare detailed work plans and budget estimates.

School Feeding Program

The evaluation team recognized that the objective of providing a meal a day to each pupil for every day of the school year is unrealistic. The average number of pupils in the CSHP schools is 400, with a range of 250 to 650. These represent sizable populations to be fed on a consistent basis in an area that suffers from chronic water and food shortages. The team recommends that the objective of the program be changed to getting schools to implement the program for short periods, such as the month just before the harvest when the food supply in the community is at its lowest level and when it is most likely that the pupils are eating poorly. Having a program during that period would depend on the introduction of successful crop storage program or on a well planned food purchasing strategy.

Another possibility would be to have the program implemented for a month or on a one-day-per-month basis so that each school gains the experience of running one. In the future when conditions permit, the schools would then be able to expand the program to an increased level of service.

Since the conditions vary so much between schools and there is a need for local flexibility in designing a school feeding program, the team recommends that the project experiment with offering each school a choice of resources and a fixed budget. Each school would be asked to select the mix it wants to the limit of its budget and to prepare a step-by-step plan for the use of these resources. The project would maintain control by giving out further resources only when the school has demonstrated that it is completing each step of its plan.

Given the considerable effort involved in implementing a feeding program, the team recommends that the project fully explore and commit to paper a strategy by December 1982 covering such issues as availability of food inputs; appropriate size, quality, and location of crop storage facilities; availability of cooking fuel and water for food preparation and utensil cleaning; provision of dining hall facilities; provision of labor to maintain the program; estimation of amount of grain, sugar, salt, and other inputs needed to feed 100 pupils on a daily basis; and estimation of the requirements for each school given the grain it plans to use and the number of pupils to be served.

Water Supply

The evaluation team recognized that provision of water was an underlying requisite in the achievement of most of the other project objectives. Health instruction objectives and curriculum assume that water is available for handwashing and personal hygiene. School farm and feeding programs depend on water for irrigation, food preparation, and for washing-up. Other activities requiring large quantities of water include brickmaking and concrete slab construction and operational first aid rooms, kitchens, dining halls, and latrines. Based on these findings the team recommends that:

1. The impact on the rest of the TSHP of an increase in budget allocation for water supply construction be examined.
2. The TSHP introduces training in water supply system functioning and maintenance for teachers and senior pupils.

3. The TSHP construct small water storage tanks in all schools to provide water for hygiene and handwashing close to the latrines.
4. The project develop decision-making criteria to determine which schools should receive costly and complex water supply systems and which not. These criteria should include the cutoff point for the cost per person served in addition to other factors. Schools should then be informed as soon as possible as to whether the project plans to construct a water supply for them. It is unwise for the project to build up expectations that cannot be met.
5. By January 1983, the JSI technician prepare a detailed workplan, accompanied by realistic and detailed cost estimates, for the construction of water systems at each applicable school.
- 6) The project explore ways of persuading the MOWME to complete the surveys of the Dodoma Region Schools by December 1982.

Latrine Construction

Given the prevalence of cholera and other sanitation/hygiene related illnesses common in these districts and based on the observations of the village and project review, the evaluation team recommends that:

1. Water be provided near latrines for handwashing and for hygienic maintenance of the latrine.
2. Materials required for latrine construction be purchased outside of Tanzania in cases of materials unavailability.
3. One demonstration latrine be built in each village to show villagers the recommended latrine design suitable for household use.
4. The JSI technician evaluate the strength of latrine slabs, based on experience with the various forms of reinforcement and slab thicknesses that have succeeded, as design materials are unavailable.

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APPENDICES

Appendix I

Contacts Made During Evaluation Mission

APPENDIX I

CONTACTS MADE DURING EVALUATION MISSION

Dar-es-Salaam

Ministry of Health

| | |
|----------------------|--|
| Dr. Z. Mkumbwa, | Director of Manpower Development and Training |
| Dr. Mgeni, | Director of Preventive Services |
| Dr. S. Ngaliwa, | Director, TSHP |
| Mrs. J. Mahalu, | Principal Nursing Officer, Preventative Services |
| Mr. J. Malika, | Principal Health Officer |
| Mr. E. N. Sangalala, | Planning Officer |
| Mrs. H. Rugemalira, | Assistant Director, TSHP |
| Ms. S. Ngahycma, | Public Health Nurse, TSHP |

Ministry of National Education

| | |
|------------------|-------------------------------------|
| Mr. Mnzava, | Director of Teacher Education |
| Mr. Kyara, | Educational Officer |
| Mrs. I. Mnzava, | Administrative Unit, Primary School |
| Mrs. G. Makenya, | Domestic Science Specialist |

Dodoma Region

Regional Officials

| | |
|----------------|-------------------------------|
| Mr. C. Liundi, | Regional Commissioner |
| Mr. Kileo, | Regional Development Director |
| Dr. J. Tesha, | Regional Medical Officer |
| Mr. J. Mwaga, | Regional Education Officer |
| Mr. A. Kahesa, | Regional Health Officer |

District Officials

| | |
|-----------------------|---|
| Mr. Msengi, | District Education Officer, Dodoma |
| Mr. Kapilima, | District Development Director, Kondoa |
| Ms. R. Makomba, | District Domestic Science Coordinator, Mpwapwa |
| Mr. S. A. Rermadlain, | Representing the District Development Director, Kondoa |
| Mr. T. W. Mwaruanda, | District Acting Education Officer, Kondoa |
| Mr. P. K. Katololo, | District Livestock Development Officer, Kondoa |
| Mr. A. M. Sakaya, | District Natural Resources Officer, Kondoa |
| Mr. Sanga, | District Water Engineer, Kondoa |
| Dr. R. Kingo, | District Medical Officer |
| Dr. J. Kneideweiya, | Medical Officer, Kondoa |
| Mr. J. W. Mwenda, | District Agricultural Officer, Kondoa |
| Mr. P. Mushi, | District School Health Officer, Dodoma Urban |
| Mrs. B. Sabuni, | District School Health Officer, Dodoma Rural |

Mr. Kitambawazi, District School Health Officer, Mpwapwa
Mr. Kingu, District School Health Officer, Kondoa

Singida Region

Regional Officials

Mr. Fussi, Regional Planning Officer
Dr. F. Kimboi, Regional Medical Officer
Mrs. Mayaya, Regional Education Academic Officer
Mr. R. Kukula, Regional School Health Officer

District Officials

Mr. J. Mazigo, District Development Director, Iramba
Dr. Cidosa, District Medical Officer, Manyoni
Dr. Mtalo, District Medical Officer, Iramba
Mr. Kisarika, District School Health Officer, Manyoni
Mr. Mwashu, District School Health Officer, Singida
Urban
Mr. Lumolwa, District School Health Officer, Singida
Rural
Mr. Mtalo, District School Health Officer, Iramba

International Aid Institutions

Dr. Sten Normark, Dental Health Expert, DANIDA, Dar-es-Salaam
Mr. Arthur Handly, Mission Director, USAID, Dar-es-Salaam

Ms. Marge Bonner, Program Officer, USAID, Dar-es-Salaam

Mr. James Van den Bos Program Evaluation Officer, USAID,
Dar-es-Salaam

Mr. Paul Ehmer, Health Development Officer, USAID,
Dar-es-Salaam

Mr. Paul Miller, East Africa Projects Officer, USAID,
Washington, D.C.

Dr. Albert Henn, Director, Health Services Division, USAID,
Washington, D.C.

Ms. Myrna Seidman, Chief, Technical Advisory Services, APHA,
Washington, D.C.

Dr. Ian Berger, Technical Adviser/Project Director, JSI,
Dar-es-Salaam

Mr. Richard Pollard, Technical Adviser, JSI, Dodoma

Ms. Susan Klein, Technical Adviser, JSI, Boston,
Massachusetts

Mr. Joel Lamstein, President, JSI, Boston, Massachusetts

Appendix II

Schools Visited by the Evaluation Team

APPENDIX II

SCHOOLS VISITED BY THE EVALUATION TEAM

I. Dodoma Region

Dodoma Urban: Mkonge, Chiwonda - Chahwa, Mtumba
Dodoma Rural: Nagulo-Bahi, Msisi, Kwanhemu, Magunga,
Handali
Mpwapwa: Lupeta, Pwaga "A", Luhundwa
Kondoa: Kolowasi, Unkunku, Dalai, Lalta

II. Singida Region

Singida Urban: Unyakindi, Manga, Utemimi
Singida Rural: Ngamu, Makuro
Iramba: Kiomboi-Bomani, Kitukitu
Manyoni: Manyoni Town, Ipande, Ngaiti

Appendix III

Africa Bureau of Technology Transfer Report

APPENDIX III

AFRICA BUREAU OF TECHNOLOGY OF TRANSFER REPORT

Q1. What constraints does this project attempt to overcome and who does it constrain?

The Tanzania School Health Project attempts to overcome the lack of health services provided to primary school children, age 7-14. The constraint is on the Ministry of National Education to provide a healthful sanitary environment at each school, to prepare new teaching materials in health, and to improve crop production on the school farms; and the constraint is on the Ministry of Health to make health services readily accessible to school children.

The specific constraints to improved school child health tackled by this project include:

1. Inaccessibility by school children to existing health services.
2. Lack of personnel to coordinate and manage a school health program.
3. Lack of personnel to carry out health screening and first aid treatment.
4. Unhealthful habits.
5. Lack of health records for each pupil.
6. Lack of teaching resource material for health education.
7. Poor environmental sanitation at the school (water supply and latrines).
8. Lack of a school feeding program.
9. Lack of nutritional quality of school-produced crops.
10. Lack of use of available agricultural technologies to improve school crop production.
11. Lack of storage facilities for school-produced crops.

This project attempts to test a strategy in a sample of schools for the reduction of school child morbidity and absenteeism, that can eventually be implemented throughout the national primary school system. This project also attempts to tackle the constraint of resource availability by utilizing self-reliance inputs from the school and its surrounding community.

Q2. What technologies does the project promote to relieve the constraints?

1. To remove the constraint of lack of health education materials, the project promotes the use of educational technology for designing content guides for teacher presentation and pupil involvement, and integration of health with other basic subjects taught.
2. To remove the environmental sanitation constraint, the project promotes construction of ventilated improved pit-latrines (VIPs), shallow well hand-pump systems, extension or repair of piped systems, and other appropriate and feasible water supply technologies.
3. To remove the constraint on health services delivery, the project promotes the training of teachers in basic medical technology for health screening, first aid and limited dispensing of specific drug treatments, and maintenance of pupil health records.
4. To remove the constraint on school crop production, the project promotes the use of appropriate agricultural technologies for inputs and storage.
5. To remove the constraint on personnel, the project promotes the use of training to provide people for planning, supervising, and implementing the school health program: School health coordinators (teachers), school health officers (district health and educational officers), and regional and ministerial-level program coordinators and managers.

Q.3. What technology does the project attempt to replace?

The project replaces:

1. Outmoded methods of health teaching, which lack scientific content and do not include practical and appropriate application of health learning.

2. Crude health screening process, which refers children to the nearest health dispensary only in most obvious cases of need.
3. Unhygienic use and maintenance of excreta disposal facilities.
4. Agricultural technology that does not make use of readily available inputs, such as animal manure, and Government-provided seedlings and information.
5. Information collection procedures that stop at the school level and fail to pass on up to regional and central level decision-makers.

Q4. Why do project planners believe that intended beneficiaries will adopt the proposed technology?

Self-reliance is a basic tenet of the Tanzanian Government which encourages its progress wherever possible. The mandated village committees that promote self-reliance and the community's development are being utilized by the project. All major decisions on subjects that have impact on the school, the community, and the official government structure are made by the consensual approach basic to the governance theory of the people of Tanzania.

The intended beneficiaries are expected to adopt all the proposed technologies because (1) the technology proposes a solution to an expressed need; and (2) the potential adoptees have participated in the development of the technology so that they feel ownership of it and commitment to its implementation. The incentives offered by the adoption of these technologies include the desire of school teachers, school health officers, and regional, district, and ministerial educational and health officials for training in new skills or further training in existing skills; and the desire of community leaders to have reliable water supplies, better health services for children, increased output on school farms, and improvements to the community's infrastructure.

Q5. What characteristics do intended beneficiaries exhibit that have relevance to their adopting the proposed technology?

1. The school health officers have received basic public health training, which makes them suitable for the further training provided by this project and for the required project activities.

2. The school teachers are assigned duties and responsibilities by the head teachers for the maintenance and operation of the school. Thus, they will accept involvement with water supply, latrines, crop production, and school feeding, especially as there will be prestige associated with the school health coordinator designation.
3. The Ministry of National Education has made self-reliance cornerstone of the pupil's experience at school. Self-reliance activities are a specified part of the curriculum and weekly class schedule. Enlisting actual student help in making things is a normal and accepted activity. Observations made during the evaluation indicated that self-reliance group activities are enjoyable experiences for the pupils.

Q6. What adoption rate has this project or previous projects achieved in transferring the proposed technology?

Since field implementation has either recently begun or has yet to start, the project will not generate information on adoption rates for another 24 months. The exception to this is the introduction of improved latrines and shallow well hand pump systems--adoption rate has been close to immediate, with no resistance on the part of the potential adoptees.

Q7. Will the project set in motion forces that will induce further exploration of the constraint and improvements to the technological package proposed to overcome it?

An objective of this project is the development of a plan for the expansion of the school health program to the national level. The project has already started to integrate the program into the permanent organizational structures of the Ministries of Health and National Education. The project intends to explore the use of different mixes and levels of project inputs to see the implications of the findings for national implementation. The principal concern is the minimization of recurrent costs of the program. The proposed experimentation will test the trade-off relationship between recurrent costs of program inputs and measured outputs in the form of reduced absenteeism, decreased morbidity, improved nutritional status, and changes to school and community infrastructure.

Q8. Do private input suppliers have an incentive to examine the constraints addressed by the project and come up with solutions?

No. Government policy does not encourage the production of the inputs necessary for this project by the private sector. Local groups, such as villages and parents, are being used to provide construction labor and cash subsidies. However, health services delivery as well as educational services delivery are seen to be the province of the Government only.

Q9. What delivery system does the project employ to transfer the new technologies to the intended beneficiaries?

1. School health officers are trained to coordinate activities, muster resources, and involve community decision-makers and professionals from other governmental agencies whose assistance is helpful to the program.
2. School teachers are trained to use the health education materials and to carry out the school health activities. They are expected to pass on some of these new skills to their fellow teachers. The coordinating teachers trained by the project work with the ruling village committee members, who must sanction all activities in the community.
3. Ministry and regional level officials are trained to supervise and plan for the introduction of the new technologies.

Q10. What training techniques does the project use to develop the delivery system?

1. School health officers trained periodically over the life of the project by technical advisers provided by the U.S. contractors.
2. Designated school teachers trained in short seminars for use of health education materials. One continuous six-week seminar planned for training in school health services delivery by U.S. technical advisers and Tanzanian public health professionals. Characteristics trainees had prior to training include: being a head teacher or being designated to the school health coordinator responsibility by the rest of the school staff; very rudimentary teacher training.