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EVALUATION REPORT  
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STRENGTHENING RURAL HEALTH DELIVERY

OFFICE OF SECTOR ANALYSIS AND EVALUATION  
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SPECIAL EVALUATION  
OF  
STRENGTHENING RURAL HEALTH DELIVERY PROJECT  
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## I. Executive Summary

- 1.1 The Strengthening Rural Health Delivery Project (SRHD), approved September 1976, is intended to use technical assistance, commodities, and participant training to assist Egypt's Ministry of Health to test interventions designed to improve the effectiveness and productivity of the existing infrastructure and system for the delivery of rural health services. The five year project is to conduct the tests in ten districts in the governorates of Fayoum, Assiut, Beheira and Dakahleia, and to strengthen the ability of selected MOH departments to support rural health services.
- 1.2 In its first 34 months, the project has deployed vehicles in the ten districts and has supplied other commodities to four initial districts, one in each of the four governorates. For the same four districts, the project unit at the central MOH has worked with district, governorate and rural health facility personnel to improve health record systems, revise job descriptions (of doctors, nurses and sanitarians), provide supplementary pre-service and in-service training, institute regular home visiting, supervision, monetary incentives, and staff conferences. Implementation and evaluation plans were also developed under the project and have been partially carried out. In one governorate, the project has demonstrated that oral rehydration for children with diarrhea has produced a reduction of approximately 40% in infant and young child mortality.
- 1.3 The Minister of Health suggested in January 1980 that project activities now be expanded to all 41 districts in the four governorates, rather than to a total of ten districts as originally planned.
- 1.4 There have been serious delays in most areas of project implementation, in comparison with the approved Implementation Plan (which in retrospect was overly ambitious). The originally planned tests of interventions have not progressed as intended, and implementation activities as carried out to date will not lead to clear answers to many of the key questions regarding the proposed interventions, including their effectiveness, replicability and costs. Much information relevant to these interventions has been gathered in the course of the project (including the results of the Diarrheal Disease Control Study in Dakahleia), but not all necessary information has been collected. Due to delays in initiating and performing data processing, only a minor part of the project's data (including baseline data) is available in an analyzed and interpretable

form. (This has presented problems for the evaluation team, but the need to review the project at its mid-implementation point and to determine needs for adjustment, as well as the project's importance to other potential health sector activities, made it advisable to evaluate it now, rather than to wait until more data were available in a usable form). In order to avoid further project implementation delays, however, the data should now be analyzed immediately by experienced analysts/processors in an established facility, probably in the U.S.A. Much more will be lost to improvement of health services by delaying availability of the initial data sets than is gained in awaiting doubtful MOH institutionalization of data processing. No permanent Ministry evaluation staff have been assigned to the project to date.

- 1.5 The project must limit and focus the number of technical/medical interventions which it will test or demonstrate. This will allow such interventions to focus on key problem areas such as family planning, in which important information on effective application in rural Egypt is lacking or inadequate. Existing information regarding technical/medical interventions including project data gathered to date and other information from Egypt and elsewhere should be used to select the most important revisions in the contents and emphases of rural health activities. This approach would maximize the potential impact of services on health, while permitting the project's resources to be applied to the intended task of testing "management" interventions to improve the effectiveness with which the rural health system delivers health services. The tests of management interventions should be very carefully selected, designed and carried out, to assure maximum usefulness to the MOH in designing and implementing nationwide changes to strengthen the delivery of rural health services. Key management interventions to be tested include supervision, incentives, and pre- and in-service training. The design and execution of the project to date, and current plans for its continuation, will not provide answers to many key questions regarding these interventions, including their effectiveness, interrelations, costs and replicability. The MOH needs answers to those questions in order to effectively use the existing rural health infrastructure. The project has already contributed information which will help the MOH to improve its services, and it has the potential to make major and fundamental contributions to this MOH effort. To achieve this potential, the project will require increased MOH and U.S. technical assistance staff, additional time, expansion to the six additional districts for test purposes, and full use of existing information from rural health efforts in Egypt and elsewhere (including the project's own data, which must be analyzed immediately if it is to be of use in the project).

- 1.6 The project has not sufficiently differentiated between costs related to development and testing of new approaches versus costs which will recur during wider implementation, i.e., one-time investment (development) costs versus installation and operating costs. Grant and Ministry funds saved in reducing technical assistance, project staff and consultants under this project will almost assuredly result in higher costs and a lower quality product later as Egypt attempts to improve rural health services on a nationwide basis without key information which adequate testing in the SRHD project would have provided. For example, training manuals being developed under the project will undoubtedly be used nationwide. It is clear that it is no more expensive to print and distribute highly effective and well-tested manuals than less effective ones. An initial investment in using the best Egyptian and U.S. talent to develop and test content and presentation (including visual presentation) will be recovered many times over in terms of the manuals' effectiveness.
- 1.7 The MOH should assign additional personnel to the project unit who are fully qualified for their project roles. Particular Ministry staff shortages exist in training, test design and analysis, and management support systems. The MOH should also make much greater use of health sector leaders (from the MOH and outsiders) in the project, both to make use of their experience, skills, knowledge and ideas and to develop additional channels for the dissemination of information regarding the project and its results.
- 1.8 Additional long-term U.S. technical assistance will be required if the project is to effectively contribute its potential benefits to the rural health services system. Since it is unlikely that experienced Ministry staff counterparts can be identified, the additional U. S. personnel will also need to serve as role models and on-the-job trainers for both existing and new Ministry project staff.
- 1.9 Due to past delays, the need for additional long-term technical assistance, and the need to adjust the project design and documents, it will be necessary to extend the project lifetime by two years if important benefits of the project are not to be lost.
- 1.10 The evaluation team recommends nationwide MOH (not SRHD) implementation of those aspects of the project which have already been demonstrated to be effective: specifically, these include oral rehydration and home visiting. Major direct involvement of the unit's staff in implementation efforts or in expansion of the project's activities or geographic coverage

(beyond the originally planned expansion from four to ten districts), however, would prevent the project from adequately testing other interventions vital to the improvement of rural health services.

- 1.11 Given the demonstrated efficacy of oral rehydration in quickly reducing infant and young child mortality, family planning takes on even greater importance at this time, and the project and the MOH should give high priority to testing means of providing and promoting effective family planning methods. Although the project has proposed this as the next special study, development of the plan has been slow, and the draft plan now under review lacks sufficient emphasis on strengthening the knowledge and skills of health center staff in family planning education, counselling and methods.
- 1.12 The eight week pre-service training and orientation courses given at the governorate level to all new rural health physicians provide an unparalleled opportunity to assure that physicians have the specific skills and knowledge which will be of most use to them in providing and managing effective rural health services which make good use of the existing resources of the system. The MOH should make full use of this opportunity, and the project should develop and improve the project's manuals for use in the course, as well as the project, and for later in-service reference.
- 1.13 The vehicles provided through the project have not been used to the extent expected, and their availability may be of very little importance at the level of the health centers and units. The team recommends that no further vehicles be supplied as part of this project, and that vehicles already supplied be shifted to provide tests of the effects of the presence of different numbers of vehicles at the governorate and district levels on the system's performance. Alternate means of transportation, such as the ubiquitous taxi, are available and are used where there are no MOH vehicles at health centers and units. The vehicles supplied are not suitable for many reasons. No effective system has yet been established for their maintenance and use.
- 1.14 No test of the use of a radio or telex communications system for rural health services should be carried out by the project. Such a system could not be afforded by the MOH, even if a demonstrated need for it existed (as is not the case) and even if it could be established and maintained (which is very doubtful). Technical communication equipment is not an essential ingredient, at least not until other aspects of health services are upgraded. Telephones, messengers (on foot and via public taxis, for example) and other message systems

appear to be adequate to meet present and expected rural health system communication needs.

- 1.15 The MOH has been able to identify very few suitable English-speaking candidates for overseas participant training. Effective alternative means need to be developed to provide the skills which the Implementation Plan identifies as objectives for participant training.
- 1.16 A revised Implementation Plan and Schedule should be developed immediately by the MOH and the T.A. contractor for AID approval. It should be based on the priorities noted in this Evaluation Report, on current project information, and on rapid analysis and interpretation of data gathered thus far. Other project documents should be adjusted accordingly. A plan and schedule for monitoring of ongoing implementation of the revised project should be developed and followed.

## II. Project Implementation

Major accomplishments of the strengthening Rural Health Delivery Project to date include:

- Initial problem diagnoses (health and health service system problems)
- Collection of baseline data through site visits, interviews and record reviews at rural health facilities, vital events registry reviews, and household surveys
- Provision and deployment of vehicles and establishment of a plan and monitoring system for their use
- Provision of other commodities
- Redefinition of scopes of work for doctors and nurses in rural health facilities (including establishment of a program of routine home visits by nurses)
- Development of manuals for doctors and nurses and for supervisory and peripheral staff
- Improvements in health services record system and forms
- Pre-implementation training of doctors, nurses and sanitarians
- Provision of regular supervision and of monetary incentives to supervisors and to rural health facility personnel meeting incentive criteria
- Establishment of a program of regular staff meetings at rural health facilities
- Construction of vehicle maintenance facilities
- Construction of training centers
- Overseas participant training
- Completed an impact study of alternative delivery modes of oral rehydration treatment (with a 40% reduction in infant and young child mortality)

- Development of preliminary health education materials

The SRHD Project is sufficiently complicated and has undergone enough changes in its evolution from the project paper to the approved implementation plan to necessitate immediate qualification of almost any statement made on "implementation status". All of the documents leading from the project paper to the approved implementation plan contain most of the same themes: test (i) transportation, (ii) communications, (iii) incentives/motivation, (iv) supervision and (v) training; develop (vi) alternative approaches to basic services such as MCH, family planning, etc, and (vii) MDH replication capability in the form of planning, implementation and evaluation skills.

The differences among the documents, from the project paper to the approved implementation plan, are in (i) the relative emphasis placed on project components ("themes") listed above, (ii) the apparent change in project purpose, and (iii) the apparent change in indices to measure project outcomes.

The SRHD Project remained clearly focused on the test aspect of the above project components in the project paper, the grant agreement, and the GOE/Westinghouse contract scope of work. However, a clear shift in emphasis occurred during the preparation of the project implementation plan by Westinghouse. In effect, the project shifted its major focus away from tests of specified interventions (e.g., transportation, incentives, etc.) toward specific contents of health services (e.g., diarrheal disease control). This shift occurred, in large part, because the contractor discovered during the initial problem diagnostic stage that the levels of presumed basic skills and practices were far lower than had been imagined. In effect, project decision makers elected to remedy fundamental defects in technical aspects of the health services within their jurisdiction before the project dealt with tests of the specified interventions in the health services system. Although the intended tests were technically a part of the implementation plan, they have in practice remained largely subverted to the development of specific health services content. More will be said about this later in this section.

An apparent change in project objectives occurred with the GOE/USAID approval of the Westinghouse project implementation plan. Prior to that point the project purpose was described as to "identify and validate through field testing, replicable

methods to reduce or eliminate some of the [ ] factors limiting production of the rural health services..." (PP Log Frame). With the advent of the implementation plan, the "basic objective" was described as "...improving the status of health of Egypt's rural population through the improvement of existing health service delivery practices." No overt reconciliation was made with the "project purpose". In addition, the measurement of project success was shifted away from staff productivity and utilization measures to measures of health status.

Both of the above changes are real. Nevertheless, they are at the same time illusory. Clearly, the ultimate intended outcome of the SRHD Project from its very inception has been the improvement of rural health status. It is just as clear that changes in health status are best measured by vital statistics, not numbers of patients seen or forms filled out. There is no fundamental conflict between the project paper and the implementation plan in this regard. In effect, the implementation plan emphasizes what should have been the project goal (i.e. improve health status; to be measured by vital statistics) while the project paper correctly states the project purpose (identify and validate through field testing...; to be measured by staff productivity, health unit utilization, etc.). Indeed, the contractor correctly chose the ultimate test of project success (i.e. the ability to improve health status) as their guide in selecting the content of health service programs.<sup>1/</sup> However, the contractor also relegated the various intermediate tests of system productivity to secondary status. In terms of implementation reality, the various intermediate measures of system input and output productivity are necessary (i) to determine that inputs are actually being applied, (ii) to provide supervisory tools, and (iii) to gauge project success on an interim basis, pending acquisition of health status measures.

In sum, no serious change needs to be made in the project log frame. The project purpose should remain as stated. The project goal might be revised to reflect the centrality of health status improvement as the ultimate indicator and as the reason behind field testing of replicable interventions. The shift in the project's initial focus toward service program content and related skill acquisition appears to have been

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<sup>1/</sup>The PP Logframe states as its goal: "to improve the commitment and capability of the MOH to provide broad access to preventive and curative health services at acceptable levels of quality."

warranted, given the apparent starting level of the rural health service. Nevertheless, it is now appropriate to initiate the originally envisioned tests of various health system, management and support interventions.

To put into perspective what has transpired to date, we should ask whether it makes more sense to identify specific health problems, devise and test appropriate field strategies to counteract them, and derive input and support requirements therefrom ..or.. is it better to immediately improve management of inputs without awaiting the results of tests of attacks on specific health problems. The contractor has essentially taken the first approach while the project paper was written more in terms of the latter. The project paper's stress was reasonable, given its assumptions on health system personnel and capabilities; the contractor's emphasis was also reasonable, given the reality that became apparent in the diagnostic stage.

There are other fundamental reasons why the contractor's approach made sense. If budget and resources are taken as constraining at some significant level below "perfect health," it becomes necessary to make choices on which health services can/should be delivered. In other words, it is necessary to identify a few key service areas and problems in terms of health needs and low cost replicability and concentrate on developing field delivery "technologies" for these services. It is only at that point that it truly makes sense to perfect the management of supporting input components. For example, the significance of a test on the effect of transportation on the health system is questionable where, a priori, it is known that most health staff would prescribe antibiotics rather than oral rehydration for simple cases of dehydration. If improvements in health status are the ultimate goal the project cannot simply push "management inputs" into the health system without being sure of the validity of service content. Put alternatively, it does no good to perfect the management of a system whose increased "service productivity" may actually result in diminished health status.

Having said all of the above, it is nevertheless the team's view that the contractor's intended "functional analysis" approach has only been partly implemented, and that almost none of the data gathered have been analyzed. Implementation of the diarrheal disease control demonstration test has provided information on many of the problems which would have been dealt with under a functional analysis approach. However, approaches to resolving key management problems have been introduced across-the-board and now need to be tested in such a way as to provide measurement of the

effectness of individual interventions, e.g., the differential effects of incentives, training, transportation, etc.

Due to the complexity of the project, no detailed implementation status review will be presented. We note that the relevant benchmark for most comparison purposes is the approved project implementation plan (2/79) and not the grant agreement (9/76). We note that substantial extension of the diagnostic period (viewed by the evaluation team as justified, given MOH and contractor staffing levels) put the contractor almost one year behind their own implementation estimate at the outset. We also note that much of what the contractor set out in the approved implementation plan has not been accomplished within the originally scheduled 18 month Phase I, nor has it been accomplished to date.<sup>1/</sup> It is sufficient to say, with hindsight, that the original implementation plan was much too ambitious for a whole variety of reasons, including project staffing levels and continued overestimates of rural health system capabilities. Nevertheless, the evaluation team concludes that project accomplishments to date have often been impressive and have laid essential groundwork for further contribution from the project.

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<sup>1/</sup>Implementation details may be found in the Mid-Project Program Review, Dec. 1980, prepared for the Technical Advisory Committee.

III. Project Options in Relation to Strengthening the MOH Rural Health Services Delivery System.

From the solid base of its accomplishments to date, the SRHD project should be able to make further important contributions to strengthen the MOH Rural Health Services Delivery System. The evaluation team believes that those contributions can best be made by not heavily involving the SRHD staff in widespread service implementation activities, but by focusing instead on finding, demonstrating and testing alternate ways to improve and support rural health services. This role is one which the MOH expects the central SRHD unit to continue to fulfill after AID's current support of the SRHD project has ended. The MOH is reorganizing its Rural Health Division to facilitate and institutionalize that role of the unit, with Dr. Ahmed Nagaty (now in the U.S. for participant training) returning to Cairo as the head of the unit.

The best use of the project's present resources, and of the additional resources and time which the evaluation team recommends that the MOH and AID make available to the project, will be to design and test replicable ways to improve rural health services, increase their appropriate use by the community and strengthen MOH and community support of the services.

The recommendations offered in the remaining sections of this report are intended to maximize the benefits of this project to the rural health system and, through it, to the health of the rural people. Accomplishing this will require immediate full use of all available information which the project has provided to date (which will require contract data processing) to assist the MOH to improve its health services, both directly and through improving the SRHD project by adjusting its design. Even without these analyses, however, certain priorities are dictated by Egypt's Rural Health situation, health manpower structure, and by MOH and project experience. The recommendations in this report represent the evaluation team's firm convictions regarding those priorities, appropriate responses to them, and the resources needed to maximize the SRHD project's contributions to the MOH and to rural health. All of the recommendations reflect the team's conviction that:

(a) the need for systematic field testing of selected RHD interventions, a need which prompted the MOH and AID to initiate this project, still exists;

(b) that the project still presents an appropriate means of meeting that need;

(c) that the project must now be strengthened and redesigned (on the basis of experience to date) to meet that need more effectively.

IV. Detailed Recommendations and Discussions:

1. Testing of Interventions

- a. Current project implementation emphasizes testing effects of changes in service contents and activities related to specific disease problems.
- b. Less emphasis has been placed on tests of support systems, as identified in the Project Paper and Grant Agreement, with the view expressed that attacks on specific disease problems provide a vehicle for introducing improved support and management.
- c. The "test" nature and objectives of the original SRHD Project Paper (as opposed to the current implementation emphasis) should be resurfaced and developed in association with attacks on specific disease problems.
- d. It makes no sense to improve the management of a system which has no impact on disease problems. However, it is possible to test and implement alternative approaches to disease problems within tests which vary management inputs. In this way, the impact of various interventions, such as incentives, training and supervision, can be tested in a system for the effective delivery of essential health services. Questions regarding both those services and the means of delivering them must be answered before the service system can be rendered a truly effective means of improving and protecting health.
- e. The project has already contributed information which will help the MDH improve services, and it has the potential to make major and fundamental contributions to rural health services.

Recommendation: The project must now limit and focus the number of technical (medical) interventions which it will demonstrate or test. It must combine the testing of various management interventions with these tests of technical (medical) services. This will limit the number of topics being tested, but improve the validity and applicability of the findings of both types of tests.

2. Data Analysis:

- a. A comprehensive evaluation plan and baseline, follow-up and special surveys have been developed.

Much relevant data has been collected but has not been processed and analyzed.

- b. Decision making on all elements of the project is taking place without benefit of existing data. Interventions, manuals and training programs are being developed without needs analysis information from the functional analysis.
- c. The full functional analysis proposed in the Implementation Plan is essential to project (and health system) planning and implementation but has not been completed.
- d. Although a mini-computer is being purchased and future development of Ministry data analysis capability is important, rapid feedback of the initial data sets is critical at this stage of the project.
- e. The Ministry has not assigned permanent project staff to the analytic elements of evaluation, which are critical to project success.

Recommendation: As a first and immediate priority, data collected to date should be processed and analyzed by sending it to the U.S. under the Westinghouse Health Systems contract with a timetable for return. This recommendation should be carried out immediately in order to move the project forward, regardless of any other decisions made on the project.

### 3. MOH Staffing:

#### a. Central

- Institutionalization of requisite skills and experience to replicate and continue project activities is almost totally absent.
- Inadequate numbers of professional staff are assigned to the project. Staff assigned to the project has fallen far below the PP guidelines agreed to in the Grant Agreement.
- Quality of staff assigned has been uneven and assignments have been slow.
- No liaison staff has been assigned from other sections within the Ministry of Health, as agreed in the PP.

- Non-Ministry personnel (e.g. Institute of National Planning, nursing schools, medical schools, High Institute of Public Health, etc.) have been involved to a very limited extent, mainly through the TAC.
- Skill areas sorely lacking in the Central Ministry project unit include training, survey and research design and analysis, management support systems, environmental health, and family planning.

b. Governorate/District

- The role of Governorate and District Health Officers is critical to project success, particularly in view of the increased administrative role foreseen for Governates under the Goe decentralization plan.
- Training for these officials will be important, but it is unlikely that most will qualify for U.S. training, largely because of English language deficiencies. (See Recommendation No. 11.)

c. Health Units/Centers

- Outward signs of project implementation efforts are evident in health units and centers in test areas when they are compared to non-test areas.
- The numbers of personnel assigned to health facilities generally appear sufficient. If home visiting is increased substantially, additional nursing staff may be required.
- The quality of professional staff is noticeably uneven among doctors and nurses.
- The roles and functions of sanitarians are not well defined. At present they do very little related to water and sanitation. (See Recommendation 14).

Recommendation: Additional permanent staff in the Central Project Office needs to be added by the MOH. Liaison staff should be assigned under an agreed upon plan, with incentives provided by the MOH as has taken place in other projects (e.g.,

Urban Health). Increased utilization of non-Ministry staff through contracting is essential to draw on all of Egypt's public health skills and to assure dissemination of project findings within Egypt.

4. Long-Term Technical Assistance:

- a. Many elements of the project, such as data analysis, training, and improving the quality of training manuals, will require long term advisors plus increased MOH staff to accomplish existing project elements.
- b. If the project is strengthened to increase the "test" nature of interventions, additional survey and research design and analysis will be required.
- c. There are not sufficient numbers of qualified Egyptian staff within the Ministry to undertake these tasks without further experience and training. This is an expressed concern of the Ministry.
- d. Addition of long-term advisors will provide counterparts to Ministry staff to strengthen institutional capability in areas where skilled personnel are in short supply.
- e. Given experience to date in identifying qualified Ministry staff, it is unlikely that the existing and newly recruited MOH project unit staff will be able to design and implement the necessary test interventions in the absence of additional technical assistance.
- f. Increased Ministry staff goes hand in hand with the need for additional U.S. technical advisors.

Recommendation: Three additional long-term technical advisors should be added to the Westinghouse contract as follows: one health evaluation specialist, one training and health education specialist, and one health administrator. These skills are in addition to continuation of a Chief of Party with skills in rural health services delivery, health services research, and survey design and analysis.

5. Extension of Life of Project:

- a. The need to refocus, redefine and adjust project implementation plans and documents. Due to past delays, the need to recruit additional Ministry and U.S. technical advisors, and the longer estimated time

required to accomplish project objectives, the project lifetime should be extended by two years.

Recommendation: The life of the project should be extended two years through FY 1985 to assure adequate time for completion of initial test interventions, to institutionalize an applied research/demonstration capability within the MOH, and to develop national replication plans as appropriate.

6. Expansion of Project:

- a. Expansion to all 41 districts in the four test governorates would result in an unmanageable test area and would overtax the project's staff.
- b. Project elements demonstrating success should be implemented by the MOH (not by the SRHD project unit) on a nationwide scale except in cases where there is some basis to begin implementation on a more limited scale. Further pilot efforts on diarrheal disease control are unlikely to produce a true picture of problems related to nationwide replication.
- c. Representativeness of the present 4 Districts (with the possible exception of Behaira) is distorted by their proximity to provincial capitals. The four districts, in comparison with districts not contiguous to provincial capital districts:
  - 1) Probably have better staffs, because it is easier to recruit workers for positions close to major towns.
  - 2) May have been better supervision, because they are closer to governorate offices.
  - 3) Are likely to have better supervision, since there is more competition for District Officer positions in larger towns.
  - 4) May have more of everything (phones, equipment, etc.), because of proximity to provincial capitals.
  - 5) Often have more female doctors, representing greater staff stability because professional husbands are more likely to work in urban areas.
- d. Additional districts beyond the initial four are necessary to provide test grounds for systematic tests

of present and added interventions.

Recommendation: Expansion to the additional six districts for test purposes should begin as soon as a revised Implementation Plan has been developed and agreed upon.

7. Family Planning:

- a. Skills of staffs in family planning were minimal in all facilities visited by the evaluation team. Apparent weaknesses were noted in knowledge of contraceptive methods, particularly beyond pills and loops, and in ability to articulate the relationships of the health of mothers and children to child spacing.
- b. The family planning intervention test plan now prepared in draft by the project focuses largely on testing the distribution of contraceptives and the insertion of IUDs by nurses.
- c. Good supplies of contraceptives were present in centers visited. However, utilization was low and if it (utilization) were to increase, supplies and logistics might not be adequate.
- d. Given the existing drug supply system, which works reasonably well, creation of a separate distribution system for family planning supplies to health centers is questionable. The proposal to supply village depots with contraceptives should be pursued.
- f. Given the demonstrated efficacy of oral rehydration in quickly reducing infant and child mortality, family planning should receive even greater emphasis. Now that initial confidence has been gained in the test areas, it is time to move forward with a family planning intervention.
- g. The training materials developed for this activity must prepare the nurses and doctors to counsel mothers on the importance of child spacing to the mother's health and the health of her living children as well as on methods.

Recommendation: The draft family planning intervention should be reviewed to assure emphasis on family planning education, counseling and methods training for health team and district staffs. This intervention should receive the next priority for special studies.

8. Pre-Service Physician Training:

- a. An eight week orientation course is given at the governorate level to all newly assigned rural health physicians.
- b. This provides a unique opportunity to provide them with the specific skills and knowledge which will be of most use to them in providing and managing effective rural health services.
- c. Instructional and reference materials are lacking in the current courses.

Recommendation: The MDH should make full use of this opportunity by utilizing project manuals as they are improved for use in this course as well as the project and for later physician reference.

9. Transportation:

- a. The Vehicle Utilization Plan has precluded any effective test of vehicles delivered to date. There is no evidence that vehicles have had an impact on health center service delivery functions.
- b. Transportation does appear to be a key to effective administration and supervision at the District level.
- c. The functional needs analysis of transportation requirements should be prepared and compared with possibilities for meeting the service needs.
- d. MDH vehicles usage below the District office level is ill defined and most likely not needed.
- e. It is more appropriate to think in terms of transportation services rather than vehicular ownership, which is only one method of obtaining a transportation service.
- f. Vehicles are underutilized in terms of mileage, purpose of use, and numbers of passengers observed.
- g. The vehicles provided by the project are seriously inappropriate for the systems needs and for their actual uses. They are much too big, use too much fuel, require instituting a maintenance and parts program starting from scratch, and are not sufficiently durable.

- h. Vehicle maintenance plans have not been implemented to date.
- i. MDH construction of workshops has been initiated.
- j. The staffing levels for maintenance proposed in the Transportation Plan (4 mechanics in each governorate and one for each district-level workshop) have not been realized. There are currently 5 mechanics working on project vehicles, one in each of the four governorates, and one in charge of vehicles in Cairo.
- k. There are only a total of 108 drivers for 133 project cars currently assigned.
- l. The MDH has a policy objective (established in the 1940's) to provide each rural health facility with a vehicle. The SRHD project is not the appropriate channel to fulfill that objective.

Recommendation: No further vehicles should be supplied as part of this project. Vehicles already supplied should be shifted to provide tests of the effects of the presence of different numbers of vehicles at governorate and district levels on the systems performance. Any additional procurement of vehicles by the Ministry should be of types for which repair facilities are locally available. Any vehicles procured should be small, durable, multipurpose, and fuel efficient.

#### 10. Communications:

- a. It is highly questionable whether communications are an essential ingredient until other aspects of health services are upgraded. As it stands communications appear to be used for routine rather than emergency reasons.
- b. No analysis has been done of the types and numbers of messages that need to be communicated between the units and districts, between districts and governorates, and between the governorates and Cairo.
- c. Most centers/units are within reasonable phone or messenger contact with the District Offices.
- d. It is inappropriate to test options that are not replicable or affordable (i.e. radio systems) particularly since it would be necessary to run

several tests against different packages of health inputs to measure effectiveness.

Recommendation: The proposed hardware tests for communication should be dropped. At maximum, communications testing between Cairo and the governorates could be explored. Consideration should be given to how traditional systems at the unit to district level might be more effectively utilized. It may be worth analyzing data for districts which have working communications equipment systems (working telephones) contrasted with those that don't, in order to provide a simple test of the communications hypothesis.

#### 11. Participant Training:

- a. The Implementation Plan proposed training to include: 24 long-term U.S. training; 25 short-term U.S. training; and 62 third country short-term observation tours. As of December, 1980 only 10 long-term participants have been placed (2 others are identified and awaiting placement), plus 10 short-term U.S. and 14 third country.
- b. Difficulties have been encountered with English language qualifications, identification of appropriate and interested staff, and delays in processing of application documents.
- c. The original intention of the training was to have it take place during the first phase of the project, to strengthen the Ministry's capability to carry out the project objectives.
- d. It is essential that Egyptian staff members either have the necessary skills and knowledge which they require to complete the project and to continue similar activities or have the ability to acquire those skills and knowledge through and during the project and without hindering the project's progress.
- e. Governorate and District Health Officers represent a critical element in the system but are unlikely to qualify for U.S. training.
- f. With assistance from U.S. Schools of Public Health it should be possible to develop short courses (4-6 weeks) which provide some of the basic techniques in health planning/administration/evaluation, to be conducted in Egypt and in Arabic. Collaboration between U.S. professors and Egyptian institutions

could result in Egypt-specific training courses and materials which would have benefits far beyond this project.

Recommendations: (1) Given the limited number of Egyptian staff eligible for overseas training, specially designed in-country training courses in Health Planning and Administration and Communicable Disease Control need to be developed with assistance from U.S. Schools of Public Health to assure that Ministry of Health officials at the central, governorate and district levels acquire the basic skills and knowledge deemed necessary in the Implementation Plan. (2) For those key officials for which overseas training is considered essential, assistance should be sought through the Westinghouse contract to provide refresher English language courses in the U.S. if necessary. Westinghouse should arrange the academic programs and admittance of these students to allow more flexibility in the system. (3) The timing of in-country training now underway for rural health doctors should be reviewed in relation to arrival of new medical graduates in rural areas (which takes place approximately March 1). (4) The project should take advantage of the 8 week orientation program provided by the Governorates to newly assigned medical graduates to assure they have the specific skills and knowledge which will be of most use to them in providing and managing effective rural health services. The project should improve training manuals for use in the course as well as the project and for later reference. (5) The proposed third-country training for community leaders is unlikely to take place and alternative motivational activities for such leaders should be considered.

## 12. Training Manuals:

- a. The preparation of training manuals is a long-term investment in tools for more effective health staff performance. This is one element of the project which has the potential of having an immediate impact outside the project areas.
- b. The team found that health team members in the areas visited have kept the manuals issued to them during pre-implementation training.
- c. The team found that the current manuals prepared and used by the project have several shortcomings, including:
  - 1) while existing manuals are useful as teaching

guides, they are less successful as study guides and references.

- 2) The manuals would be strengthened by the inclusion of Egyptian data and materials.
  - 3) Standing orders for health personnel in the manuals, particularly family planning, need much more explanation and illustration.
  - 4) Illustration and graphics are required to reinforce written materials.
  - 5) Materials are insufficiently adapted to conditions in rural Egypt.
- d. The development costs for producing such manuals should be considered a one-time cost which will have potential application far beyond the project area.

Recommendation: Existing training manuals should be assessed and revised by a multi-disciplinary team in order to be more effective as teaching, study and reference tools. Such a team might consist of a training materials specialist, appropriate technical specialists, and someone familiar with rural health in Egypt who can assist in adapting and illustrating materials to the Egyptian context. We note that Westinghouse has a worldwide reputation for development of training materials (Westinghouse Learning Systems).

### 13. Community Participation:

- a. The usefulness of involving community members in health-related activities has been demonstrated in the Diarrheal Disease Control Study in which both men and women of the communities studied assumed responsibility for dissemination of information and, in several test sites, for preparation and administration of simple home remedies.
- b. Several forms of community participation were proposed in the implementation plan, including the formation of "village development councils", the selection of elderly women as family advisors, and the assumption by village groups of responsibility for village improvements. These were originally to be explored during Phase I. No plan has been developed to date.

Recommendation: Plans for fostering community participation set forth in project documents should be revised in line with

a more realistic assessment of what exists, what changes have occurred, and what can be accomplished in the life of the project. Such a process should take into account the following:

- The existence of (Health) Unit Councils (Maglis id-dara), administrative committees, composed of the health facilities doctor, clerk and nurse and two community representatives.
- There have been recent changes in MOH policy toward the daya, and anticipated legislative changes will permit them to attend births legally after completing MOH-specified training. The project should consider involving them more actively than anticipated earlier.
- Taking into account overall project slippage and the fact that most of the sanitarians have not yet been trained, the initiation of self-help projects for village improvements may not be able to be realized during the life of the project.

#### 14. Environmental Sanitation:

- a. Under the project, sanitarians and assistant sanitarians have taken on additional responsibilities for the cleanliness of health facilities, the mapping and census-taking in villages, and the motivation of male members of the community, particularly with respect to diarrhea control. In addition, a draft training manual for the environmental health team has been developed.
- b. Despite these accomplishments, the environmental health component has suffered from inadequate problem diagnosis, identification and testing of alternative solutions.
- c. The program set out in the Implementation Plan appears overly ambitious both in terms of the project in general and in terms of what the sanitarians can realistically be expected to accomplish, given their current level of training and skills.
- d. The draft training manual for the environmental health team suffers from a similar failure to assign priorities, an overly broad range of skills to be mastered and applied, and a failure to adapt interventions sufficiently to existing situations.

Recommendations: (1) Carry out functional analyses and consider redefining the scope of work for the several grades of sanitarians and health center workers. Consideration should be given to utilization of health center laborers in environmental sanitation. (2) Revise the Implementation Plan to reflect a more realistic assessment of what can be accomplished in the life of the project, focusing on analysis of current tasks and priorities, definition of tasks, and preparation of training materials. (3) Revise the training manual for environmental health workers so that it is practical, more realistic in scope, and better adapted to the socio-economic, technical and environmental realities of rural Egypt.

Implementation of the above recommendations will require additional short-term technical assistance (US and Egyptian) to the project. It may not be essential to have full-time environmental health specialists on the MOH project unit staff.

#### 15. Improvement of Physical Facilities:

- a. The team found no serious deficiencies in the structural aspects of the facilities.
- b. Routine maintenance, however, was sorely lacking, i.e., broken and missing screens, dirty windows, backed up sewer systems, water overflows, painting, etc.
- c. Although each center and unit has a considerable number of laborers (janitors) assigned to it, they do not have the tools or budget to maintain the facilities.
- d. A very limited investment in tools, basic maintenance training, and a repair budget for each facility could go a long way.
- e. Maintenance for rural health facilities is now funded through the renovation/construction budget allocated to Governorates for all health facilities including hospitals. This means that hospitals get first priority on the limited funds. The Rural Health Department of the Ministry of Health has proposed a separate allocation for Rural Health Centers, but this has not been approved.

Recommendation: Improvement in physical facilities should not be considered as part of the SR&D project. The Ministry should assure that adequate maintenance systems and budgets are established before consideration of facility renovations. Any

Ministry upgrading of the facilities should give priority to providing water supply and sanitation to all facilities.

16. Revised Implementation Plan:

- a. Discrepancies between the project paper, on the one hand, and the implementation plan and project emphases on the other, have not been dealt with. This leaves room for potential disagreements and conflicts among the MOH, the TA contractor and USAID. It also makes project evaluation difficult.
- b. The implementation plans and schedules developed during project implementation have been unrealistic, given limited Ministry staff and technical assistance.
- c. There has not been routine project monitoring against the implementation plan, and the plan and budget have not been revised to reflect amended project emphases.
- d. The initial implementation plan only describes Phase I, and no detailed implementation plan exists for latter phases.
- e. Because of the above factors, the project has no valid work plan to guide the current and projected activities.

Recommendation: (1) A revised Implementation Plan and Schedule should be developed immediately by the MOH and the T.A. contractor for AID approval. It should be based on the priorities noted in this Evaluation Report, on current project information, and on rapid analysis and interpretation of data gathered thus far. Consultant assistance may be required to complete this revised plan, given the need to analyze findings and experience to date and to prioritize and focus project targets. (2) Other project documents should be adjusted accordingly. (3) A plan and schedule for monitoring of ongoing implementation of the revised project should be developed and followed. (4) List of steps necessary in developing and implementing tests of interventions for SRH and for preparing for the application of findings should include:

- a. Problem diagnosis.
- b. MOH decisions on priorities.
- c. Description and assessment of alternative solutions (including assessment of replicability and of expected costs of nationwide replication).

- d. Selection of alternative(s) for testing.
- e. Development and field testing of the implementation materials and methods for alternative(s) selected (in preparation for field testing of interventions).
- f. Field testing of interventions.
- g. Data analysis.
- h. Interpretation of results of field tests of intervention.
- i. Assessment of costs and of replicability of intervention.
- j. MDH decisions, planning, and budgeting for replication on a wide scale.
- k. Assignment of authority and responsibility for widespread replication of the tested intervention in the rural health services delivery system.

17. Logistic Support:

- a. Secretarial and administrative support to the project has been a problem due to low salaries, inability to identify bilingual secretaries, and poor office space.
- b. Increased technical assistance and MDH professional staff will produce a larger clerical burden over the next 3 years. In particular, larger numbers of short- and long-term U.S. consultants will increase the administrative/logistic burden of the contractor staff.
- c. Increased staff plus purchase of the mini-computer will require additional office space which should be identified as soon as possible.

Recommendation: The revised Implementation Plan should include additional administrative staff both under the Westinghouse Contract and from the MDH. Additional office space should be identified and occupied as soon as possible.

V. Next Steps in Project Revision Process:

	<u>Date Completed</u>
a. Evaluation Report to MOH and Westinghouse	March 1
b. USAID request to MOH and Westinghouse for Revised Implementation Plan within 3 months	March 15
c. SRHD data sent to U.S. for processing	March 31
d. MOH and Westinghouse review outline of Revised Implementation Plan with USAID/Cairo	April 15
e. MOH and Westinghouse review draft Implementation Plan with USAID/Cairo	May 15
f. Data returned from U.S.	June 15
g. Final Revised Implementation Plan submitted to USAID/Cairo	June 30
h. USAID/Cairo approval of Revised Implementation Plan with revision of appropriate documentation	July 31
i. Westinghouse Contract amended	September 15
j. Additional office space ready	November 1
k. New technical assistance team members arrive	November 30

VI. Summary Recommendations

- 1a. Limit the number of medical/technical interventions demonstrated to a few previously identified key problem areas.
- 1b. Focus the structure of management input testing in such a way that relative productivity of each in terms of feasibility and cost effectiveness is clear.
2. Process and analyze all data collected to date immediately by sending it to the U.S.
- 3a. Assign additional qualified permanent staff to the MOH central project office as rapidly as possible.
- 3b. Assign MOH liaison staff as agreed upon in the project grant agreement and approved implementation plan.
4. Procure three additional long-term technical advisors from Westinghouse as soon as possible in the areas of (i) research and survey design and analysis, (ii) training and health education, and (iii) health administration.
5. Extend project life by 2 years to ensure adequate time for completion of test interventions and institutionalization of applied research/demonstration capability within the MOH.
6. Expand project to the originally scheduled total of 10 districts, for test purposes, as soon as a revised Implementation Plan has been developed and agreed upon.
7. Review the draft family planning intervention as the next special studies priority, in order to assure emphasis on family planning education, counseling and methods training for unit health teams and district staff.
8. Utilize project manuals, as soon as they are improved, for the present eight-week orientation course given at the governorate level to all newly assigned rural health physicians.
- 9a. Procure no further vehicles for use in the project tests.
- 9b. Shift vehicles already supplied to provide true tests of the vehicles' effects in terms of health services, as originally agreed upon.

- 9c. Prepare functional analysis of presumed transportation service or equipment requirements at unit, district and governorate levels, and consider appropriateness of alternative vehicle ownership requirements, where indicated, in terms of vehicle size, durability, fuel economy, maintenance infrastructure, and multiple purpose usage.
- 10a. Cancel proposed hardware tests for communication systems which are known, a priori, to not be replicable on a nationwide basis on the basis of costs and other considerations.
- 10b. Prepare functional analysis of presumed communication service requirements at unit, district and governorate levels, and consider whether traditional systems might be more effectively utilized.
- 10c. Analyze data for districts with reasonably functional telephone systems (e.g., Assiut) and contrast them with districts in which telephone systems are essentially inoperative.
- 11a. Develop 8 to 12 week in-country training courses in health planning and administration and communicable disease control for MOH officials at central, governorate and district levels.
- 11b. Provide flexible refresher English language courses for key officials for whom overseas training is essential.
- 11c. Review timing of in-country training now underway for rural health doctors in relation to arrival of new medical graduates in rural areas (which takes place March 1st).
- 11d. Take advantage of the 8-week orientation program provided by the Governorates to newly assigned medical graduates to ensure that they have the specific skills and knowledge which will be of most use to them in providing and arranging effective rural health services.
- 11e. Consider alternative motivational activities for community leaders who are unlikely to receive originally proposed third country training.
12. Assess and revise existing training manuals with a multi-disciplinary team in order to ensure that the manuals are effective teaching, study, and reference

tools.

13. Revise plans for fostering community participation, in line with a more realistic assessment of what exists, what changes have occurred, and what can be accomplished in the remaining life of the project.
- 14a. Prepare functional analyses and consider redefining job descriptions for the several grades of sanitarians and health center workers, giving specific consideration to their potential utilization in environmental sanitation.
- 14b. Revise implementation expectations for environmental sanitation to reflect a more realistic assessment of what can be accomplished in the life of the project, focusing on analysis of current tasks and priorities, definition of tasks, and preparation of training materials.
- 14c. Revise the training manual for environmental health workers so that it is practical, more realistic in scope, and better adapted to the socio-economic, technical and environmental realities of rural Egypt.
- 15a. Establish adequate facility maintenance systems and budget, but do not finance improvement of physical facilities under the project.
- 15b. Give priority to providing water supply and sanitation in any plan for upgrading facilities, although this should not be financed under the SRHD project.
- 16a. Develop immediately a revised SRHD project implementation plan and schedule for AID approval, based on priorities noted in this report, current project information, and data to be analyzed under recommendation no. 2.
- 16b. Adjust other AID project documents accordingly.
- 16c. Develop and follow an AID plan and schedule for monitoring ongoing implementation of the revised project.
- 16d. Follow the steps listed in the detailed discussion of recommendations (no. 16) when developing and implementing tests of interventions for SRHD and preparing for the application of findings.
- 17a. Provide for additional administrative staff in the Revised Implementation Plan to be obtained from both Westinghouse and the MDH.

17b. Identify and occupy additional office space as soon as possible.

TABLE I  
Summary of Project Expenditures

to Dec. 31, 1980  
in US \$

LINE ITEM	OBLIGATION	EXPENDITURE	UNLIQUIDATED	% OBLIGATION EXPENDED	% TOTAL EXPENDITURE
<u>U.S. DOLLAR</u>					
Consultant services	1,800,412	610,051	1,190,361	34%	23%
Consultants	13,017	4,152	8,865	32%	.1%
Commodities	1,834,072	1,457,715	376,357	79%	56%
Training	315,875	133,961	181,914	42%	5%
TOTAL	<u>3,963,376</u>	<u>2,205,879</u>	<u>1,757,497</u>	56%	65%
<u>Local Currency</u>					
Tech. Services	57,855	20,360	37,495	35%	.7%
Field Tests	184,712	111,271	73,441	60%	4%
Local Training	139,430	20,902	118,528	15%	.8%
Equipment & Supplies	78,000	74,856	3,144	96%	3%
Core Staff Premiums	24,712	27,756	[3,044]	112%	1%
Participant Training	120,285	130,326	89,959	25%	1%
Contract Local Support	244,149	102,760	141,389	42%	4%
Miscellaneous	8,000	3,240	4,760	40%	.1%
TOTAL	<u>857,143</u>	<u>391,471</u>	<u>465,672</u>	46%	15%
PROJECT TOTAL	4,820,519	2,597,350	2,223,169		

TOTAL PROJECT

	U.S. \$ Cost	LE Cost	Total
Obligations	7,800,000	857,143	8,657,143
Sub-obligations	3,963,376	857,143	4,820,519
Un-sub ob Balance	3,836,624	-	3,836,624
Expenditures	2,205,879	391,471	2,597,350
Unexpended Ob.	5,594,121	465,672	6,059,793
Unexpended Sub-ob	1,757,497	465,672	2,223,169

TABLE II

Estimated Additional Budget for Project Amendment and Extension\*

<u>U.S. Dollars</u>	<u>\$000</u>
U.S. Contractor Services	1,900
(3 added staff x 3 years x \$130)	
(2 added years for Chief of Party x \$130)	
(Additional consultants - 12 months)	
(Home office support x 2 years)	
(Office equipment/supplies/misc.)	
Other Consultants (TAC)	50
Commodities	500
Training (overseas, in-country and materials development/production)	700
Miscellaneous	<u>100</u>
Total US	3,250

<u>Local Currency</u>	<u>\$000 Equivalent</u>
Technical Services	25
Field Tests	100
Local Training	100
Equipment	100
Participant Training	50
Local Support (Contract)	100
Miscellaneous	<u>75</u>
Total	3 550

\*Additional to \$4,820,519 subobligated for existing budget through FY 83. Based on project recommendations in this report to provide additional technical assistance, extend the life of project and eliminate communications equipment and additional vehicles.

- d. Selection of alternative(s) for testing.
- e. Development and field testing of the implementation materials and methods for alternative(s) selected (in preparation for field testing of interventions).
- f. Field testing of interventions.
- g. Data analysis.
- h. Interpretation of results of field tests of intervention.
- i. Assessment of costs and of replicability of intervention.
- j. MDH decisions, planning, and budgeting for replication on a wide scale.
- k. Assignment of authority and responsibility for widespread replication of the tested intervention in the rural health services delivery system.

17. Logistic Support:

- a. Secretarial and administrative support to the project has been a problem due to low salaries, inability to identify bilingual secretaries, and poor office space.
- b. Increased technical assistance and MDH professional staff will produce a larger clerical burden over the next 3 years. In particular, larger numbers of short- and long-term U.S. consultants will increase the administrative/logistic burden of the contractor staff.
- c. Increased staff plus purchase of the mini-computer will require additional office space which should be identified as soon as possible.

Recommendation: The revised Implementation Plan should include additional administrative staff both under the Westinghouse Contract and from the MDH. Additional office space should be identified and occupied as soon as possible.