

LOCAL DEVELOPMENT II — PROVINCIAL

# مشروع التنمية المحلية

## LD II-P

FINANCED BY U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT

### OPERATIONALIZATION OF MARKAZ MAINTENANCE CENTERS AND VILLAGE COUNCIL WORKSHOPS

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September 1992  
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AND VILLAGE COUNCIL WORKSHOPS**

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# Executive Summary

This report documents the methodology and results of the Local Development II-Provincial Project (LD II-P) effort between August 1991 and June 1992 to increase the operational levels of village council workshops (VCWs) and markaz maintenance centers (MMCs) in Egypt.

The effort was implemented in two phases. Site visits to six governorates during the initial phase were used to assess operational levels, identify factors helping and hindering operations, and provide technical assistance to address the identified problems. Workshop sessions were held to provide technical assistance and focus attention on issues in these and other areas. Action plans were developed in each governorate, and follow-up trips were made to three governorates to assess progress on the action plan items and evaluate workshop improvements. Management, staffing and service demand were found to be the major factors influencing operational level.

Based on the success of the first phase, the program was expanded to cover an additional 10 governorates. Two to five trips were made to each governorate. Priority was placed on revisiting sites which were rated poor on previous trips. Sites previously rated acceptable were often bypassed to allow time to visit new sites. About half (365) of the 654 workshops in the 16 governorates were visited at least once. A third of those (140) were visited at least twice. Phase II employed the same methodology as the first phase although more emphasis was placed on technical assistance and less on assessment during the second phase. Also, monthly meetings for maintenance coordinators were conducted.

Included in this report is a discussion of the intervention and the observed changes at maintenance facilities in the target governorates. The results of the activity show that the percentage of all visited sites with fair to excellent ratings increased from 69 on the first visit to 82, as last reported. For the 140 locations to which follow-up visits were made, the number rated fair to excellent nearly doubled, increasing from 62 to 111. Record keeping and project monitoring, which were poor in many locations during first visits, showed some improvement, but these are areas which still need major improvement in most governorates.

It is concluded that the methodology used was effective in improving maintenance operations; the amount of improvement was dependent on the capability of and response from the governorate level staff.

Recommendations are made to continue technical assistance through site visits, workshop sessions, and governorate maintenance coordinator meetings. A suggestion is also made for

reassigning the maintenance coordinator position to a technical department in governorates where current capabilities are weak. Other recommendations emphasize the importance of addressing record keeping and training needs.

# SECTION I INTRODUCTION

## BACKGROUND

LD II-P and its predecessors, the Basic Village Services Project and the Decentralization Support Fund, have been key in providing essential services such as potable water and wastewater systems, roads, buildings and equipment to local governmental units in Egypt. In order to support the operation and maintenance of these and other governmental services, LD-II funds were also provided for constructing and equipping maintenance workshops at the village, markaz and governorate levels.

VCWs, MMCs and some governorate maintenance centers (GMCs) were built and equipped from 1988 to 1992 using USAID funds administered by Chemonics International Consulting Division through LD II-P. Although many of these maintenance facilities were operating successfully, a significant number, especially at the village level, were not operating up to their potential and some were not operating at all. Awareness of these facts led to the identification of a work plan activity for increasing the operational levels of village council workshops and markaz maintenance centers.

## DEFINITION OF OPERATIONAL LEVEL

Operational level was defined as a measure of the utilization of the tools, facilities, and record keeping and monitoring tools in relation to the maintenance needs in the associated governmental unit. Prerequisite to having acceptable levels of utilization, was the existence of suitable staff, facilities, tools, spare parts, management and funding. As an example, a VCW was considered to have a high operational level if it had:

- A maintenance plan or schedule outlining its maintenance responsibilities.
- Adequate staff to carry out the plan.
- A room set up as a workshop with workbench, and adequate hand and power tools ready to use.
- Another room containing catalogued spare parts.
- A good set of records showing that the planned maintenance work was actually being performed.

A workshop was considered operational (operating at least a minimum acceptable level) if it rated from fair to excellent using an

evaluation procedure which is part of the survey form, discussed in the Section II.

This definition allowed that acceptable levels of operation could occur in VCWs in villages where the primary maintenance is for pipeline networks, and where most of the work is performed outside the workshop building. In this case, the workshop itself is used only for minor mechanical repairs but the facility serves as a base for repair operations and contains an adequate supply of spare parts and records of both inside and outside activity.

It is recognized that the most important consideration should be whether the proper maintenance of equipment, buildings and systems is being carried out, rather than whether or not the workshop is operating. A local maintenance facility is really just another tool to assist in the maintenance process. Its real importance is not in its existence or even in the operations it can perform but in how well it performs the necessary maintenance. It is conceivable that proper maintenance can be performed without the use of an existing facility, through contracting with the private sector; however the added costs, especially with the limited maintenance budgets, make this a much less desirable option than the use of existing facilities and tools.

It is also acknowledged that the existence of a workshop with the requisite staff and tools does not necessarily imply that the proper maintenance is being done. In spite of these facts, due to time constraints, this study concentrated primarily on observations made at the maintenance facilities themselves. Visits to maintenance sites outside the workshop were made only when their proximity to the workshop permitted quick visits.

## SECTION II

# Methodology

### PHASE I

The first phase, implemented from August to November 1991 and reported on in *Operationalization of Markaz Maintenance Centers and Village Council Workshops, Phase I* (Chemonics/Cairo, November 1991), included the following main items:

- Selection of six governorates for study, representing upper Egypt, the delta and desert areas including one governorate known to have workshops with a high level of operation and others where a significant proportion were not operating efficiently. Selected governorates included Beheira, Daqahliya, Matrouh, New Valley, and North and South Sinai.
- Development of a survey form for use in collecting data and evaluating each site visited.
- Visiting all six governorates and making follow-up trips to three. The initial trips included an assessment of operations and provision of technical assistance at a selected sample of VCWs and MMCs. Also during first visits, workshops were conducted to provide technical assistance in addressing issues and in developing an action plan for the governorate. The follow-up trips were made to assess progress and provide additional technical assistance.
- At the end of the first phase, a report was prepared drawing conclusions and making recommendations for applying what was learned. A copy of the conclusions and recommendations from Phase I is included in Appendix A.

### PHASE II

Based on the recommendations from the Phase I, a strategy was developed to expand the operations to cover all 16 governorates not covered by pilot program activity. The main part of this activity took place during the period from November 1991 to June 1992. The ten governorates added to the six Phase I governorates were:

Asswan  
Giza  
Red Sea

Beni Suef  
Ismailia  
Sohag

Damietta  
Kafr El-Sheikh  
Fayoum  
Qalubiya

## Field Trips

Initial trips were made to the 10 additional governorates and the first series of follow-up trips were completed in all governorates. Second and third trips were made to most governorates to do follow-up, provide additional technical assistance and visit additional sites. The trip schedule is shown in Appendix B.

Field trips were made by teams composed of two advisors from Chemonics and a representative from the Organization for the Development of the Egyptian Village (ORDEV). During site visits, teams were accompanied by representatives from the governorate and markaz local development staffs. Often two and occasionally three Chemonics teams were in the field visiting different governorates at the same time.

Trips typically took place over a four-day period with the first three days spent evaluating maintenance sites and providing technical assistance, and the fourth day meeting with the secretary general and local development staff, and holding a workshop session for either markaz or village personnel. During the workshop, the findings of the visits and survey were discussed, technical advice was given and an action plan was developed to address the identified problems.

## Site Selection

The site selections for visits during the first trip to each governorate were made in conjunction with the governorate staff. Site selection was intended to provide a range of facilities with different operational levels. During follow-up visits, priority was given to sites where operational levels were low on the first visit or where specific recommendations had been made for improvement, and to non-visited sites. Sites which had shown acceptable levels of operation on earlier visits were usually bypassed to allow time for seeing more new locations.

## Survey Form

The survey form (see Appendix C), developed during the first phase, was also used in the second phase for collecting data and evaluating each site. Information collected included inventories of equipment and project components for which the village or markaz had maintenance responsibilities, staff and available tools inventories.

After the inventories had been completed, six factors were evaluated in relation to the service demand. The factors included staff, facilities, tools and equipment, spare parts, management and funding. Although, these factors relate to the workshop capability, they are not necessarily an indicator of workshop activity.

The actual use of the workshop was evaluated by considering the utilization levels of the (1) facility, (2) tools and equipment, and (3) management tools for planning, monitoring and reporting. The survey form was designed so that ratings could be quantified and an average suitability and utilization factor calculated. The suitability factor rating is an indicator of the capabilities of a site in meeting its maintenance responsibilities. Study of its individual components is also useful in identifying what influence each factor has on operational level. The utilization factor rating is an indicator of how well the site's capabilities are being used to meet the responsibilities, and is equivalent to the operational level. A combined rating (an average of the two factors) can also be calculated.

While there is, of course, some subjectivity and professional judgement involved in the ratings, it is believed that the data presents an accurate view of the operational levels of the sites visited.

### **Workshop Database**

A computerized database, in spreadsheet form, of all workshop sites in the 16 target governorates was developed for use in recording the dates and rating scores for each site visit (see Appendix D). The data for each governorate was listed in a separate file which included summary information concerning the status of each site during both the initial and last visits. Printouts from the database were especially useful on follow-up trips to identify sites which were still rated poor and in need of further follow-up. It is also planned that the database files will be distributed to each governorate for their use in maintaining a record of their follow-up visits and, when all sites have been visited, a current status report for all workshop sites in the governorate.

### **Action Plans**

The action plans developed during the workshop sessions served to document needed action and focus efforts in addressing problems. Specific action to address observed problems was often included with items to benefit the governorate maintenance operation as a whole. While Chemonics staff assumed responsibility for some action items, most were assigned to officials or committees within the governorate. Responsibility for items which involved outside agencies was shared by governorate and Chemonics staffs.

### SECTION III

## Phase II Findings

### NEEDS ASSESSMENT

The findings on the first trip to each governorate were used to identify the needs and problems related to workshop and maintenance operations; action plans and further follow-up activities were then developed. These first trips took place from August through December 1991, and included three to eleven site visits in each governorate. The data gathered has been summarized and is shown by governorate in Table 3.1.

The sites visited during these initial trips were suggested by governorate staff and do not constitute a true random sample, thus, the data is not necessarily representative of the general governorate situation before intervention. In spite of this, the data is still useful because it shows which maintenance areas were perceived to be weak; this information was used initially to focus technical assistance and action plan activity.

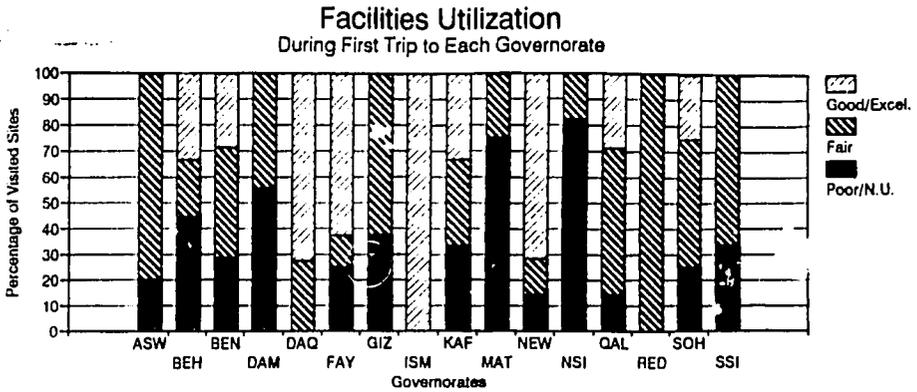
As in Phase I, Phase II findings varied considerably from governorate to governorate and often even within the same governorate. It is important to recognize that since the factor ratings took into consideration the service demands at a particular site, the expected level of activity for a given rating can vary significantly from one site to another. This is particularly evident when comparing actual activity levels for some desert village locations with that of particular delta locations.

Evaluating the three utilization factors (facilities, tools and management) provided the initial insight into the status of workshop operations in the various governorates. The percentage of sites, in each of these factors, given the same ratings is shown in graphs 4.1, 4.2 and 4.3.

TABLE 3.1  
 FACTOR RATINGS BEFORE INTERVENTION  
 FOR VILLAGE COUNCIL WORKSHOPS AND MARKAZ MAINTENANCE CENTERS  
 REPORT DATE: 02-Jul-92

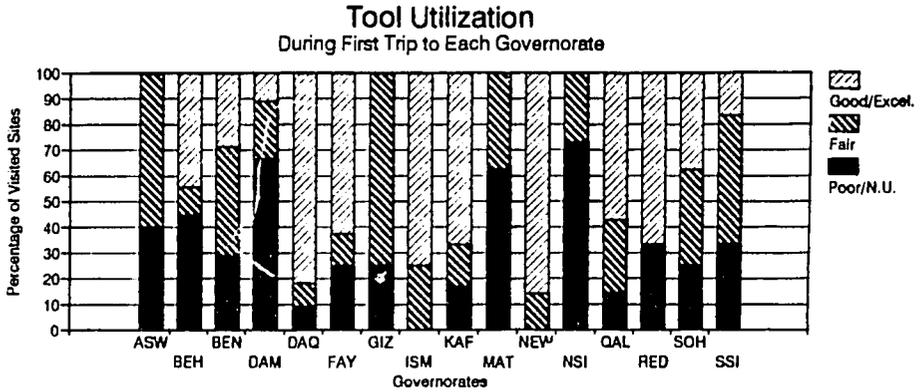
Governorate	Total No. of Sites	No. of Sites Visited	Rating	No. of Sites at Various Ratings during the First Trip																	
				Suitability Factors						Utilization Factors											
				Sw/Tr Qty/Qty	Suitable Facility	Tools/ Equip.	Spare Parts	Manager Plan/Rac	Adsep Funding	Facility Use	Tools/ Equip.	Manager Plan/Rac									
ASSWAN	27 100%	5 19%	Good/Ex	0	0%	2	40%	2	40%	2	40%	2	40%	2	40%	0	0%	0	0%	0	0%
			Fair	4	80%	2	40%	2	40%	2	40%	2	40%	4	80%	3	60%	2	40%	2	40%
			Poor/NU	1	20%	1	20%	1	20%	1	20%	1	20%	1	20%	2	40%	3	60%	3	60%
			Total	5	100%	5	100%	5	100%	5	100%	5	100%	5	100%	5	100%	5	100%	5	100%
BEHEIRA	82 100%	9 11%	Good/Ex	4	44%	4	44%	9	100%	2	22%	5	56%	7	78%	3	33%	4	44%	5	56%
			Fair	5	56%	5	56%	0	0%	6	67%	3	33%	2	22%	2	22%	1	11%	3	33%
			Poor/NU	0	0%	0	0%	0	0%	1	11%	1	11%	0	0%	4	44%	4	44%	1	11%
			Total	9	100%	9	100%	9	100%	9	100%	9	100%	9	100%	9	100%	9	100%	9	100%
BENI SUEF	45 100%	8 18%	Good/Ex	2	25%	3	38%	3	38%	2	25%	2	25%	2	25%	2	25%	2	25%	2	25%
			Fair	5	63%	3	38%	5	63%	3	38%	4	50%	3	38%	3	38%	3	38%	3	38%
			Poor/NU	1	13%	2	25%	0	0%	1	13%	2	25%	0	0%	2	25%	2	25%	3	38%
			Total	8	100%	8	100%	8	100%	8	100%	8	100%	6	100%	7	100%	7	100%	8	100%
DAMIETTA	31 100%	9 29%	Good/Ex	6	67%	2	22%	8	89%	1	11%	0	0%	8	89%	0	0%	1	11%	0	0%
			Fair	3	33%	6	67%	1	11%	5	56%	4	44%	1	11%	4	44%	2	22%	0	0%
			Poor/NU	0	0%	1	11%	0	0%	3	33%	5	56%	0	0%	3	33%	6	67%	9	100%
			Total	9	100%	9	100%	9	100%	9	100%	9	100%	9	100%	9	100%	9	100%	9	100%
DAQAHLIYA	85 100%	11 13%	Good/Ex	10	91%	4	36%	11	100%	7	78%	9	82%	7	64%	8	73%	9	82%	8	73%
			Fair	1	9%	7	64%	0	0%	2	22%	2	18%	4	36%	3	27%	1	9%	3	27%
			Poor/NU	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	1	9%	0	0%
			Total	11	100%	11	100%	11	100%	9	100%	11	100%	11	100%	11	100%	11	100%	11	100%
FAYOUM	45 100%	8 18%	Good/Ex	5	63%	7	88%	6	75%	3	38%	3	38%	7	88%	5	63%	5	63%	3	38%
			Fair	3	38%	0	0%	1	13%	4	50%	3	38%	1	13%	1	13%	1	13%	0	0%
			Poor/NU	0	0%	1	13%	1	13%	1	13%	2	25%	0	0%	2	25%	2	25%	5	63%
			Total	8	100%	8	100%	8	100%	8	100%	8	100%	8	100%	8	100%	8	100%	8	100%
GIZA	52 100%	9 17%	Good/Ex	1	13%	1	13%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
			Fair	4	50%	7	88%	8	100%	8	100%	1	13%	8	100%	5	63%	6	75%	0	0%
			Poor/NU	3	38%	0	0%	0	0%	0	0%	7	88%	0	0%	3	38%	2	25%	8	100%
			Total	8	100%	8	100%	8	100%	8	100%	8	100%	8	100%	8	100%	8	100%	8	100%
ISMAILIA	12 100%	8 67%	Good/Ex	4	50%	8	100%	8	100%	8	100%	4	50%	8	100%	8	100%	6	75%	1	13%
			Fair	4	50%	0	0%	0	0%	0	0%	4	50%	0	0%	0	0%	2	25%	4	50%
			Poor/NU	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	3	38%
			Total	8	100%	8	100%	8	100%	8	100%	8	100%	8	100%	8	100%	8	100%	8	100%
KAFR EL SHEIK	55 100%	6 11%	Good/Ex	3	50%	3	50%	6	100%	3	50%	3	50%	6	100%	2	33%	4	67%	1	17%
			Fair	3	50%	3	50%	0	0%	2	33%	2	33%	0	0%	2	33%	1	17%	4	67%
			Poor/NU	0	0%	0	0%	0	0%	1	17%	1	17%	0	0%	2	33%	1	17%	1	17%
			Total	6	100%	6	100%	6	100%	6	100%	6	100%	6	100%	6	100%	6	100%	6	100%
MATROUH	35 100%	9 26%	Good/Ex	1	11%	4	44%	8	89%	0	0%	1	11%	0	0%	0	0%	0	0%	0	0%
			Fair	3	33%	5	56%	1	11%	3	38%	2	22%	6	67%	2	22%	3	38%	3	33%
			Poor/NU	5	56%	0	0%	0	0%	5	63%	6	67%	3	33%	6	75%	5	63%	6	67%
			Total	9	100%	9	100%	9	100%	9	100%	9	100%	9	100%	9	100%	9	100%	9	100%
NEW VALLEY	18 100%	7 39%	Good/Ex	5	71%	6	86%	6	86%	6	86%	5	71%	4	57%	5	71%	6	86%	5	71%
			Fair	1	14%	1	14%	1	14%	0	0%	2	29%	3	43%	1	14%	1	14%	1	14%
			Poor/NU	1	14%	0	0%	0	0%	1	14%	0	0%	0	0%	1	14%	0	0%	1	14%
			Total	7	100%	7	100%	7	100%	7	100%	7	100%	7	100%	7	100%	7	100%	7	100%
NORTH SINAI	36 100%	11 31%	Good/Ex	3	27%	7	64%	9	82%	1	9%	1	9%	1	9%	0	0%	0	0%	1	9%
			Fair	2	18%	3	27%	1	9%	1	9%	2	18%	3	27%	2	18%	3	27%	1	9%
			Poor/NU	6	55%	1	9%	1	9%	9	82%	8	73%	7	64%	9	82%	8	73%	9	82%
			Total	11	100%	11	100%	11	100%	11	100%	11	100%	11	100%	11	100%	11	100%	11	100%
QALUBIYA	53 100%	7 13%	Good/Ex	4	57%	5	71%	6	86%	4	57%	2	29%	0	0%	2	29%	4	57%	0	0%
			Fair	2	29%	2	29%	1	14%	2	29%	4	57%	7	100%	4	57%	2	29%	4	57%
			Poor/NU	1	14%	0	0%	0	0%	1	14%	1	14%	0	0%	1	14%	1	14%	3	43%
			Total	7	100%	7	100%	7	100%	7	100%	7	100%	7	100%	7	100%	7	100%	7	100%
RED SEA	8 100%	3 38%	Good/Ex	0	0%	2	67%	3	100%	2	67%	0	0%	2	67%	2	67%	2	67%	0	0%
			Fair	3	100%	1	33%	0	0%	0	0%	2	67%	1	33%	0	0%	0	0%	1	33%
			Poor/NU	0	0%	0	0%	0	0%	1	33%	1	33%	0	0%	1	33%	1	33%	2	67%
			Total	3	100%	3	100%	3	100%	3	100%	3	100%	3	100%	3	100%	3	100%	3	100%
SOHAG	62 100%	8 13%	Good/Ex	5	63%	4	50%	7	88%	2	25%	3	38%	0	0%	2	25%	3	38%	3	38%
			Fair	2	25%	3	38%	0	0%	2	25%	4	50%	7	88%	4	50%	3	38%	1	13%
			Poor/NU	1	13%	1	13%	1	13%	4	50%	1	13%	1	13%	2	25%	2	25%	4	50%
			Total	8	100%	8	100%	8	100%	8	100%	8	100%	8	100%	8	100%	8	100%	8	100%
SOUTH SINAI	8 100%	6 75%	Good/Ex	0	0%	1	17%	4	67%	0	0%	0	0%	2	33%	0	0%	1	17%	0	0%
			Fair	4	67%	4	67%	1	17%	2	33%	4	67%	4	67%	4	67%	3	50%	1	17%
			Poor/NU	2	33%	1	17%	1	17%	4	67%	2	33%	0	0%	2	33%	2	33%	5	83%
			Total	6	100%	6	100%	6	100%	6	100%	6	100%	6	100%	6	100%	6	100%	6	100%

CHART 3.1



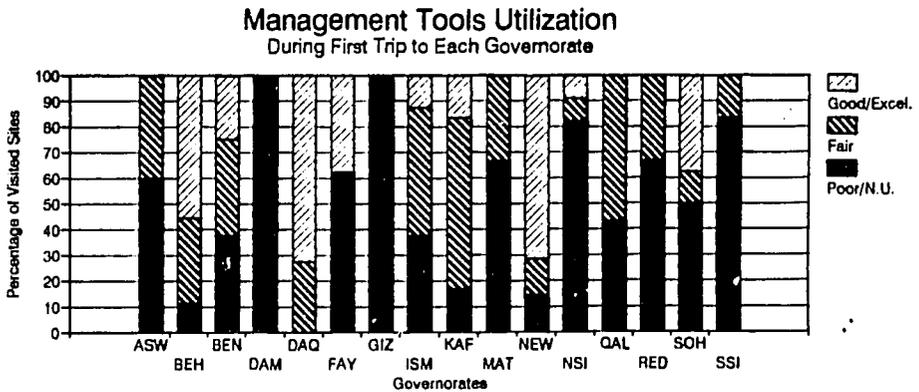
Facilities Utilization is use of building and workshop area to meet the service demand.

CHART 3.2



Tool Utilization is use of hand tools and shop machine tools provided.

CHART 3.3



Management Tools Utilization is use of recording, monitoring, and reporting materials.

Ten governorates stand out with 20 percent or more sites rated in the poor or not used category (poor/NU) for each of the three factors. Listed in order, with governorates having the highest percentage of sites rated poor/NU first, they are North Sinai, Matrouh, Damietta, Giza, South Sinai, Red Sea, Asswan, Beni Suef, Fayoum and Sohag. One governorate, Beheira, had 20 percent or more sites in this category for two of the factors. Qalubiya, Ismailia, and Kafr El-Sheikh each had 20 percent or more sites rated poor/NU in one factor category each.

North Sinai was extremely poor with 82 percent of the sites rated poor/NU in both use of facilities and use of management tools. The actual situation was that six out of 11 sites visited were not being used at all, primarily due to lack of staff.

Matrouh's situation was very similar, with 75 percent of the sites rated poor/NU in facility use, and the other factors not much better. Five out of nine sites were not being used due to lack of staff.

Damietta and Giza both stood out as having serious management problems, with all locations rated poor in the use of management tools. The suitability factor ratings for both governorates show management capability to be a problem area. Giza also had a shortage of staff at three of eight locations.

In South Sinai, five of six locations were rated poor/NU in the use of management tools. Like Giza, management capability and shortage of staff were problems.

Since only three (of six) sites were visited on the first trip to Red Sea Governorate, problems at one location make the poor ratings stand out on a percentage basis. Two of three sites, however, were rated poor in use of management tools.

Asswan, Fayoum and Sohag did not show any extreme problems in suitability factors except for the shortage of spare parts in 50 percent of the locations in Sohag and low management capability in 25 percent of the sites in Fayoum.

Beni Suef had two of eight sites rated poor in facility suitability and management capability. The facilities problems were at two MMC buildings, one of which was a two-story structure, which needs some renovation to be suitable to carry out the whole range of maintenance activities.

The remaining identified locations had a mix of factors with lower percentages in the poor/NU category.

A further study of the suitability factor ratings was made to identify any other problems in capability which could be contributing to the problems in the utilization areas. The Phase I study had found that the three most important factors influencing operational level were management, service demand and staffing; these factors were again

examined in Phase II to determine whether the wider sample would yield different results.

### **Facilities, Tools and Funding**

The Phase I study had suggested that, generally, the status of facilities, tools and funding were adequate to operate the workshops at an acceptable level. Phase II data agrees, showing that in all governorates 80 percent or more of the sites were rated fair or better in facilities and tools suitability.

Two governorates, North Sinai and Matrouh, showed inadequate funding at more than 30 percent of the sites. This would have been cause for concern, except that the problem is not actually an inadequate allocation for the sites but rather poor distribution of funds. Because of lack of staff at many of the VCWs in these two governorates, the funds for village maintenance had been retained at the markaz level and was not available at the village sites even though the markaz was using the funds for maintenance of village projects.

### **Spare Parts**

Since funding was found to be adequate, the availability of a sufficient and well-arranged supply of spare parts was judged to be a management issue. In locations where there was not a sufficient stock of spare parts on-site, the parts could often be obtained from another location or from the marketplace when needed. Therefore, the spare parts situation is judged not to be a problem preventing a workshop from operating at a satisfactory level.

### **Management**

Discounting the spare parts issue, the management factor had the poorest rating or was equal to the poorest rating of all suitability factors in all governorates except New Valley. Thus management is judged to be the primary factor relating to poor operations. This was expected based on the results of the first phase activity and was one of the focal points of the technical assistance and action plans which were developed.

### **Staffing**

Staffing was a serious problem in four governorates out of the poorest six. As mentioned above, Matrouh and North Sinai were the worst with many villages having no maintenance personnel at the VCWs. Giza and South Sinai also had significant staffing problems, and several other governorates had some workshops

with staff shortages. Staffing was identified as a second focal point in the action plan activity.

### **Service Demand**

Service demand had been identified in Phase I as one of the three most important factors (besides management and staffing) influencing a workshop's level of utilization or operation. However, since the factor ratings were determined in relation to the inventoried maintenance responsibilities, service demand as an absolute factor was not studied in the second phase.

While it is accepted that a high service demand will typically cause greater utilization of the tools and facilities, it was also concluded in Phase I that even in villages with relatively low service demand there were still enough responsibilities for the workshop to provide a useful service. Low service demand was thus considered in this phase to be a factor that would not prevent the operation of a workshop but, on the other hand, an increased service demand was judged to be quite beneficial. Therefore, increasing the service demand, through combining village maintenance activities, and using facilities as investment projects was a third focal point in the action plan activity.

## SECTION IV

# Intervention and Response

## FORMS OF INTERVENTION

Intervention took place in different forms including technical assistance, workshop sessions, meetings with various governorate officials from governors to village chiefs, the development of action plans, and regular monthly meetings for governorate maintenance coordinators. Although the same forms of intervention were used in each governorate, the contents and action items were tailored to an area's specific needs and situations. For example, in desert governorates where there was often a shortage of staff, recommendations were made for providing incentive programs through investment project regulations to attract staff; in extreme cases, renting facilities to the private sector was suggested. In some delta locations, there was a problem of excess staff. In those situations, some staff transfers or staff retention, while expanding the capabilities of the workshop, were the recommended actions.

### Technical Assistance

Technical assistance included assisting in workshop reorganization, identification of expanded roles for workshop activity, specific instructions for improvement of record keeping, and general discussions with village and markaz leaders and workshop personnel. A minimum condition checklist for workshops (Appendix E) was also prepared and distributed during workshop visits. The checklist was useful, particularly at locations where management skills were weak. It was designed as a reference for workshop personnel to use in organizing the workshop facility, stocking spare parts, and improving the recording and monitoring system. On-site technical assistance proved to be useful in helping specific sites; however, it was limited to the visited sites which were unable to address problems and issues normally within the domain of the higher authorities (markaz and governorate). These issues were addressed in workshop sessions (two in most governorates), typically held on the last day of a field trip.

### Workshop Sessions

The first workshop session typically occurred at the end of the first visit to the governorate. It was a session for markaz chiefs, markaz maintenance coordinators and governorate staff including the secretary general, village development staff, maintenance coordinators, and directors of finance, personnel, and legal affairs. The session included a review of the maintenance, and monitoring and recording responsibilities at each level in the governorate. It

also included a summary of the general status of maintenance facilities observed during the first trip and examples of specific types of problems. A briefing was held with the secretary general before each of these meetings and an outline of specific action plans to address the problems was suggested. During the meeting, the secretary general would facilitate the development of an action plan with input from markaz staff.

A second workshop session was usually held on the second or third trip to the governorate. This was similar in nature to the first session but was focussed at the village level rather than the markaz level. Village chiefs were invited instead of markaz chiefs; they were encouraged to raise issues and discuss concerns related to village maintenance. A similar presentation was made, after which an action plan was again prepared.

## Action Plans

The action plan responsibilities were shared mainly by the governorate staffs (governorate, markaz and village) and Chemonics. The governorate responsibilities typically included a) addressing specific problem areas identified during the field trip or raised in the workshop session, and b) implementing an activity to first identify the service responsibilities at each workshop location and then from this, identifying the staffing and training needs and any additional tools or other items which were needed. In many governorates, a committee was also formed to study and develop an investment project regulation.

Chemonics advisors took responsibility for:

- Supplying additional materials for recording and monitoring activities, where needed.
- Contacting higher authorities to stress the need for action on some lingering or difficult problems.
- Setting up a program for monthly maintenance coordinator meetings which could be used both for training in procedural matters and as a forum to discuss common problems.
- Making return trips and follow-up site visits to assess improvement and provide on site training and technical assistance.

Some action items involved outside agencies. Both governorate staff and Chemonics took action to prod the outside agencies to address problems. One example is governorate staff contacting electrical authorities to speed electrical connections to village workshops. Another example is Chemonics addressing the parts support problem for some types of equipment by notifying USAID

of its seriousness and then setting up a meeting between the major equipment dealers and governorate maintenance personnel to discuss the problem.

### **Monthly Meetings for Maintenance Coordinators**

Regular monthly meetings for governorate maintenance coordinators were established based on the recommendations made in Phase I. The goals of the meetings were to provide on-the-job training and technical assistance to maintenance coordinators and, through assignments such as governorate-conducted surveys and follow-up visits, multiply the effect so that the technical assistance would be passed on and distributed throughout the governorates.

After an introductory meeting for maintenance coordinators from 23 governorates, the group was split into two groups, each meeting once a month under the direction of Chemonics advisors (see schedule in Appendix F). An additional governorate or markaz representative was also encouraged to attend with the maintenance coordinator. Part of each meeting was typically spent discussing the planning, monitoring and reporting system; another portion was spent reviewing issues related to improving the operation of local workshops. Some meetings included sessions addressing special topics such as spare parts availability. Participants were given assignments, such as using survey forms, developed by Chemonics, to survey the status of VCWs in their respective governorates. At later meetings, they were asked to do follow-up visits and provide reports indicating the changes in status. The meetings also provided a good opportunity for discussion and sharing between the maintenance coordinators themselves. This allowed for solutions to current problems in one government being addressed based on successful experiences in other governorates.

The meetings have been very successful, with good attendance, good discussion and good response to assignments. They have proved to be a valuable vehicle for extending the technical assistance provided and also for transferring skills to governorate personnel.

### **IMPLEMENTATION BY GOVERNORATE**

The following brief summaries provide some insight into the observed situation in each governorate, the action taken, and the results. It is intended to highlight some of the significant achievements made in addressing problems, and briefly discuss those situations in which progress was less than desired.

## Asswan

The primary responsibility at most Asswan VCWs is for the maintenance of water pipelines and water meters; some locations also have a compact unit for water treatment and/or are responsible for the maintenance of some vehicles. The identified problems included staff shortages, disorganized workshops without water meter calibration facilities, and poor record keeping. Action taken included:

- Establishment of a follow-up program, supervised by the maintenance coordinator, to make regular visits to workshops.
- Hiring of 24 engineers to be distributed among the maintenance facilities.
- Training of twenty technicians in water meter repair.
- The construction of water meter calibration stations in many VCWs.
- Development of an investment project regulation.

There was good improvement in the use of facilities, tools and records, but further improvement is still needed in record keeping, staff training and the organization of workshop areas.

## Beheira

Since Beheira has a water company which is responsible for much of the maintenance on water projects, the VCWs in many villages are responsible only for small diameter pipelines and water connections to village buildings. The observed use of several workshop buildings on the first trip was for office space for over-staffed maintenance organizations. Record keeping was good at most locations, but in some facilities the tools were being kept unused in a locked room. A couple VCWs were operating successfully as investment projects providing service to the villages and the private sector. Actions taken included:

- A survey by fourteen two-member teams to identify staff levels, and service and training needs at each workshop location.
- A governorate committee was formed to address staffing needs and issues, and develop a governorate-wide investment project regulation.

A regulation was completed, approved and is now being implemented at some locations. Recently, eight people from the local development staff were assigned responsibility for the

maintenance facilities in one or two marakez each. They will provide ongoing follow-up and support.

Reduction of staff was found to be difficult, so the expansion of services through the investment regulation appears to be the best way to further increase utilization. The training needs have not yet been met due to delays in the release of funds.

## **Beni Suet**

VCWs in this governorate are typically responsible for three to six diesel powered pump sets, a similar number of electric pump sets, a compact unit, roads and water pipeline. Although some MMCs are equipped to do medium repair on pump sets, the major repair and some medium repair is done by the governorate housing authority in their repair facility. With the exception of a lack of water meter repairmen at all VCWs, the staff sizes were generally adequate. The primary needs were improvement in record keeping and workshop organization at some sites, training of water meter repairmen, consolidation of road maintenance staff into the VCW organization and general follow-up to address problems. The operations of four MMCs were located in facilities rated poor in suitability. One three-story building houses both an MMC for water projects and an MMC for equipment; because the building is unsuitable for maintenance activities, the MMC operations should be moved.

Action taken included the formation of a committee to visit each workshop site and address the observed problems. Arrangements are also being made for the training of water meter repairmen but this task is not yet complete.

The number of follow-up site visits made was limited, but some good improvements were noted, indicating that technical assistance and the governorate follow-up activity was having a positive effect.

## **Damietta**

Maintenance responsibilities for each site typically include a few vehicles, water and sewer pipeline, pumping stations and sometimes a sewage treatment facility. Supervision of road and electrical network maintenance is also done. The initial problems included the use of several VCWs for storage rather than maintenance, lack of staff, tools and transportation at some locations, and poor supervision of VCW activities by the marakez.

The governorate directed an activity to remove excess materials from VCWs and conducted a survey to determine staff shortages and training needs. In response to the survey, some staff were hired, some were transferred, and some were given additional training. Many sites, however, are still short one or two people. There was some improvement in record keeping, but major

improvement is still needed. Work has begun on an investment regulation but it is not yet complete or implemented.

## Daqahliya

Typical service needs at the village level include water pipe networks, some compact units, some sewer networks, and a few pump sets. Generally, service needs appear to be adequately met but initially, some VCWs were not fully utilizing their workshops and tools. There are sufficient or excessive numbers of staff at most locations and most are adequately qualified. There was some lack of understanding and coordination throughout the governorate concerning the responsibilities of each level, due to many staff changes since earlier training sessions. This was addressed in the workshop session and Chemonics later provided new copies of all previously issued materials.

Other action items included the naming of a governorate-level workshop follow-up supervisor and the appointment of maintenance coordinators and committees in each markaz. The follow-up supervisor has continued the survey work started by Chemonics until recently when individual governorate staff members were assigned to particular marakez to conduct workshop visits according to a prearranged monthly schedule. The markaz committees meet once a month to address issues. Most workshops in the governorate would like to operate as investment projects, but this is not supported at the governorate level.

## Fayoum

Typical VCW maintenance responsibilities are water and drainage pipelines, buildings and a few vehicles. The governorate has an investment project regulation which is used to do welding, woodworking and other activities. Because much of the village maintenance is done outside the workshop building, some workshops give the appearance of being used only for investment work.

The areas needing improvement were record keeping in some locations, better shop organization, and a recognition of the need to keep village maintenance as a priority over investment activity. Most locations also stressed the need for worker incentives. Three of the visited sites were still under construction and not operational.

Action items primarily centered on using governorate staff to continue the workshop visits that Chemonics had started, in order to make sure staffing levels were matched with the service demand. The governor also took an active interest in promoting the operationalization of workshops and began requiring monthly

status reports from all markaz chiefs. He also made an allocation of LE 25,000 for incentive payments to VCW and MMC employees.

## Giza

While maintenance responsibilities may vary from one Giza VCW to another, facilities are typically responsible for vehicles, pipeline and several pump sets. The largest problem was the weakness of maintenance operation management from the governorate level to the village level. A new maintenance coordinator was appointed recently so the situation may improve, but his position is still only part-time and needs to be changed to full-time. There were staff shortages at several locations. Most workshops also needed reorganization, and improvement in record keeping.

One of the action plan items was the appointing of markaz maintenance coordinators to improve facility management. This was completed, and there was improvement and good support in some marakez, but in others there was little change. In one markaz, operations in the VCWs were limited because the markaz was retaining too much control; the villages had no control over their maintenance budgets and also had not received their full allocation of tools.

There were also action items related to follow-up visits to VCWs, maintenance coordinator meetings with villages chiefs, and an investment project regulation. Some follow-up was done, but no meetings were held. Work on the investment regulation has been very uncoordinated, with no action taken at the governorate level; some marakez have chosen a regulation to proceed with on their own. Some improvement was noted in follow-up visits but significant changes are still needed at several locations.

## Ismailia

Service responsibilities at the village level typically include several vehicles, water pipeline, and often compact units or water purification units. Workshops were generally operating well; some problems identified included staff shortages at some locations, inadequate record keeping, and the need to improve operations at a few workshops.

The action plan included a survey of all sites to evaluate staffing needs and a review of record keeping practices. Another item was encouraging additional VCWs to use the investment regulation which was already completed. There was very good response to the action plan, the survey work was completed, and record keeping and operations at the noted workshops had improved. Good use of the investment project regulation for welding and automobile repair was also observed.

## Kafr El-Sheikh

The VCW maintenance responsibilities varied quite a bit amongst locations. Some were responsible only for water pipeline and roads; others also had responsibilities for compact units, pump sets and vehicles.

The governorate has an investment project regulation and many VCWs are using it to do work for the private sector. The use of the investment regulation has produced mixed results. It has increased the activities and services provided by the VCWs but, due to poor management, some of the VCWs are weak in planning for village maintenance and appear to be putting most of their energy into unrelated investment activity. Those VCWs with staff shortages often use in-house staff to supervise work performed by the private sector; investment activities were carried out by hiring extra staff on a contract basis.

The governor, who is relatively new in his position, led the first workshop session and expressed his strong support for maintenance activities. During the workshop session, the importance of keeping village maintenance as a priority function over investment activities was emphasized. Action plan activities included the formation of a committee for visiting and surveying each workshop site to identify staffing and training needs, and other problems. It also initiated the submittal of a monthly report on workshop status from each markaz chief to the governorate maintenance coordinator. Some improvement in workshop utilization was accomplished through these efforts but staff shortages, and record keeping and monitoring still need improvement.

## Matrouh

The service responsibilities varied depending on location. Villages in the oases typically had a well with a diesel-powered pump set and accompanying pipeline, while those along the coast had no wells, but were connected to a main pipeline from Alexandria. A few villages had a pipeline which was not yet connected to the main; some had a generator set. Most villages had at least a tractor and trailer; in some villages this was the only piece of village-owned equipment. The small service demand, combined with lack of staff, poor management and lack of follow-up throughout the maintenance organization were major problems.

The action plan focussed on increasing governorate-level follow-up through on-site visits. Staffing and tool needs were identified and recommendations were made for improvements in workshop operations and record keeping. Another action item was the formation of a committee to study and develop an investment project regulation for the governorate.

The governorate staff responded well in carrying out the follow-up, visiting nearly all sites. Improvements were evident even from records of sites which the team later visited for a first time. Some electrical hook-ups were made and small generator sets purchased for other locations without power. Shortage of staff continues to be a problem at many sites especially in villages where the populations are very small. Where there is no full-time staff, facilities are being operated by part-time staff with supervision from the village chief or markaz maintenance coordinator. Although progress has been made on the investment regulation, it has been slow.

## **New Valley**

Unlike villages in other governorates which are often served by water mains and electrical networks originating outside the village, most of the villages in New Valley generate their own power and have their own wells, because of their isolated locations. VCWs have responsibility for maintaining from four to nine diesel generator sets, a similar number of diesel and electric pump sets, vehicles, water pipeline and village buildings. Operations were good at most locations except the new MMC at El-Kharga where the equipment maintenance responsibility had not yet been transferred from the old facility. Some VCWs were also short one or two staff members.

Action items included moving staff and service responsibilities from the old to the new MMC in El-Kharga, and reviewing and addressing staffing needs at each location. A committee was also formed to develop an investment project regulation.

The new MMC has now been put into full operation and the old facility designated for use only as a garage. The investment regulation has not yet been implemented.

## **North Sinai**

The service needs of North Sinai villages typically include water pipeline and a couple of vehicles. Some locations also have a diesel powered pump set or generator. Lack of staff and electrical power in many of the VCWs were the major problems. Another problem was that marakez were retaining the funds and responsibility for village project maintenance so there was no demand being put on the villages to use the VCW facilities.

A very good initial action plan (see Appendix G) was developed, and actually reviewed and signed by the governor. It included taking inventory of the current maintenance staff, identifying staff and training needs, and hiring and training new staff. A committee was formed to develop and present an investment regulation. The team also strongly recommended the appointment of a full-time governorate maintenance coordinator.

Response to the action plan was quite good, though progress was not as fast as had been hoped, at times. The governor issued a decree (see Appendix G) designating a full-time maintenance coordinator. Twenty-seven additional staff were hired, trained and assigned to various workshop locations, and a good investment project regulation was developed and approved. On Chemonics' recommendation, it included a provision for leasing some facilities (in locations with severe staff shortages) to the private sector. The process of obtaining approval for electrical connections has been completed for most VCWs without electrical power; many of the connections have already been made. Workshop operations have begun at many sites which were formerly closed, but use of recording and monitoring tools is an area that still needs much improvement.

### **Qalublya**

The service responsibilities at the village level typically include vehicles, water pipeline, ten or more electric pump sets, and sometimes a compact unit or diesel pump sets. The identified problems were general in nature, such as excess staff at some locations, the need for staff training at others, and the need to improve record keeping.

The action plan included increasing the amount of on-site follow-up by the governorate staff, the formation of a committee to develop and implement an investment regulation, and other items to resolve problems at specific sites. The governor expressed his support of maintenance activities and intends to take action on the training issue.

### **Red Sea**

Red Sea Governorate contains only a governorate maintenance center, four MMCs and three VCWs. The service responsibilities include 10 to 30 pieces of equipment, plus water projects. Some locations are also operating under the investment project regulation.

The identified problems included some staff shortages, poor record keeping, and excess junk property littering several sites. The action plan included addressing staffing issues at the governorate level, more follow-up on the part of the maintenance coordinator to improve record keeping, and forming a committee to identify junk property for disposal.

Good progress was made on addressing the staffing needs (one location added 20 people), however most staff need additional technical training. Good improvement in record keeping was observed during follow-up visits. The identification of junk was completed and a date set for disposal.

## Sohag

VCWs typically have maintenance responsibilities for a pick-up truck, three to seven diesel-powered pump sets, a similar number of electric pump sets and a water pipeline network. Staff sizes were typically short one or two people and some staff needed training at each location. Maintenance staff was often based on-site at the pump stations rather than in the workshop, and record keeping was poor at many locations.

The action plan included formation of a committee under the village development director to follow up on the operationalization of MMCs and VCWs. It also contained specific action to address problems observed at various locations. Implementation of the investment regulation which had already been approved was also planned.

On return visits, good improvement was noted at several sites with recommendations implemented as suggested. Several locations are planning to start investment projects, however only a few have done so thus far.

## South Sinai

Because of the small population in South Sinai, no VCWs have been constructed; all maintenance is handled at the markaz level. Typical service responsibilities at the MMCs include from 20 to 35 vehicles, three to four generator sets and water pipeline network.

Because of a shortage of staff, the private sector is hired in many locations to perform repairs and maintenance that the MMCs could and should be doing. The largest problem is a shortage of staff. It is difficult to hire a competent technical people because of the facility's remote location; many people choose not to live there and for those who do, the private tourist villages offer much higher wages. Some tool needs were also apparent.

The action plan included scheduling meetings between markaz and governorate officials to discuss ways of addressing the staffing shortage, such as through use of an investment project regulation or renting the facilities to the private sector and allowing them to do both markaz and private sector work. The tool needs were addressed by purchasing additional tools using fourth-cycle funds.

Progress was slow in addressing the staffing issue but during the last trip, the governor committed himself to resolve the problem and it appears that some action will take place.

Some definite actions were also agreed upon in the workshop session. One markaz chief, who was developing an investment project regulation will distribute it to other marakez for their use after it is approved. Some creative approaches to hiring involving the hiring of skilled laborers and retraining them in mechanical

skills will also be pursued. Renting facilities to the private sector was ultimately judged not to be feasible based on a private company's feasibility study.

## SECTION IV

# Results

### FACTOR RATINGS

Since the purpose of this activity was to enhance the operational levels of workshops, it is important to study the changes in order to determine their effectiveness. Ideally, a comprehensive survey of the status of workshops would have been made before this activity started, to establish a baseline from which to measure change. At the completion of the task another survey would have been conducted and the amount of improvement measured. From a practical standpoint, however, the approach used, combining survey work with the provision of technical assistance, has surely been a more efficient use of manpower, considering the number of sites and the time and money it would have taken to conduct the study otherwise.

In spite of the lack of a common baseline on a given date, the data gathered on the first visit to each site can be used as a baseline for that site and also combined with data from other first visits to look at the general situation in each governorate at the time of first visits (or before on-site technical assistance was provided). This data can then be compared to the status of each governorate using the last reported status for each site (based on follow-up visits).

This approach is limited in showing the whole effect of the technical assistance, because follow-up visits were made to only about one-third of the sites. The majority of the sites which were rated fair to excellent were not revisited, therefore their status on the first and last visits would be the same; return visits were concentrated on lower-rated sites.

Generally, improvement was observed at most sites. In some locations, such as facilities which were unused during the first visit, there were major changes, with the site becoming a highly useable facility. At other locations, like many of those in North Sinai, only modest improvement was noted on each visit. A few sites showed no improvement.

The status of workshops as reported during the first and last visits to each site is shown in Table 4.1 by governorate. This table presents data collected at all sites which were visited (as opposed to Table 3.1 which shows data taken only during the first trip to each governorate). The left half of the Table 4.1 is based on data taken during the first visit to each site; the right half of the table is based on the last reported status at each site which was visited. As mentioned earlier, if a particular site was visited only once, the last reported status would be the status observed on the first visit. If it was visited several times, the last reported status would obviously be what was reported on the most recent visit.

Table 4.1

FACTOR RATINGS ON FIRST AND LAST VISIT TO EACH WORKSHOP SITE  
 REPORT DATE: 14-Sep-92

Governorate	Total No. of Sites	No. of Sites Visited	Rating	Status on First Visit to Each Site - No. of Sites at Various Ratings												Last Reported Status at Each Site - No. of Sites at Various Ratings																									
				Suitability Factors						Utilization Factors						Suitability Factors						Utilization Factors																			
				Staff	Suitable	Tools/	Spare	Manage/	Adseq.	Facility	Tools/	Manage/	Staff	Suitable	Tools/	Spare	Manage/	Adseq.	Facility	Tools/	Manage/	Staff	Suitable	Tools/	Spare	Manage/	Adseq.	Facility	Tools/	Manage/											
				Qty/Qty	Facility	Equip.	Parts	Plan/Rec	Funding	Use	Equip.	Plan/Rec	Qty/Qty	Facility	Equip.	Parts	Plan/Rec	Funding	Use	Equip.	Plan/Rec	Qty/Qty	Facility	Equip.	Parts	Plan/Rec	Funding	Use	Equip.	Plan/Rec											
ASSWAN	27 100%	26 96%	Good/Ex.	12	50%	19	79%	16	67%	9	38%	6	25%	18	75%	8	33%	9	38%	1	4%	12	50%	22	92%	20	83%	14	58%	8	33%	17	71%	11	46%	11	46%	4	17%		
			Fair	11	46%	4	17%	7	29%	10	42%	12	50%	5	21%	12	50%	11	46%	8	33%	11	46%	2	8%	4	17%	7	29%	11	46%	7	29%	2	8%	4	17%	9	38%		
			Poor/NU.	1	4%	1	4%	1	4%	5	21%	6	25%	1	4%	4	17%	4	17%	15	63%	1	4%	0	0%	0	0%	0	0%	3	13%	5	21%	0	0%	2	8%	4	17%	9	38%
			Total	24	100%	24	100%	24	100%	24	100%	24	100%	24	100%	24	100%	24	100%	24	100%	24	100%	24	100%	24	100%	24	100%	24	100%	24	100%	24	100%	24	100%	24	100%		
BEHEIRA	82 100%	33 40%	Good/Ex.	13	45%	19	66%	28	97%	7	24%	15	52%	22	76%	10	34%	14	48%	10	34%	18	62%	24	83%	28	97%	14	49%	16	55%	23	79%	14	48%	18	62%	10	34%		
			Fair	13	45%	10	34%	1	3%	19	66%	10	34%	7	24%	11	38%	6	21%	13	45%	8	28%	5	17%	1	3%	13	45%	10	34%	6	21%	11	38%	6	21%	14	48%		
			Poor/NU.	1	10%	0	0%	0	0%	3	10%	4	14%	0	0%	8	28%	9	31%	6	21%	3	10%	0	0%	0	0%	2	7%	3	10%	0	0%	4	14%	5	17%	5	17%		
			Total	29	100%	29	100%	29	100%	29	100%	29	100%	29	100%	29	100%	29	100%	29	100%	29	100%	29	100%	29	100%	29	100%	29	100%	29	100%	29	100%	29	100%				
BENI SUEF	45 100%	14 31%	Good/Ex.	2	14%	3	21%	5	36%	3	21%	3	23%	2	17%	3	23%	4	31%	5	36%	2	14%	3	23%	5	36%	3	21%	4	29%	2	15%	4	31%	5	38%	7	50%		
			Fair	11	79%	6	43%	9	64%	6	43%	8	62%	10	83%	4	31%	6	46%	5	36%	11	79%	6	46%	9	64%	5	36%	7	50%	11	85%	5	38%	6	46%	5	36%		
			Poor/NU.	1	7%	5	36%	0	0%	5	36%	2	15%	0	0%	6	46%	3	23%	4	29%	1	7%	4	31%	0	0%	6	46%	3	21%	0	0%	4	31%	2	15%	2	14%		
			Total	14	100%	14	100%	14	100%	14	100%	13	100%	12	100%	13	100%	13	100%	14	100%	14	100%	13	100%	13	100%	14	100%	14	100%	13	100%	13	100%	13	100%	14	100%		
DAMIETTA	31 100%	27 87%	Good/Ex.	14	52%	13	48%	24	89%	5	19%	3	11%	22	81%	8	30%	10	37%	4	15%	15	56%	17	63%	24	89%	11	42%	7	26%	23	85%	11	41%	13	48%	4	15%		
			Fair	9	33%	13	48%	3	11%	17	65%	14	52%	5	19%	10	37%	7	26%	6	22%	9	33%	3	11%	15	58%	16	59%	4	15%	13	48%	10	37%	12	44%				
			Poor/NU.	4	15%	1	4%	0	0%	4	15%	10	37%	0	0%	9	33%	10	37%	17	63%	3	11%	1	4%	0	0%	4	15%	0	0%	3	11%	4	15%	11	41%				
			Total	27	100%	27	100%	27	100%	26	100%	27	100%	27	100%	27	100%	27	100%	27	100%	27	100%	27	100%	27	100%	26	100%	27	100%	27	100%	27	100%	27	100%				
DAQAHLIYA	85 100%	44 52%	Good/Ex.	24	60%	12	30%	31	78%	19	51%	20	50%	30	77%	16	40%	20	50%	19	49%	24	60%	14	35%	32	80%	19	51%	20	50%	31	79%	17	43%	21	53%	21	54%		
			Fair	15	38%	28	70%	9	23%	16	43%	18	45%	9	23%	21	53%	17	43%	17	44%	15	38%	26	65%	8	20%	16	43%	18	45%	8	21%	21	53%	17	43%	15	38%		
			Poor/NU.	1	3%	0	0%	0	0%	2	5%	2	5%	0	0%	3	8%	3	8%	3	8%	1	3%	0	0%	0	0%	2	5%	2	5%	0	0%	2	5%	2	5%	3	8%		
			Total	40	100%	40	100%	40	100%	37	100%	40	100%	39	100%	40	100%	40	100%	39	100%	40	100%	40	100%	40	100%	40	100%	37	100%	40	100%	39	100%	40	100%	40	100%		
FAYOUM	45 100%	22 49%	Good/Ex.	12	63%	16	84%	16	84%	12	63%	12	63%	13	68%	13	68%	12	63%	7	37%	12	63%	15	79%	17	89%	12	63%	12	63%	12	63%	13	68%	15	79%	7	37%		
			Fair	7	37%	1	5%	2	11%	6	32%	5	26%	6	32%	4	21%	7	37%	4	21%	2	11%	7	37%	4	21%	7	37%	6	32%	4	21%	8	42%						
			Poor/NU.	0	0%	2	11%	1	5%	1	5%	2	11%	0	0%	2	11%	1	6%	5	26%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	4	21%		
			Total	19	100%	19	100%	19	100%	19	100%	19	100%	19	100%	19	100%	19	100%	19	100%	19	100%	19	100%	19	100%	19	100%	19	100%	19	100%	19	100%	19	100%				
GIZA	52 100%	22 42%	Good/Ex.	3	14%	7	33%	8	38%	1	5%	3	14%	5	24%	2	10%	2	10%	1	5%	7	33%	10	48%	12	60%	1	5%	4	19%	6	29%	2	10%	3	14%	1	5%		
			Fair	12	57%	14	67%	12	57%	20	95%	4	18%	14	67%	13	62%	13	62%	3	14%	7	33%	11	52%	8	40%	18	86%	4	19%	13	62%	14	67%	13	59%	4	19%		
			Poor/NU.	6	29%	0	0%	1	5%	0	0%	15	68%	2	10%	6	29%	6	29%	17	81%	2	10%	0	0%	0	0%	2	10%	13	62%	2	10%	5	24%	6	29%	17	81%		
			Total	21	100%	21	100%	21	100%	21	100%	22	100%	21	100%	21	100%	21	100%	21	100%	21	100%	21	100%	20	100%	21	100%	21	100%	21	100%	21	100%	21	100%				
ISMAILIA	12 100%	12 100%	Good/Ex.	8	67%	12	100%	12	100%	10	83%	8	67%	12	100%	12	100%	10	83%	5	42%	10	83%	12	100%	12	100%	10	83%	11	92%	11	92%	12	100%	12	100%	7	58%		
			Fair	4	33%	0	0%	0	0%	2	17%	4	33%	0	0%	0	0%	2	17%	4	33%	2	17%	0	0%	0	0%	2	17%	1	8%	0	0%	3	25%						
			Poor/NU.	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	3	25%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%				
			Total	12	100%	12	100%	12	100%	12	100%	12	100%	12	100%	12	100%	12	100%	12	100%	12	100%	12	100%	12	100%	12	100%	12	100%	12	100%	12	100%						
KAFR EL SHEIKH	55 100%	24 44%	Good/Ex.	8	33%	8	33%	16	67%	5	21%	8	33%	16	67%	7	29%	10	42%	4	17%	7	29%	9	38%	16	67%	4	17%	8	33%	15	63%	7	29%	11	46%	4	17%		
			Fair	10	42%	16	67%	8	33%	13	54%	7	29%	8	33%	7	29%	6	25%	9	38%	11	46%	15	63%	8	33%	14	58%	9	38%	9	38%	10	42%						
			Poor/NU.	6	25%	0	0%	0	0%	6	25%	9	38%	0	0%	10	42%	8	33%	11	46%	6	25%	0	0%	0	0%	6	25%	7	29%	5	21%	10	42%						
			Total	24	100%	24	100%	24	100%	24	100%	24	100%	24	100%	24	100%	24	100%	24	100%	24	100%	24	100%	24	100%	24	100%	24	100%	24	100%	24	100%						
MATROUH	35 100%	27 77%	Good/Ex.	6	27%	9	41%	16	73%	0	0%	5	23%	9	41%	1	5%	3	14%	1	5%	7	26%	9	100%	23	85%	1	4%	11	41%	17	63%	4	15%	12	44%	4	15%		
			Fair	10	45%	13	59%	3	14%	8	38%	10	45%	9	41%	9	41%	7	33%	7	33%	14	52%	18	67%	1	4%	12	44%	15	56%	8	30%	19	70%	8	30%				
			Poor/NU.	6	27%	0	0%	3	14%	13	62%	7	32%	4	18%	11	52%	11	52%	6	25%	0	0%	3	11%	14	52%	1	4%	2	7%	4	15%	6	23%	15	56%				
			Total	22	100%	22	100%	22	100%	21	100%	22	100%	22	100%	21	100%	21	100%	22	100%	27	100%	27	100%	27	100%	27	100%	27	100%	27	100%	27	100%						

**FACTOR RATINGS ON FIRST AND LAST VISIT TO EACH WORKSHOP SITE**

REPORT DATE: 14-Sep-92

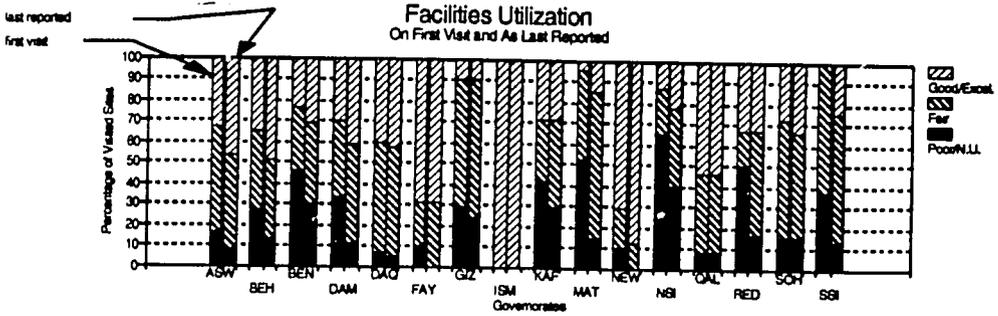
Governorate	Total No. of Sites	No. of Sites Visited	Rating	Status on First Visit to Each Site - No. of Sites at Various Ratings										Last Reported Status at Each Site - No. of Sites at Various Ratings																	
				Suitability Factors					Utilization Factors					Suitability Factors					Utilization Factors												
				Staff Qty/Qty	Suitable Facility	Tools/ Equip.	Spare Parts	Manage/ Plan/Rec	Adeq. Funding	Facility Use	Tools/ Equip.	Manage/ Plan/Rec	Staff Qty/Qty	Suitable Facility	Tools/ Equip.	Spare Parts	Manage/ Plan/Rec	Adeq. Funding	Facility Use	Tools/ Equip.	Manage/ Plan/Rec										
				No. %	No. %	No. %	No. %	No. %	No. %	No. %	No. %	No. %	No. %	No. %	No. %	No. %	No. %	No. %	No. %	No. %	No. %										
NEW VALLEY * see note	18 100%	9 50%	Good/Ex.	7	70%	9	90%	9	90%	9	90%	7	70%	7	70%	7	70%	7	70%	7	78%	9	100%	9	100%	9	100%	8	89%	8	89%
			Fair	2	20%	1	10%	1	10%	0	0%	3	30%	3	30%	2	20%	2	20%	2	22%	0	0%	0	0%	0	0%	1	11%	1	11%
			Poor/NU.	1	10%	0	0%	0	0%	1	10%	0	0%	0	0%	1	10%	0	0%	1	10%	0	0%	0	0%	0	0%	0	0%	0	0%
			Total	10	100%	10	100%	10	100%	10	100%	10	100%	10	100%	10	100%	10	100%	9	100%	9	100%	9	100%	9	100%	9	100%		
NORTH SINAI	36 100%	32 89%	Good/Ex.	9	29%	12	39%	28	90%	3	10%	6	19%	7	23%	4	13%	6	19%	2	6%	14	44%	10	31%	29	91%	2	6%	7	22%
			Fair	11	35%	17	55%	2	6%	4	13%	8	26%	15	48%	7	23%	5	16%	4	13%	12	38%	21	66%	2	6%	9	28%	17	53%
			Poor/NU.	11	35%	2	6%	1	3%	24	77%	17	55%	9	29%	20	65%	20	65%	25	81%	6	19%	1	3%	1	3%	21	66%	8	25%
			Total	31	100%	31	100%	31	100%	31	100%	31	100%	31	100%	31	100%	31	100%	32	100%	32	100%	32	100%	32	100%	32	100%	32	100%
QALUBIYA	53 100%	27 51%	Good/Ex.	10	42%	20	83%	19	79%	16	67%	12	50%	15	63%	13	54%	18	75%	2	8%	10	42%	20	83%	19	79%	16	67%	12	50%
			Fair	12	50%	4	17%	5	21%	5	21%	9	38%	9	38%	3	13%	17	71%	12	50%	4	17%	5	21%	9	38%	9	38%	3	13%
			Poor/NU.	2	8%	0	0%	0	0%	3	13%	3	13%	0	0%	2	8%	3	13%	5	21%	2	8%	0	0%	0	0%	3	13%	1	4%
			Total	24	100%	24	100%	24	100%	24	100%	24	100%	24	100%	24	100%	24	100%	24	100%	24	100%	24	100%	24	100%	24	100%	24	100%
RED SEA	8 100%	6 75%	Good/Ex.	1	17%	3	50%	5	83%	2	33%	0	0%	3	50%	2	33%	2	33%	0	0%	2	33%	3	50%	6	100%	3	50%	2	33%
			Fair	4	67%	2	33%	0	0%	1	17%	3	50%	3	50%	1	17%	2	33%	3	50%	3	50%	0	0%	1	17%	3	50%	5	83%
			Poor/NU.	1	17%	1	17%	1	17%	3	50%	3	50%	0	0%	3	50%	3	50%	4	67%	1	17%	0	0%	2	33%	1	17%	0	0%
			Total	6	100%	6	100%	6	100%	6	100%	6	100%	6	100%	6	100%	6	100%	6	100%	6	100%	6	100%	6	100%	6	100%	6	100%
SOHAG	62 100%	32 52%	Good/Ex.	10	31%	18	56%	28	88%	22	69%	6	16%	17	53%	9	28%	10	31%	6	19%	8	25%	21	66%	28	88%	24	75%	8	25%
			Fair	18	56%	12	38%	3	9%	6	19%	20	54%	13	41%	18	56%	15	47%	9	28%	19	59%	9	28%	3	9%	4	13%	17	53%
			Poor/NU.	4	13%	2	6%	1	3%	4	13%	11	30%	2	6%	5	16%	7	22%	17	53%	5	16%	2	6%	1	3%	4	13%	7	22%
			Total	32	100%	32	100%	32	100%	32	100%	32	100%	32	100%	32	100%	32	100%	32	100%	32	100%	32	100%	32	100%	32	100%	32	100%
SOUTH SINAI	8 100%	8 100%	Good/Ex.	0	0%	2	25%	4	50%	0	0%	1	13%	3	38%	0	0%	3	38%	1	13%	2	25%	5	63%	5	63%	3	38%	4	50%
			Fair	6	75%	5	63%	3	38%	3	38%	5	63%	5	63%	3	38%	1	13%	4	50%	3	38%	3	38%	4	50%	4	50%	5	63%
			Poor/NU.	2	25%	1	13%	1	13%	5	63%	2	25%	0	0%	3	38%	2	25%	6	75%	2	25%	0	0%	0	0%	0	0%	1	13%
			Total	8	100%	8	100%	8	100%	8	100%	8	100%	8	100%	8	100%	8	100%	8	100%	8	100%	8	100%	8	100%	8	100%	8	100%

Note: On the first trip, El Kharga was operating both a new and an old MMC facility. By the second visit, the old facility had been converted to a garage so the number of sites decreased from 10 to 9.

Because the ratings in Table 4.1 are tabulated independently for all sites, the data should be used as a general indication of what areas are still weak in each governorate, rather than an indication of the number of actual sites with various operational levels. A site that is poor in record keeping, but which has good utilization of facilities and tools may have a combined rating which indicates that it has a fair operational level. A location which is conducting pipeline maintenance and servicing remote pumping stations may be keeping good records but have a low facility utilization rating. The ratings of these sites might indicate that they have fair operational levels even though in both cases improvements are needed in one of the factors. The number of sites in each governorate at various (combined) operational levels is presented and discussed in Section IV.

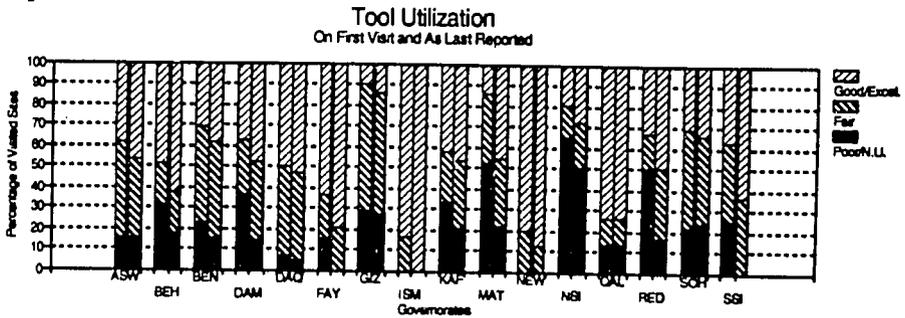
In most factor ratings, the percentage of facilities rated as poor/NU decreased. A close examination of the utilization factor ratings shows that the number of governorates with 20 percent or more of the sites rated poor/NU in all three areas (during the first visit) dropped from nine to four (based on the last reported status). The four governorates which still had 20 percent or more of the sites rated poor/NU in all three areas are North Sinai, Giza, Red Sea and Kafr El-Sheikh. Sohag has two factors (tool usage and usage of management tools) in which 20 percent or more of the sites have poor/NU ratings. An additional eight governorates have at least one factor in which 20 percent or more of the sites are rated poor/NU. A comparison of the first-trip and last-trip reported data for the three utilization factors is shown in graphs 4.4, 4.5 and 4.6.

Graph 4.1



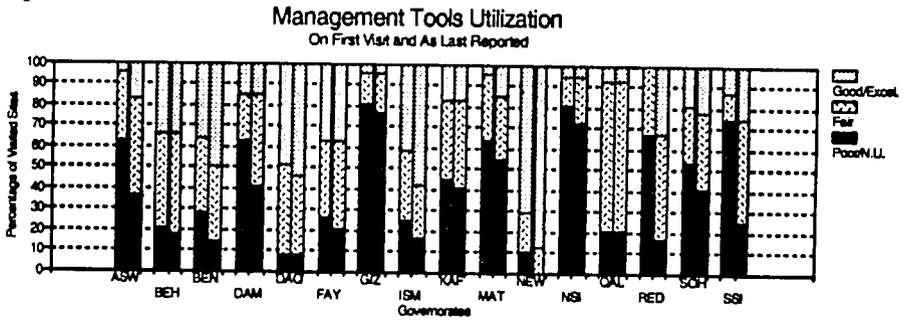
Facilities Utilization is use of building and workshop to meet the service demand.

Graph 4.2



Tool Utilization is use of hand tools and shop machine tools provided.

Graph 4.3



Management Tools Utilization is use of recording, monitoring, and reporting materials.

Although North Sinai still shows a large number of facilities with poor ratings in all three factors, the amount of improvement during the period was quite good. The governorate level staff was responsive and, since the adequate staffing of VCWs and the signing of the investment project regulation have both recently occurred, progress should continue with some assistance.

The status in Giza is disappointing for a number of reasons. First, although there was improvement at some sites which were revisited, the data still shows that 76 percent of sites visited were rated poor in use of management tools. While 24 percent of facilities were rated poor in the facilities factor category (an improvement of 14 percent), the tool utilization factor did not change at all.

A second reason for disappointment is that because Giza is so close to Cairo one would assume that there would be capable managers available to operate the workshops, yet 52 percent are still rated poor in their management capability. An apparent lack of leadership from the governorate level staff in addressing maintenance concerns is another disappointment. A new governorate maintenance coordinator was recently appointed and that may help, but it appears that a concentrated technical assistance effort will still be necessary to improve the situation in Giza Governorate.

Red Sea and Kafr El-Sheikh have both shown some improvement in facilities and tool utilization, but ongoing assistance should be provided to ensure that it continues. Sohag showed reasonable improvement in the use of management tools, but further improvement in this and the use of workshop tools is needed.

In general, in spite of the good improvement observed, the utilization of record keeping and monitoring tools remains the weakest area, with more than 20 percent of the visited sites in eleven governorates rating poor. Facilities usage and tool usage are still poor at more than 20 percent of the sites visited in five governorates. Future follow-up action should be targeted to address these weaknesses in the indicated governorates.

A look at the suitability factor ratings shows that, in factors other than the spare parts and management factors, only four governorates have one factor rated poor/NU at more than 20 percent of the sites visited. They are Beni Suef with 31 percent rated poor in suitable facilities and Giza, Kafr Sheikh and South Sinai with 33 percent, 25 percent, and 25 percent rated poor in quantity and quality of staff, respectively. Six governorates had more than 20 percent of visited sites rated poor/NU in management capability; this continues to be a significant factor limiting workshop operations and the use of management tools.

Beni Suef has a unique problem with four of the visited MMCs rated poor in suitability for use as markaz maintenance facilities. Three of the operations are in multiple story buildings where the

upper floors are not suitable for maintenance activities. One facility housing both an MMC for water projects and an MMC for equipment is unsuitable; the operations should be moved. The designs of two other buildings do not prevent maintenance operations, but the facilities are definitely limited in their potential for providing expanded services.

In Giza, weak management in the governorate maintenance organization has resulted in slow progress in addressing several issues including staff shortages. The appointment of a new maintenance coordinator is a positive step but, the position is still only part-time. Continued follow-up and technical assistance should be provided to assure that the identified problems are addressed.

Kafr El-Sheikh has addressed staff shortages in many workshops by using government employees as supervisors and hiring technical help from the private sector. This allows maintenance operations to continue, but encouragement should be given to the governorate to address these local needs.

South Sinai Governorate has been slow to address the staffing needs at several of its MMCs; however the team met with the governor on the last visit and he committed to addressing the problem. An action plan was developed and it is expected that the governorate will now move to increase staff at the facilities.

It appears that although there has been a significant decrease in the percentage of facilities rated poor in both suitability and utilization, there is still a need for continued effort at many sites aimed specifically at increasing the utilization of record keeping and monitoring tools.

## **OBSERVED INCREASE IN THE OPERATIONAL STATUS OF ALL SITES**

The above section focuses on the factor ratings of sites on the first visit as compared with the ratings during the last visit. This section examines the number of sites rated operational on the first visit with the number rated operational on the last visit. The dates and ratings for each site visit are shown by governorate in Appendix D. Table 4.2 shows the tabulated data, ranking the governorates in order of level of operation; Ismailia, with the highest percentage of operational sites is ranked first.

**Table 4.2**

**WORKSHOP OPERATIONAL STATUS DURING FIRST AND LAST VISIT TO EACH SITE RATING BY GOVERNORATE FROM HIGH TO LOW REPORT DATE: 15/9/92**

Governorate	Sites			Status at First Visit to each Site								Status at Last Visit to each Site									
	Total No.	Number Visited (by type of visit)		Average Score		Ratings (number of sites at each)						Total	Average Score		Ratings (number of sites at each)						Total
		OP	Other	SR	OR	N.U.	Peer	Pair	Good	Excel	Pair-Ex		SR	OR	N.U.	Peer	Pair	Good	Excel	Pair-Ex	
ISMAILIA	12	12 100%	0 0%	12 100%	2.9	2.6	0 0%	0 0%	4 33%	8 67%	0 0%	12 100%	2.9	2.8	0 0%	0 0%	2 17%	10 83%	0 0%	12 100%	
NEW VALLEY	18	6 33%	3 17%	9 50%	2.9	2.8	0 0%	1 11%	1 11%	6 67%	1 11%	8 89%	3.0	3.0	0 0%	0 0%	1 11%	7 78%	1 11%	9 100%	
SOUTH SINAI	8	8 100%	0 0%	8 100%	1.8	1.6	1 13%	2 25%	4 50%	1 13%	0 0%	5 63%	2.2	2.0	0 0%	0 0%	6 75%	2 25%	0 0%	8 100%	
DAQAHLIYA	85	40 47%	4 5%	44 52%	2.5	2.3	0 0%	2 5%	25 57%	17 39%	0 0%	42 95%	2.5	2.3	0 0%	2 5%	25 57%	17 39%	0 0%	42 95%	
ASSWAN	27	26 96%	0 0%	26 96%	2.4	1.9	0 0%	6 23%	14 54%	6 23%	0 0%	20 77%	2.6	2.2	0 0%	2 8%	14 54%	10 38%	0 0%	24 92%	
BEHEIRA	82	30 37%	3 4%	33 40%	2.5	1.9	4 12%	4 12%	14 42%	11 33%	0 0%	25 76%	2.6	2.2	3 9%	0 0%	15 45%	15 39%	0 0%	30 91%	
QALUBIYA	53	24 45%	3 6%	27 51%	2.5	2.2	0 0%	3 11%	15 56%	9 33%	0 0%	24 89%	2.5	2.2	0 0%	3 11%	15 56%	9 33%	0 0%	24 89%	
DAMIETTA	31	27 87%	0 0%	27 87%	2.4	1.5	4 15%	7 26%	13 48%	3 11%	0 0%	16 59%	2.6	2.1	2 4%	1 4%	15 56%	9 33%	0 0%	24 89%	
FAYOUM	45	21 47%	1 2%	22 49%	2.4	2.0	3 14%	2 9%	7 32%	10 45%	0 0%	17 77%	2.5	2.2	3 14%	0 0%	9 41%	11 45%	0 0%	19 86%	
BENI SUEF	45	14 31%	0 0%	14 44%	2.0	2.0	0 0%	3 21%	8 57%	3 21%	0 0%	11 79%	2.0	2.2	0 0%	2 14%	8 57%	4 29%	0 0%	12 86%	
KAFR EL SHEIKH	55	24 44%	0 0%	24 44%	2.3	1.9	0 0%	8 33%	10 42%	6 25%	0 0%	16 67%	2.4	1.9	0 0%	4 17%	13 54%	7 29%	0 0%	20 83%	
RED SEA	8	6 75%	0 0%	6 75%	2.1	1.4	1 17%	2 33%	3 50%	0 0%	0 0%	5 50%	2.4	1.8	0 0%	1 17%	3 50%	3 50%	0 0%	5 83%	
MATROUH	35	27 77%	0 0%	27 77%	1.9	1.3	6 22%	9 33%	12 44%	0 0%	0 0%	12 44%	2.3	1.9	0 0%	7 26%	16 59%	4 15%	0 0%	20 74%	
SOHAG	62	32 52%	0 0%	32 52%	2.4	1.8	1 3%	9 28%	17 51%	5 16%	0 0%	22 69%	2.4	1.9	0 0%	9 28%	16 50%	7 22%	0 0%	23 72%	
NORTH SINAI	36	32 89%	0 0%	32 89%	1.8	0.9	15 47%	8 25%	6 19%	3 9%	0 0%	9 28%	2.0	1.3	8 25%	7 22%	14 48%	3 9%	0 0%	17 61%	
GIZA	52	22 42%	0 0%	22 42%	1.9	1.1	4 18%	9 41%	8 36%	0 0%	1 5%	9 41%	1.9	1.2	4 18%	7 32%	10 45%	0 0%	1 5%	11 50%	
Sub-totals	ERR	151 ERR	14 ERR	165 ERR	2.3	1.8	39 11%	75 21%	161 44%	88 24%	2 1%	251 69%	2.4	2.1	20 5%	45 12%	181 50%	117 32%	2 1%	300 82%	
GHARBIYA	70	0 0%	70 100%	70 100%	-	-							-	-	0 0%	0 0%				70 100%	
MENYA	73	0 0%	73 100%	73 100%	-	-							-	-	0 0%	0 0%				73 100%	
Totals	ERR	151 ERR	157 ERR	508 ERR	-	-							-	-	20 4%	45 9%				443 87%	

OP = Site visit for operationalization task

Other = Site visit for other task (pilot program or subproject assessment)

SR = Suitability Rating score

OR = Operational Rating Score

N.U. = Not Used

\* Note: On the 1st trip, El Kharga was operating an old and new MMC. By the 2nd visit, the old MMC had been changed to a garage reducing the no. of sites from 10 to 9.

In total, as of the end of September 1992, 551 visits had been made to 365 out of 654 workshop sites in 16 governorates. This includes 14 site visits made under the subproject assessment task. Regarding first visits, 251 (69 percent) of the 365 sites were rated fair to excellent in operational level. The data for the last visit to each site shows that 274 (82 percent) of the sites visited were fair to excellent.

Graphs 4.4 and 4.5 show the breakdown of operational status on the first visit and last visit for all visited sites. Graph 4.6 shows the data by governorate indicating the number of visited workshop sites at each rating on the first and last visits.

In many cases there was only one visit to a site. If it was found operational on the first visit, a return visit may not have been made. Also, if a first visit was made to a new site on the last trip, there was no opportunity to do a follow-up trip to evaluate improvement. For these reasons, the data thus does not represent a comprehensive view of the situation before and after intervention, since some first visits to sites occurred late in the program.

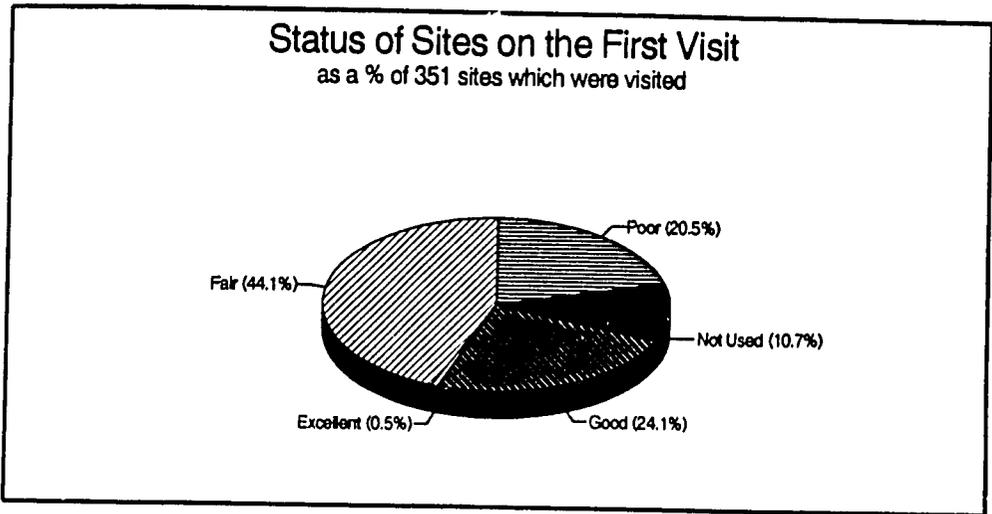
Poor workshops visited for the first time on the last trip received technical assistance but there was no follow-up trip during which to evaluate improvement. This has the effect of making the amount of measured improvement conservative compared to the probable actual improvement. The data taken in the first phase had shown that 61 percent of the sites visited in the six governorates were rated fair to excellent on the first visit, so the average percentage operational before intervention can thus be assumed to lie somewhere between this figure and the measured 68 percent, probably around 65 percent.

The data taken during the first visits shows that there were only five governorates with more than 80 percent of sites visited rated operational (fair to excellent). Since then, improvement has been noted in each of these governorates and, at last report, 80 percent of the workshops visited in 11 governorates were rated operational. Of the five remaining, Kafr El-Sheikh and Matrouh each had 77 percent operational, followed by Sohag with 72 percent, North Sinai with 53 percent, and Giza with 47 percent.

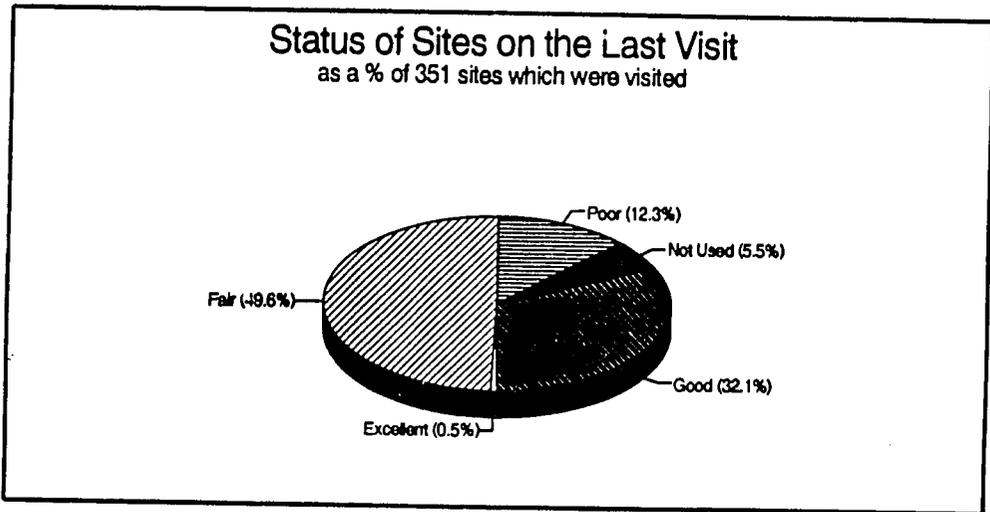
In general all governorates show improvement with the number of unused and poor sites decreasing and the sites with fair to excellent ratings increasing, with the exception of Daqahliya and Qalubiya. In Daqahliya 95 percent of the visited sites were rated fair to excellent on the first visit. The two sites rated poor were visited late in the program (one on the last trip) and had no follow-up visit. Return visits to six of the sites from earlier trips generally showed minor improvements, but not enough to change ratings.

Qalubiya was also rated quite high with 90 percent of the sites from fair to excellent on the first visit. Because of time limitations and the need to visit additional sites, no second visits were made to sites during the follow-up trips. Thus, any changes occurring as a result of the technical assistance on the first visit could not be measured.

Graph 4.4



Graph 4.5



Graph 4.6

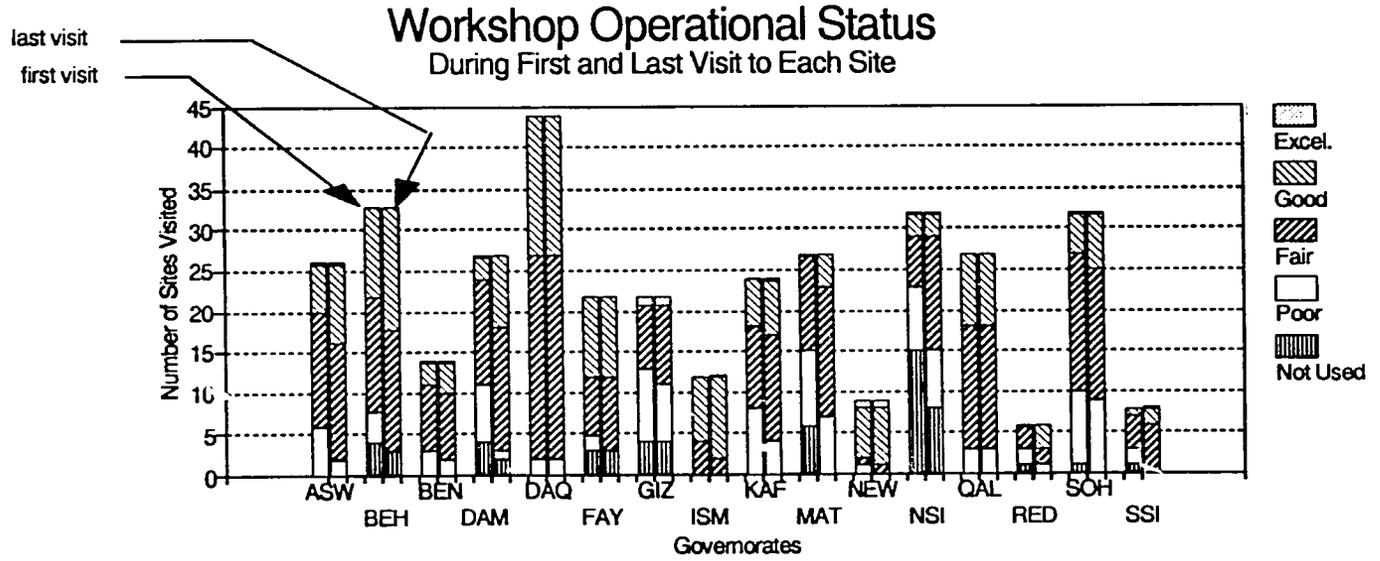


Table 4.1, Graph 4.6 and the database in Appendix D can be quite useful in directing future efforts in relation to the sites which have been visited so far, especially when looking at the actual numbers of workshops with different ratings. North Sinai has 15 sites rated poor or unused, while Giza has nine and Matrouh six. The percentage of sites visited out of the total number of sites in North Sinai and Matrouh is quite high, but in Giza it was only around 33 percent. Thus, Giza can be expected to have a significant number of additional sites which will have poor operational levels. Kafr El-Sheikh and Sohag each have five sites rated poor.

Although Gharbiya and Minya governorates were not visited as part of this activity, they had earlier been the focus of intensive pilot programs. Chemonics advisors have visited all workshop sites in these two governorates and report that all are operating. When this data is added, it brings the total number of sites visited in 18 governorates to 508 (64 percent) out of 797. Four-hundred forty-three (87 percent) of the 478 sites were rated operational, as of the end of September. Chemonics advisors will continue follow-up field trips, so the number of operational sites is expected to increase.

### **OBSERVED INCREASE IN THE OPERATIONAL STATUS OF REVISITED SITES**

Much of the previous discussion used the entire number of visited sites as a reference in judging the improvement in operational level, although the improvement shown was based only on data from sites which were revisited. The revisited sites represent slightly more than one-third (120 out of 335) of the total number of sites visited; it is interesting to note what change in status occurred within that group itself.

Table 4.3 shows the status during the first and last visits for those sites revisited, by governorate. Graphs 4.7 and 4.8 show the percentage of sites at each rating on the first and last visit. The improvements are quite dramatic with the number of sites rated fair to excellent nearly doubling. It must be remembered that the sites which were revisited were the poorer sites of all those visited; thus, this level of improvement would not be expected in the other two-thirds of the visited sites. It does show that for the poorly-rated sites, which are obviously the ones needing the most improvement, the current approach and the assistance provided has been quite effective.

Table 4.3

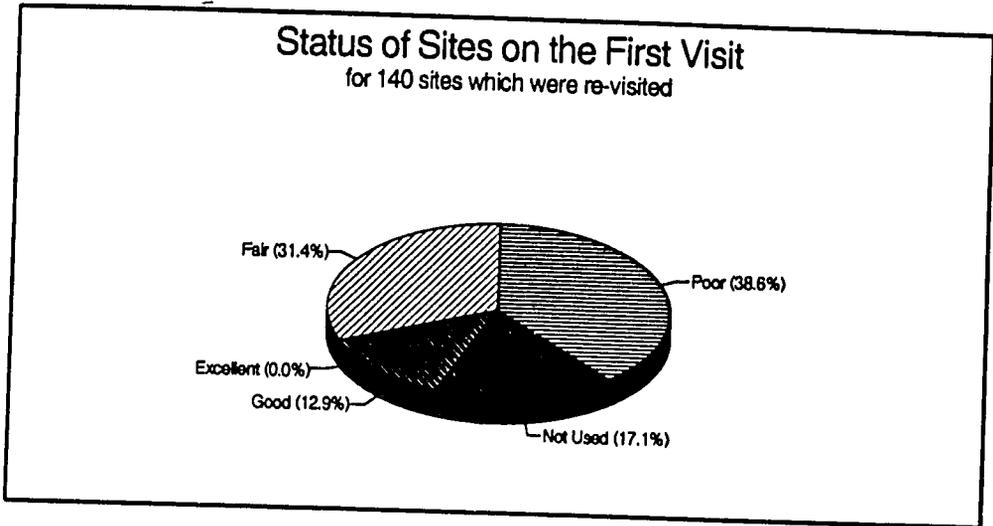
CHANGES IN STATUS AT REVISITED WORKSHOP SITES  
 REPORT DATE: 14-Sep-92

Governorate	Total No. of Sites	No. of Sites Visited	Number of Sites Re-visited	Status at First Visit to Re-visited Sites					Status at Last Visit to Re-visited Sites						
				Ratings (number of sites at each)				Total	Ratings (number of sites at each)				Total		
				N.U.	Poor	Fair	Good		Excel	Fair-Ex	N.U.	Poor		Fair	Good
ASSWAN	27	26 96%	10	0 0%	6 60%	4 40%	0 0%	0 0%	4 40%	0 0%	2 20%	4 40%	4 40%	0 0%	8 80%
BEHEIRA	82	33 40%	11	1 9%	4 36%	2 18%	4 36%	0 0%	6 55%	0 0%	0 0%	3 27%	8 73%	0 0%	11 100%
BENI SUEF	45	14 31%	3	0 0%	2 67%	1 33%	0 0%	0 0%	1 33%	0 0%	1 33%	1 33%	1 33%	0 0%	2 67%
DAMIETTA	31	27 87%	16	3 19%	7 44%	5 31%	1 6%	0 0%	6 38%	1 6%	1 6%	7 44%	7 44%	0 0%	14 88%
DAQAHLIYA	85	44 52%	8	0 0%	0 0%	3 38%	5 63%	0 0%	8 100%	0 0%	0 0%	3 38%	5 63%	0 0%	8 100%
FAYOUM	45	22 49%	6	0 0%	2 33%	1 17%	3 50%	0 0%	4 67%	0 0%	0 0%	3 50%	3 50%	0 0%	6 100%
GIZA	52	22 42%	6	0 0%	5 83%	1 17%	0 0%	0 0%	1 17%	0 0%	3 50%	3 50%	0 0%	0 0%	3 50%
ISMAILIA	12	12 100%	3	0 0%	0 0%	2 67%	1 33%	0 0%	3 100%	0 0%	0 0%	0 0%	3 100%	0 0%	3 100%
KAFR EL SHEIKH	55	24 44%	9	0 0%	5 56%	2 22%	2 22%	0 0%	4 44%	0 0%	1 11%	4 44%	4 44%	0 0%	8 89%
MATROUH	35	27 77%	20	6 30%	6 30%	8 40%	0 0%	0 0%	8 40%	0 0%	5 25%	11 55%	4 20%	0 0%	15 75%
NEW VALLEY * see note	18	9 50%	1	0 0%	1 100%	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%	1 100%	0 0%	1 100%
NORTH SINAI	36	32 89%	25	11 44%	8 32%	5 20%	1 4%	0 0%	6 24%	4 16%	7 28%	13 52%	1 4%	0 0%	14 56%
QALUBIYA	53	27 51%	1	0 0%	1 100%	0 0%	0 0%	0 0%	0 0%	0 0%	1 100%	0 0%	0 0%	0 0%	0 0%
RED SEA	8	6 75%	5	1 20%	1 20%	3 60%	0 0%	0 0%	3 60%	0 0%	0 0%	2 40%	3 60%	0 0%	5 100%
SOHAG	62	32 52%	8	1 13%	4 50%	3 38%	0 0%	0 0%	3 38%	0 0%	3 38%	3 38%	2 25%	0 0%	5 63%
SOUTH SINAI	8	8 100%	8	1 13%	2 25%	4 50%	1 13%	0 0%	5 63%	0 0%	0 0%	6 75%	2 25%	0 0%	8 100%
<b>Totals</b>	<b>654</b>	<b>365 56%</b>	<b>140 21%</b>	<b>24 17%</b>	<b>54 39%</b>	<b>44 31%</b>	<b>18 13%</b>	<b>0 0%</b>	<b>62 44%</b>	<b>5 4%</b>	<b>24 17%</b>	<b>63 45%</b>	<b>48 34%</b>	<b>0 0%</b>	<b>111 79%</b>

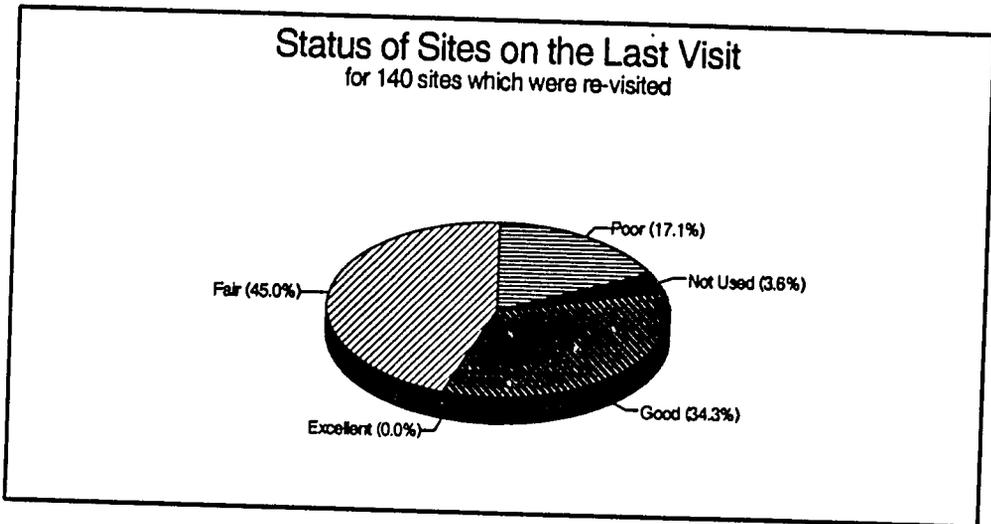
N.U. = Not Used

Note: On the first trip, El Kharga was operating both an old and MMC. By the second visit, the old MMC had been changed to a garage reducing the number of sites from 10 to 9.

Graph 4.7



Graph 4.8



## SECTION V

# CONCLUSIONS

The methodology used proved to be effective in improving the maintenance operations within the governorates and raising the operational levels at individual workshop sites. In the group of 140 workshops which were revisited, the number of workshops rated fair to excellent increased from 62 to 111. For the total number of visited sites (335), the percentage rated fair to excellent increased from 69 to 82.

On-site visits and on-the-job training were effective in improving operations at individual workshops, however issues related to staff shortages and training needs had to be addressed at higher levels. The workshop sessions were useful tools in addressing those and other broader issues. The action plans developed during workshop sessions served as useful tools to focus efforts and measure progress. While progress was not always as fast as had been planned or as comprehensive as intended, the action plans made the governorate local development staff accountable for some listed items and pressured them to make progress before our next visit. Secretaries general put strong support behind these action plans and, in at least one governorate, the governor reviewed and signed the action plan (see translation of North Sinai action plan in Appendix G.)

The competence, interest and involvement of the governorate maintenance coordinator and other staff responsible for supervising maintenance operations is a major factor in determining current workshop operational levels. These factors also affect the responsiveness of the system to outside assistance which could improve operational levels. Matrouh is an example where the governorate staff responded to the action plan and went out and helped get several unused facilities working. Giza is an example where there was weak governorate level direction; some improvement was observed at workshop sites, but response in addressing identified problems was generally poor in Matrouh.

The monthly maintenance coordinator meetings proved to be a valuable forum for training participants and discussing problems. The design of the program, which included workshop site surveys and follow-up assignments, helped to multiply the effect of the technical assistance so that it was passed on, and distributed throughout the governorates.

In most governorates, facilities, tools, and funding were found to be adequate for basic maintenance. Some workshop sites, primarily in the desert governorates, lacked electrical power connections at the beginning of this activity; however, good progress was made in making the connections where networks were available. Small generator sets were supplied to some locations without networks, but a few sites still remain without power.

Management capability and staffing issues continue to be the primary factors limiting workshop operational levels. Service demand is also a significant factor. While service demand is not necessarily a limiting factor when it is low, workshops with a relatively high service demand typically have better management practices and higher levels of operation.

In spite of some improvements, the use of management tools (records, O&M plans, QPRs, etc.) remains the area most in need of improvement in every governorate.

The use of investment project regulations has generally been effective, providing service to the community and benefits to the workshop. It appears that Chemonics recommendations which were included in some recently written regulations, providing for lease of workshops to the private sector, will facilitate the beginning of workshop operations in some difficult situations.

The need for additional technical training was noted at many sites, sometimes for the improvement of current skill levels, but more often to retrain staff in new skills to cover the lack of technical staff in particular areas.

## SECTION VI

# RECOMMENDATIONS

Follow-up trips should continue with first priority given to those governorates with high numbers of poorly operating workshops. Meetings should be held with governorate officials to discuss the current status and problem areas. The second priority should be given to specific sites in various governorates which have low operational levels. Visits to new sites should be included, as time permits, to identify additional sites needing improvement.

If possible, general workshop sessions at the governorate level should also continue. These have served as a useful forum for the discussion of common issues amongst governorate officials and village and markaz personnel. The presence of secretaries general and their expressions of support for maintenance activities has set a good example for governorate, markaz and village staffs. The action plans developed during these sessions have also provided a needed focus for addressing major issues, and a reference against which to evaluate progress.

Action should be taken to ensure that there is a qualified and active maintenance coordinator in each governorate. For governorates that have a part-time and/or unqualified maintenance coordinator, it is recommended that this position be assigned to a full-time qualified mechanical engineer on a permanent basis within the governorate utility and engineering department, similar to the arrangement in the urban governorates. USAID should study this recommendation and if they concur, Chemonics could submit a formal proposal upon USAID's request.

The monthly meeting for governorate maintenance coordinators should be continued. It would be beneficial to schedule one or two of these meetings in governorates which have good workshop operations. Chemonics advisors and host governorate staff could share in a presentation on the elements of successful operations.

The database of workshops, with information on visit dates and ratings, should be distributed to the governorates to be used with the survey form, during follow-up visits. Using these tools, a comprehensive record of the status at each workshop should be developed and kept up-to-date. The status record should be used to direct further assistance to sites with problems and could also be used as the basis for supplying periodic reports to concerned parties.

In all contacts with governorate maintenance staff and officials, strong emphasis should be placed on the importance of increasing the management skills of workshop supervisors and the use of recording, monitoring and reporting tools.

The importance of completing and implementing investment project and/or leasing regulations should also be emphasized. These regulations will provide local service and generate income that can be used to pay worker incentives and help sustain workshop operations after outside funding ends.

Governorates should arrange to provide technical training sessions. Most governorates have already identified their maintenance needs, so the next step is to decide what type of training to offer and make the necessary arrangements. Encouragement should be given for the use of LD-II Bab-II funds in contracting with public and private training institutes. Particular importance should be placed on addressing the need for re-training staff in new skill areas.

APPENDIX A  
PHASE I CONCLUSIONS AND RECOMMENDATIONS

## CONCLUSIONS

1. Management, service demand, and staffing are primary factors determining operational level. Villages with relatively high equipment service demands in addition to water pipeline maintenance typically have workshops with good management and good levels of operation. Sites with lower than average service demand often had poorer management practices and correspondingly lower operational levels.
2. There is a general need for village chiefs and village management to recognize that VCWs can have a much wider role in village maintenance than they currently do. VCWs with low levels of operation often have a limited responsibility. If there were no pump sets or vehicles to maintain, the workshop staff typically stated their responsibility as repairing the water pipeline. When asked about the number of buildings they were responsible for, many had difficulty answering. Many villages, however have several village owned buildings including the village council offices, community halls, youth centers and agricultural stores. Certainly there are plumbing systems in some of these buildings, there are lighting systems with bulbs, fuses, switches and receptacles that need replacement, there are windows that break, locks that need replacement and carpentry work to be done - even painting and general upkeep need staff and supervision and a place to store supplies. Perhaps their importance is less than the need to repair leaking water mains, but it is a role that the VCWs should be carrying out.

In addition, each village by charter has a technical section in its organizational structure. This section is typically responsible for village lighting, sewage and garbage disposal and cleaning of the streets. If the maintenance responsibilities in all these areas were shifted to the VCW, the workshop supervisor would become the focal point for village maintenance concerns and the village chief would have one person to direct maintenance issues to.

In any case, considering the scope of maintenance activities that the VCWs should be carrying out, there is need for the VCWs even in locations where they are not operational today. Closing or converting them to other uses would be a shortsighted action at this point. The focus should instead be on helping the villages to consolidate their maintenance needs and on using the VCW to address them.

3. Operating a VCW as an investment project can provide several benefits to the workshop itself, the village

council and the village inhabitants. The workshop benefits by generating income that can be used to offset its operating cost, thus lessening its dependence on USAID funds and governmental and village budgets. This factor is especially important in ensuring sustainability after USAID funding ends. Profits can also be used to pay incentives to staff and purchase additional shop equipment. Villagers benefit especially in the desert areas by having access to workshop services that may be limited or non-existent in the local private sector.

It is significant that none of the sites visited had ever started operations and closed again for lack of work or other reasons. Those which were not operational had never started operations. The key seems to be in getting things started. The approval for VCWs to operate as investment projects would be a strong motivator, at most locations, to start or increase operations.

4. The action plans developed during the workshop sessions served as very useful tools in focusing efforts in dealing with maintenance issues. All secretary generals put strong support behind these plans and in at least one governorate the governor issued the action plan in the form of a decree (see copy of English translation in Appendix III.)
5. There is a major need for improving governorate maintenance organization management. In several governorates, there was little direction or problem solving help coming from the governorate maintenance coordinator to the markaz and village personnel and as a result little accountability from the markaz and village level back to the governorate level. Also, in some areas markaz staff have changed and need reorientation in what their maintenance responsibilities are.
6. There were significant staffing and training needs in many locations which need to be addressed, although in most places this is not preventing operations but instead lessening efficiency. The records and monitoring were also often inadequate.
7. Efforts during this phase had a positive impact on causing awareness and action at the governorate level which is expected to have major impact on operational levels when implementation is complete. The field visits, workshop sessions, and work on the action plan items had a positive effect on operational levels as evidenced by increased survey ratings on follow-up visits. Major increases are not expected however, until after the staffing issues are addressed and the investment project regulations have been implemented.

## RECOMMENDATIONS

1. Follow-up visits should be scheduled to the three governorates which were not revisited during this phase to give encouragement and motivation to complete the action plan items. A third visit to each governorate, perhaps combined with other work activity, is recommended after telephone follow-up has verified that action plan items have been completed.
2. A training program for governorate maintenance coordinators which was proposed and approved should be implemented. It should emphasize management from the governorate down and accountability from the village up. See approved proposal in Appendix IV.
3. An orientation program should be established for VCW chiefs and workshop supervisors to re-emphasize the importance of maintenance and especially to help them recognize the benefits of consolidating all village maintenance responsibilities under the VCW workshop supervisor.
4. The Chemonics field visit/workshop approach should be continued and extended to other governorates. It is recommended that a stronger emphasis be placed on VCWs over MMCs and technical assistance over assessment. One approach may be to develop a mini-workshop session for use at the VCW level. A brief set of materials would be developed and visits made to one VCW in each of two marakez each day. Village chiefs and workshop supervisors from other villages in the markaz would attend and the team would go through a process of helping them identify maintenance needs and then discuss the use of the items at their disposal to address them. The VCW where the workshop was held would be used as an example. Six marakez could be covered over a three day period. The general workshop session at the governorate level is important and should be continued. It serves as a forum to discuss common issues with all the markaz chiefs, markaz maintenance directors and governorate officials. The presence of the secretary general and his expressions of support for maintenance activities is also a good example for governorate and markaz staff. The action plan developed during this session provides a needed focus for addressing the major issues, and a reference against which to evaluate progress.
5. Support and encouragement should be given to governorate officials to expedite the implementation of investment project regulations.
6. Continued strong encouragement should be given to

maintenance staff at all levels to address the training and staffing needs.

7. Consideration should be given to the initiation of an awards program which would recognize "Excellence in Maintenance." During the field visits to VCWs, when the team mentioned successful things that some neighboring workshops were doing, the response was often "we can do better than that - come back in a couple of weeks and see what we have done." If this village pride or positive competitiveness were to be capitalized on, it could provide a natural boost in operational level and quality of maintenance system-wide. Considering that the importance of maintenance is being talked about even at the presidential level, the time seems right to recognize and promote successful efforts in maintenance activity. The awards would not have to be monetary. Award certificates to post in the workshop or workshop staff dinners with important government officials might be enough to generate interest in the competition. It may require some technical assistance for the design and implementation, but once operational, the evaluation would be done by governorate maintenance personnel and the recognition would come from governmental officials so outside support would not be needed.
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*APPENDIX B*  
*FIELD TRIP SCHEDULE*

OPERATIONALIZATION OF VCWS AND MMCS  
FIELD TRIP PLAN

June 1992

Rev. H

Governorate	Initial Trip	Team-Trip	First Follow-up Trip	Team-Trip	Second Follow-up Trip	Team-Trip	Third Follow-up Trip	Team-Trip
1. Asswan	12-14 November 1991	B-5	17-20 February 1992	B-11	19-22 April 1992	A-22	31 May - 3 June 1992	B-23
2. Beheira	2-5 September 1991	A-2	27-29 October 1991	A-8	25-28 May 1992	B-21	15-18 June 1992	B-25
3. Beni Suef	24-27 November 1991	B-7	19-22 April 1992	B-15			-----	---
4. Damietta	4-7 August 1991	B-1	12-15 January 1992	A-12	1-4 March 1992	B-12	10-13 May 1992	B-19
5. Daqahliya	22-25 September 1991	A-4	3-6 November 1991	A-9	10-13 May 1992	B-18	25-27 May 1992	A-26
6. Fayoum	12-14 November 1991	B-4	20-23 January 1992	A-13	31 May - 3 June 1992	B-22	-----	---
7. Gharbiya	No trips planned - Pilot	---	-----	---	-----	---	-----	---
8. Giza	8-11 December 1991	B-9	15-18 March 1992	A-19	26,28-30 April 1992	B-17	-----	---
9. Ismailia	17-20 November 1991	B-6	1-3 June 1992	B-24	-----	---	-----	---
10. Kafr El Sheik	29-31 December 1991	A-10	8-11 March 1992	A-18	17-20 May 1992	B-20	21-24 June 1992	B-26
11. Matrouh	25-28 August 1991	A-1	20-23 October 1991	A-7	2-5 February 1992	A-14	17-21 May 1992	A-25
12. Minya	No trips planned - Pilot	---	-----	---	-----	---	-----	---
13. New Valley	15-18 September 1991	A-3	1-4 March 1992	B-13	-----	---	-----	---
14. North Sinai	29 Sept.- 2 Oct. 1991	A-5	5-8 January 1992	A-11	1-4 March 1992	A-17	10-13 May 1992	A-24
15. Qalubiya	1-4 December 1991	B-8	8-11 March 1992	B-14	26,28-30 April 1992	A-23	-----	---
16. Red Sea	29 Sept.- 2 Oct. 1991	B-2	2-5 February 1992	B-10	31 March - 2 April 1992	A-20	-----	---
17. Sohag	7-10 October 1991	A-6	23-26 February 1992	A-16	19-22 April 1992	B-16	21-24 June 1992	B-27
18. South Sinai	3-6 November 1991	B-3	9-12 February 1992	A-15	12-15 April 1992	A-21	-----	---

KEY:

Team A = D. Peterson and a Chemonics Advisor

Team B = Two Other Chemonics Advisors

The numbers refer to the sequential trip number for each team.

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APPENDIX C  
SURVEY FORM

**VILLAGE COUNCIL WORKSHOP/MARKAZ MAINTENANCE CENTER SURVEY**

GOVERNORATE: _____		WORKSHOP SUPERVISOR: _____		INVESTMENT: _____			BUDGET: _____			<b>TOOL INVENTORY</b>		
MARKAZ: _____		DATE: _____		BLDGE: _____			GOE BAB-IE: _____			Type Present Needed		
VILLAGE: _____		BY: _____		TOOLS: _____			LD-II BAB-IE: _____					
NUMBER OF VILLAGES SERVED: _____		COMPL. DATE: _____		<b>SERVICE INVENTORY</b>								
TOTAL POPULATION: _____		Type		Condition (Qty)			Maintenance Level/Location					
<b>STAFF INVENTORY</b>				Training Needed		Total Qty		(V, M, MH, MR, GH, GR, WC, RA, PS)				
Type	Qty			FO	NR	NW	P1	P2	P3	C	M	K
1. Workshop Supervisor		A. Mobile equipment										
2. Mechanical Engineer		1. Agricultural tractors										
3. Electrical Engineer		2. Heavy equipment										
4. Accountant		3. Motorcycles										
5. Administrator/Clerk		4. Pickups & cars										
6. Secretary		5. Trailers										
7. Storekeeper		6. Trucks										
8. Technician		7.										
9. Repair Supervisor		B. Water Projects										
10. Mechanic (general)		1. Compact units										
11. Mechanic (diesel)		2. Desalination plants										
12. Mechanic's Helper		3. Pipe networks (km)										
13. Electrician (vehicle)		4. Pump sets, diesel powered										
14. Electrician (elec. motor)		5. Pump sets, electric powered										
15. Electrician (network)		6. Tanks										
16. Lathe Operator		7.										
17. Mill Operator		C. Wastewater/Drainage Projects										
18. Fitter		1. Pipe networks (km)										
19. Welder		2. Pump sets, diesel powered										
20. Forger		3. Pump sets, electric powered										
21. Painter (vehicle)		4. Wastewater treatment plants										
22. Body Repairman		5.										
23. Tire Repairman		D. Road Projects										
24. Battery Maint Man		1. Dirt roads (km)										
25. Lubrication Man		2. Gravel roads (km)										
26. Water Meter Repairman		3. Asphalt roads (km)										
27. Plumber												
28. Plumber's Helper		E. Other Projects										
29. Laborer		1. Buildings										
30. Water Maint. Supervisor		2. Generator sets, diesel powered										
31. Pipeline Laborer		3. Investment projects										
32. Road Maint Supervisor		4.										
33. Road Laborer		FO = Fully Operational										
34. Guard		NR = Needs Repair										
35.		NW = Not Worth Repairing										
		V = Village Workshop										
		M = Markaz Maint Center										
		MH = Markaz Housing Dept										
		MR = Markaz Roads Dept										
		GH = Govern'te Housing Dep										
		GR = Governorate Roads Dep										
		WC = Water Company										
		RA = Roads Authority										
		PS = Private Sector										
		P1 = Daily & weekly preventive										
		P2 = Monthly preventive mainte										
		P3 = Biannual preventive mainte										
		C = Minor repair replac of small										
		M = Med rep & replac of parts										
		K = Maj repair or reblgd of maj										

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**VILLAGE COUNCIL WORKSHOP/MARKAZ MAINTENANCE CENTER  
SURVEY FORM**

GOVERNORATE : \_\_\_\_\_  
 MARKAZ : \_\_\_\_\_  
 VILLAGE : \_\_\_\_\_

DATE : \_\_\_\_\_  
 BY : \_\_\_\_\_  
 \_\_\_\_\_

ITEM	SUITABILITY							UTILIZATION							COMMENTS
	0	1	2	3	4	Total	Avg	0	1	2	3	4	Total	Avg	
<b>A. Staff</b>															
1. Quantity (adequacy, regardless of skills)															
2. Skill types (correct distribution of job types)															
3. Training level (suitability based on needs)															
Staff Totals/Avg															
<b>B. Facilities</b>															
1. Site layout (access, power, bldg. design)															
2. Workshops (space, workbenches, tool storage)															
3. Storerooms (space, shelving)															
Facilities Totals/Avg															
<b>C. Tools and equipment</b>															
1. Tools															
2. Shop equipment															
Tools & equip Totals/Avg															
<b>D. Spare parts</b>															
1. Quantity and type															
2. Arrangement & organization															
3. Records															
Spare parts Totals/Avg															
<b>E. Management</b>															
1. Understanding of proper role of facility															
2. Organization of staff															
3. Direction of maintenance activities															
4. Solving of problems															
5. Recording & monitoring of activities															
a. Use of prevent. maint. schedules, O&M plan															
b. Use of usage records															
c. Use of repair & maintenance records															
d. Use of shop work orders															
e. Use of QFRs															
Management Totals/Avg															
<b>F. Adequacy of funds to carry out responsibilities</b>															
Suitability Rating (avg)							<input type="checkbox"/>	Utilization Rating (avg)							<input type="checkbox"/>
OVERALL RATING														<input type="checkbox"/>	
(average of suitability & utilization ratings)															
<b>Other factors</b>															
1. Access to a vehicle for maintenance activities															
2. Use of training courses for staff improvement															
3. Support from local authority															
4. Support from higher authority (markaz or gov)															
Level of maintenance performed vs responsibilities															
Visually judged overall level of operation															

**SUITABILITY**

- 0 = Completely unsuitable or nonexistent.
- 1 = Poor. Proper operation is severely hindered due to unsuitability of item.
- 2 = Fair. Marginally suitable - changes are needed to improve suitability.
- 3 = Good. Effort has been made to match suitability with need.
- 4 = Excellent. Item is very well matched to needs.

**UTILIZATION**

- 0 = Not being used.
- 1 = Poor. Little or improper use is being made of item.
- 2 = Fair. Item is being used, but improvement in utilization is needed.
- 3 = Good. Effort has been made to use the item to address the needs.
- 4 = Excellent. Item is being used very efficiently to address needs.

VILLAGE COUNCIL WORKSHOP/MARKAZ MAINTENANCE CENTER  
COMMENTS FORM

GOVERNORATE: \_\_\_\_\_

DATE: \_\_\_\_\_

MARKAZ : \_\_\_\_\_

BY : \_\_\_\_\_

VILLAGE : \_\_\_\_\_

\_\_\_\_\_

PROBLEMS:

1.

2.

3.

STRENGTHS:

1.

2.

3.

WEAKNESSES:

1.

2.

3.

OTHER:

1.

2.

3.

*APPENDIX D*  
DATABASE SHOWING WORKSHOP OPERATIONAL STATUS  
AND SUMMARIES BY GOVERNORATE





BEHEIRA GOVERNORATE

OPERATIONAL STATUS OF VILLAGE COUNCIL WORKSHOPS AND MARKAZ MAINTENANCE CENTERS

REPORT DATE: 15-Sep-92

No.	Markaz	Village or MMC	Geo. Code	Initial Visit				Status during Initial Visit					First Follow-up Visit			Second Follow-up Visit			Last Visit				Status during Last Visit				
				Date	Type	SR	OR	N.U.	Poor	Fair	Good	Excel	Date	SR	OR	Date	SR	OR	Date	Type	SR	OR	N.U.	Poor	Fair	Good	Excel
50	KAFR EL DAWAR	EZAB DIFSHO	031002																								
51	KAFR EL DAWAR	KOM EL BERKA	031003	25/5/92	OP	2.2	2.3			X																	
52	KAFR EL DAWAR	MINSHAT BOLIN	031004																								
53	KAFR EL DAWAR	QOMBNET ABU QER	031005																								
54	KAFR EL DAWAR	SIDI OHAZI	031006	25/5/92	OP	2.9	2.6				X																
55	KAFR EL DAWAR	ZAHRA	031007																								
56	KOM HAMADA	-MMC-	031100	2/9/91	OP	2.5	2.5				X		25/2/92	2.6	2.2	28/5/92	2.6	2.5	18/6/92	OP	2.9	2.6					X
57	KOM HAMADA	BADR	031101																								X
58	KOM HAMADA	DIST EL ASHRAF	031102	28/5/92	OP	2.6	2.7				X																X
59	KOM HAMADA	EL BERIGAT	031103																								X
60	KOM HAMADA	EL KHATATBA	031104																								X
61	KOM HAMADA	EL NEGILA	031105	2/9/91	OP	3.1	3.2				X																X
62	KOM HAMADA	EL TOD	031106																								X
63	KOM HAMADA	KAFR BOLIN	031107																								X
64	KOM HAMADA	KAFR DAWED	031108	15/3/92	SA		2.0				X																X
65	KOM HAMADA	KOM SHERIK	031109																								X
66	KOM HAMADA	OMAR MAKRAM	031110																								X
67	KOM HAMADA	OM SABER	031111																								X
68	KOM HAMADA	SAFT EL ENAB	031112																								X
69	KOM HAMADA	SHABOUR	031113	2/9/91	OP	3.0	3.0				X		28/5/92	3.0	2.8												X
70	KOM HAMADA	WAQD	031114																								X
71	RASHEED	-MMC-	031200	24/2/92	OP	2.8	2.8				X		17/6/92	3.1	3.1												X
72	RASHEED	EL SAHEL	031201	17/6/92	OP	2.7	2.0				X																X
73	RASHEED	IDFINA	031202																								X
74	RASHEED	MAHLAT EL AMIR	031203																								X
75	SHOBRAKHATE	-MMC-	031300	4/9/91	OP	3.0	2.9				X		29/10/91	3.0	2.9	23/2/92	2.9	2.7	23/2/92	OP	2.9	2.7					X
76	SHOBRAKHATE	EL RIDAN	031301	29/10/91	OP	2.7	2.7				X																X
77	SHOBRAKHATE	LAQANA	031302	4/9/91	OP	1.9	0.1	X																			X
78	SHOBRAKHATE	MAHLAT BESHIR	031303																								X
79	SHOBRAKHATE	MAHLAT FARNAWY	031304	27/5/92	OP	2.7	2.8				X		29/10/91	2.7	2.5	27/5/92	2.7	2.7	29/10/91	OP	2.7	2.7					X
80	SHOBRAKHATE	ORIEN	031305	4/9/91	OP	2.3	0.8				X																X
81	WADI EL NATRON	-MMC-	031400																								X
82	WADI EL NATRON	ADNAN MEDANY	031403																								X







**BENI SUEF GOVERNORATE**  
**OPERATIONAL STATUS OF VILLAGE COUNCIL WORKSHOPS AND MARKAZ MAINTENANCE CENTERS**  
**REPORT DATE: 15-Sep-92**

No.	Markaz	Village or MMC	Geo. Code	Initial Visit				Status during Initial Visit					First Follow-up Visit			Second Follow-up Visit			Last Visit				Status during Last Visit				
				Date	Type	SR	OR	N.U.	Poor	Fair	Good	Excel	Date	SR	OR	Date	SR	OR	Date	Type	SR	OR	N.U.	Poor	Fair	Good	Excel
Type = Type of Visit				Avg:		2.0	2.0																				
OP = Site visit for operationalization task. PI = Site visit for pilot task. SA = Site visit for sub-project assessment. AV = Site visit by advisor for other reasons.				Total:				0	3	8	3	0															
				Percentage:				0%	21%	57%	21%	0%															

**SR = Suitability Rating**

0 - 0.4 = Completely unsuitable or nonexistent.  
 0.5 - 1.4 = Poor. Proper operation is severely hindered due to unsuitability of item.  
 1.5 - 2.4 = Fair. Marginally suitable - changes are needed to improve suitability.  
 2.5 - 3.4 = Good. Effort has been made to match suitability with need.  
 3.5 - 4.0 = Excellent. Item is very well matched to needs.

**OR = Operational Rating**

0 - 0.4 = N.U. Not being used. (U.C. indicates facility is under construction).  
 0.5 - 1.4 = Poor. Little or improper use is being made of item.  
 1.5 - 2.4 = Fair. Item is being used, but improvement in utilization is needed.  
 2.5 - 3.4 = Good. Effort has been made to use the item to address the needs.  
 3.5 - 4.0 = Excellent. Item is being used very efficiently to address needs.

Total number of visits (by types):	OP	17
	Other	0
Total number of sites visited:		14
Total number of sites:		45
Percentage of sites visited:		31%
Percentage rated "Fair" or better on initial visit:		79%
Percentage rated "Fair" or better on last visit:		86%

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DAQAHLIYA GOVERNORATE  
 OPERATIONAL STATUS OF VILLAGE COUNCIL WORKSHOPS AND MARKAZ MAINTENANCE CENTERS  
 REPORT DATE: 15-Sep-92

No.	Markaz	Village or MMC	Geo. Code	Initial Visit				Status during Initial Visit					First Follow-up Visit			Second Follow-up Visit			Last Visit				Status during Last Visit				
				Date	Type	SR	OR	N.U.	Poor	Fair	Good	Excel	Date	SR	OR	Date	SR	OR	Date	Type	SR	OR	N.U.	Poor	Fair	Good	Excel
Type = Type of Visit																											
OP = Site visit for operationalization task. PI = Site visit for pilot task. SA = Site visit for sub-project assessment. AV = Site visit by advice for other reasons.				Avg: 2.5 2.3				Total: 0 2 25 17 0								2.5 2.3							Percentage: 0% 5% 57% 39% 0%				

SR = Suitability Rating

- 0 - 0.4 = Completely unsuitable or nonexistent.
- 0.5 - 1.4 = Poor. Proper operation is severely hindered due to unsuitability of item.
- 1.5 - 2.4 = Fair. Marginally suitable - changes are needed to improve suitability.
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- 1.5 - 2.4 = Fair. Item is being used, but improvement in utilization is needed.
- 2.5 - 3.4 = Good. Effort has been made to use the item to address the needs.
- 3.5 - 4.0 = Excellent. Item is being used very efficiently to address needs.

Total number of visits (by type):	OP	48
	Other	4
Total number of sites visited:		44
Total number of sites:		85
Percentage of sites visited:		52%
Percentage rated "Fair" or better on initial visit:		95%
Percentage rated "Fair" or better on last visit:		95%



FAYOUM GOVERNORATE  
 OPERATIONAL STATUS OF VILLAGE COUNCIL WORKSHOPS AND MARKAZ MAINTENANCE CENTERS  
 REPORT DATE: 15-Sep-92

No.	Markaz	Village or MMC	Geo. Code	Initial Visit				Status during Initial Visit					First Follow-up Visit			Second Follow-up Visit			Last Visit				Status during Last Visit				
				Date	Type	SR	OR	N.U.	Poor	Fair	Good	Excel	Date	SR	OR	Date	SR	OR	Date	Type	SR	OR	N.U.	Poor	Fair	Good	Excel
Type = Type of Visit				2.4 2.0															2.5 2.2								
OP = Site visit for operationalization task.				Avg:				3 2 7 10 0											2.5 2.2				3 0 9 10 0				
P1 = Site visit for pilot task.				Total:				14% 9% 32% 45% 0%															14% 0% 41% 45% 0%				
SA = Site visit for sub-project assessment.				Percentage:																							
AV = Site visit by advisor for other reasons.																											

SR = Suitability Rating

- 0 - 0.4 = Completely unsuitable or nonexistent.
- 0.5 - 1.4 = Poor. Proper operation is severely hindered due to unsuitability of item.
- 1.5 - 2.4 = Fair. Marginally suitable - changes are needed to improve suitability.
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OR = Operational Rating

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- 1.5 - 2.4 = Fair. Item is being used, but improvement in utilization is needed.
- 2.5 - 3.4 = Good. Effort has been made to use the item to address the needs.
- 3.5 - 4.0 = Excellent. Item is being used very efficiently to address needs.

Total number of visits (by type):	OP	28
	Other	1
Total number of sites visited:		22
Total number of sites:		45
Percentage of sites visited:		49%
Percentage rated "Fair" or better on initial visit:		77%
Percentage rated "Fair" or better on last visit:		86%

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**MATROUH GOVERNORATE**  
**OPERATIONAL STATUS OF VILLAGE COUNCIL WORKSHOPS AND MARKAZ MAINTENANCE CENTERS**  
**REPORT DATE: 15-Sep-92**

No.	Markaz	Village or MMC	Geo. Code	Initial Visit				Status during Initial Visit					First Follow-up Visit			Second Follow-up Visit			Last Visit				Status during Last Visit									
				Date	Type	SR	OR	N.U.	Poor	Fair	Good	Excel	Date	SR	OR	Date	SR	OR	Date	Type	SR	OR	N.U.	Poor	Fair	Good	Excel					
Type = Type of Visit				Avg:		1.9	1.3											2.3		1.9												
OP = Site visit for operationalization task. PI = Site visit for pilot task. SA = Site visit for sub-project assessment. AV = Site visit by advisor for other reasons.				Total:		6	9	12	0	0													0	7	16	4	0					
SR = Suitability Rating				Percentage:		22%	33%	44%	0%	0%													0%	26%	59%	15%	0%					
0 - 0.4 = Completely unsuitable or nonexistent. 0.5 - 1.4 = Poor. Proper operation is severely hindered due to unsuitability of item. 1.5 - 2.4 = Fair. Marginally suitable - changes are needed to improve suitability. 2.5 - 3.4 = Good. Effort has been made to match suitability with need. 3.5 - 4.0 = Excellent. Item is very well matched to needs.				OR = Operational Rating				0 - 0.4 = N.U. Not being used. (U.C. indicates facility is under construction). 0.5 - 1.4 = Poor. Little or improper use is being made of item. 1.5 - 2.4 = Fair. Item is being used, but improvement in utilization is needed. 2.5 - 3.4 = Good. Effort has been made to use the item to address the needs. 3.5 - 4.0 = Excellent. Item is being used very efficiently to address needs.										Total number of visits (by type): OP 52 Other 0 Total number of sites visited: 27 Total number of sites: 35 Percentage of sites visited: 77% Percentage rated "Fair" or better on initial visit: 44% Percentage rated "Fair" or better on last visit: 74%														

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**NORTH SINAI GOVERNORATE**  
**OPERATIONAL STATUS OF VILLAGE COUNCIL WORKSHOPS AND MARKAZ MAINTENANCE CENTERS**  
**REPORT DATE: 15-Sep-92**

No.	Markaz	Village or MMC	Geo. Code	Initial Visit				Status during Initial Visit				First Follow-up Visit			Second Follow-up Visit			Last Visit				Status during Last Visit				
				Date	Type	SR	OR	N.U.	Poor	Fair	Good	Excel	Date	SR	OR	Date	SR	OR	Date	Type	SR	OR	N.U.	Poor	Fair	Good
Type = Type of Visit				Avg:																						
OP = Site visit for operationalization task.				1.8																						
P1 = Site visit for pilot task.				0.9																						
SA = Site visit for sub-project assessment.								15				8			6				3							
AV = Site visit by advisor for other reasons.								47%				25%			19%				9%							
																			0							
																			25%							
																			22%							
																			44%							
																			9%							
																			0%							

SR = Suitability Rating

- 0 - 0.4 = Completely unsuitable or nonexistent.
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- 1.5 - 2.4 = Fair. Item is being used, but improvement in utilization is needed.
- 2.5 - 3.4 = Good. Effort has been made to use the item to address the needs.
- 3.5 - 4.0 = Excellent. Item is being used very efficiently to address needs.

Total number of visits (by type):	OP	62
	Other	0
Total number of sites visited:		32
Total number of sites:		36
Percentage of sites visited:		89%
Percentage rated "Fair" or better on initial visit:		28%
Percentage rated "Fair" or better on last visit:		53%

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QALUBIYA GOVERNORATE  
 OPERATIONAL STATUS OF VILLAGE COUNCIL WORKSHOPS AND MARKAZ MAINTENANCE CENTERS  
 REPORT DATE: 14-Sep-92

No.	Markaz	Village or MMC	Geo. Code	Initial Visit				Status during Initial Visit					First Follow-up Visit			Second Follow-up Visit			Last Visit				Status during Last Visit				
				Date	Type	SR	OR	N.U.	Poor	Fair	Good	Excel	Date	SR	OR	Date	SR	OR	Date	Type	SR	OR	N.U.	Poor	Fair	Good	Excel
1	Governorate	-MMC-	170000																								
2	Governorate	-MMC- (water)	170000	1/12/91	OP	2.9	2.6				X																
3	BANHA	-MMC-	170100	10/3/92	OP	2.7	3.0				X									1/12/91	OP	2.9	2.6				X
4	BANHA	BATAMDA	170101																	10/3/92	OP	2.7	3.0				X
5	BANHA	GAMOARA	170102																								
6	BANHA	KAFR EL GAZZAR	170103	26/4/92	OP	2.9	2.6				X																
7	BANHA	MARSABA	170104	8/3/92	SA		2.0				X									26/4/92	SA	2.9	2.6				X
8	BANHA	SANDANOUR	170105	26/7/92	OP	2.6	2.3				X									8/3/92	SA		2.0				X
9	BANHA	SHABLANGA	170106	1/12/91	OP	2.6	2.4				X									26/7/92	OP	2.6	2.3				X
10	BANHA	TAHIA	170107	26/4/92	OP	3.0	2.8				X									1/12/91	OP	2.6	2.4				X
11	KNATER ELKHIRYA	-MMC-	170200																	26/4/92	OP	3.0	2.8				X
12	KNATER ELKHIRYA	ABU EL OHATE	170201																								
13	KNATER ELKHIRYA	EL MONIRA	170202																								
14	KNATER ELKHIRYA	SHALQAN	170203	9/3/92	OP	2.5	2.6				X									9/3/92	OP	2.5	2.6				X
15	KNATER ELKHIRYA	SINDEBAS	170204																								
16	EL KHANKA	-MMC-	170300																								
17	EL KHANKA	ABU ZAABAL	170301	7/3/92	OP	2.6	2.2				X									7/3/92	OP	2.6	2.2				X
18	EL KHANKA	EL MANAYEL	170302																								
19	EL KHANKA	EL QALG	170303	28/7/92	OP	2.0	1.3		X											28/7/92	OP	2.0	1.3		X		
20	EL KHANKA	SERIAQOUS	170304	28/7/92	OP	2.3	2.0				X									28/7/92	OP	2.3	2.0			X	
21	EL KHANKA	ELGABAL ELASFAR	170305	8/3/92	SA		2.0				X									8/3/92	SA		2.0				X
22	KAFR SHOKR	-MMC-	170400																								
23	KAFR SHOKR	ASNEET	170401																								
24	KAFR SHOKR	ELMONSHA ELKOBR	170402																								
25	KAFR SHOKR	EL SHOQR	170403	8/3/92	SA		2.0				X									8/3/92	SA		2.0				X
26	KAFR SHOKR	KAFR TESFA	170404	3/12/91	OP	2.0	1.5				X									3/12/91	OP	2.0	1.5				X
27	KAFR SHOKR	EL BAQASHEEN	170405	3/12/91	OP	1.7	0.9		X											3/12/91	OP	1.7	0.9		X		
28	QALYOUB	-MMC-	170500																								
29	QALYOUB	BALQAS	170501																								
30	QALYOUB	NAI	170502																								
31	QALYOUB	SANAFEER	170503																								
32	QALYOUB	SINDION	170504	26/7/92	OP	2.6	2.3				X																
33	QALYOUB	TANAN	170505	10/3/92	OP	2.1	2.4				X									26/7/92	OP	2.6	2.3				X
34	QALYOUB	MEET EL HOLFA	170506	26/7/92	OP	2.0	2.0				X									10/3/92	OP	2.1	2.4				X
35	SHBEN ELKANATER	-MMC-	170600	8/3/92	OP	1.8	0.7		X											26/7/92	OP	2.0	2.0				X
36	SHBEN ELKANATER	EL AHRAZ	170601																	27/7/92	OP	1.8	1.0		X		
37	SHBEN ELKANATER	EL GAAFRA	170602																								
38	SHBEN ELKANATER	KAFR SHBEN	170603	27/7/92	OP	2.4	2.9				X																
39	SHBEN ELKANATER	TAHANOUB	170604	27/7/92	OP	2.5	2.6				X									27/7/92	OP	2.4	2.9				X
40	SHBEN ELKANATER	TOHORIA	170605																								
41	SHBEN ELKANATER	NAWAY	170606																								
42	SHBEN ELKANATER	MONSHAT ELKRAM	170607																								
43	TOUKH	-MMC-	170700	2/12/91	OP	2.7	2.2				X																
44	TOUKH	AGHOUR EL KOBRA	170701	28/4/92	OP	3.0	2.5																				
45	TOUKH	AKIDA DEGWY	170702	28/4/92	OP	2.8	2.6													2/12/91	OP	2.7	2.2				X
46	TOUKH	BALTAN	170703	2/12/91	OP	2.8	2.6													28/4/92	OP	3.0	2.5				X
47	TOUKH	FL AMAR ELKOBRA	170704	28/4/92	OP	2.7	2.5													28/4/92	OP	2.8	2.6				X
48	TOUKH	LL DAIR	170705																	2/12/91	OP	2.8	2.6				X
49	TOUKH	MIT KANANA	170706																	28/4/92	OP	2.7	2.5				X

**QALUBIYA GOVERNORATE**  
**OPERATIONAL STATUS OF VILLAGE COUNCIL WORKSHOPS AND MARKAZ MAINTENANCE CENTERS**  
 REPORT DATE: 14-Sep-92

No.	Markaz	Village or MMC	Geo. Code	Initial Visit				Status during Initial Visit					First Follow-up Visit			Second Follow-up Visit			Last Visit				Status during Last Visit					
				Date	Type	SR	OR	N.U.	Poor	Fair	Good	Excel	Date	SR	OR	Date	SR	OR	Date	Type	SR	OR	N.U.	Poor	Fair	Good	Excel	
50	TOUKH	MOSHTHOR	170707	2/12/91	OP	2.5	1.9			X										2/12/91	OP	2.5	1.9			X		
51	TOUKH	TERSA	170708																									
52	TOUKH	NAMOL	170709																									
53	TOUKH	KAFR MANSOUR	170710																									

Type = Type of Visit

OP = Site visit for operationalization task.  
 PI = Site visit for pilot task.  
 SA = Site visit for sub-project assessment.  
 AV = Site visit by advisor for other reasons.

Avg:	2.5	2.2																									
Total:			0	3	15	9	0													2.5	2.2						
Percentage:			0%	11%	56%	33%	0%																				

SR = Suitability Rating

0 - 0.4 = Completely unsuitable or nonexistent.  
 0.5 - 1.4 = Poor. Proper operation is severely hindered due to unsuitability of item.  
 1.5 - 2.4 = Fair. Marginally suitable - changes are needed to improve suitability.  
 2.5 - 3.4 = Good. Effort has been made to match suitability with need.  
 3.5 - 4.0 = Excellent. Item is very well matched to needs.

OR = Operational Rating

0 - 0.4 = N.U. Not being used. (U.C. indicates facility is under construction).  
 0.5 - 1.4 = Poor. Little or improper use is being made of item.  
 1.5 - 2.4 = Fair. Item is being used, but improvement in utilization is needed.  
 2.5 - 3.4 = Good. Effort has been made to use the item to address the needs.  
 3.5 - 4.0 = Excellent. Item is being used very efficiently to address needs.

Total number of visits (by type):	OP	17
	Other	3
Total number of sites visited:		27
Total number of sites:		53
Percentage of sites visited:		51%
Percentage rated "Fair" or better on initial visit:		89%
Percentage rated "Fair" or better on last visit:		89%







**SOUTH SINAI GOVERNORATE**  
**OPERATIONAL STATUS OF VILLAGE COUNCIL WORKSHOPS AND MARKAZ MAINTENANCE CENTERS**  
**REPORT DATE: 15-Sep-92**

No.	Markaz	Village or MMC	Geo. Code	Initial Visit				Status during Initial Visit					First Follow-up Visit			Second Follow-up Visit			Last Visit				Status during Last Visit				
				Date	Type	SR	OR	N.U.	Poor	Fair	Good	Excel	Date	SR	OR	Date	SR	OR	Date	Type	SR	OR	N.U.	Poor	Fair	Good	Excel
1	RAS SEDR	-MMC-	220100	6/11/91	OP	2.1	2.0			X			9/2/92	2.2	2.1	12/4/92	2.2	2.1	12/4/92	OP	2.2	2.1			X		
2	ABU REDIS	-MMC-	220220	2/11/91	OP	1.8	2.0			X			9/2/92	2.0	2.4	12/4/92	2.0	2.4	19/8/92	OP	2.0	2.4			X		
3	ABU ZENIMA	-MMC-	220300	3/11/91	OP	2.0	1.0		X				9/2/92	2.1	1.9	12/4/92	2.1	1.9	16/8/92	OP	2.1	1.9			X		
4	SALAIT CATHRINE	-MMC-	220400	14/4/92	OP	2.3	2.6				X		19/8/92	2.3	2.6				19/8/92	OP	2.3	2.6				X	
5	EL TOUR	-MMC-	220500	4/11/91	OP	1.9	1.7			X	X		11/2/92	2.2	2.2	13/4/91	2.7	2.5	16/8/92	OP	2.7	2.5				X	X
6	SHARM EL SHEIKH	-MMC-	220600	5/11/91	OP	0.8	0.0	U.C.					11/2/92	2.0	0.7	17/8/92	2.0	1.1	17/8/92	OP	2.0	1.1			X		
7	DAHAB	-MMC-	220700	11/2/92	OP	1.8	1.7			X			10/2/92	1.8	1.7	14/4/92	2.0	1.7	18/8/92	OP	2.0	1.7			X		
8	NOWEBA	-MMC-	220800	5/11/91	OP	2.0	1.4		X				10/2/92	1.9	1.7	18/8/92	1.9	1.7	18/8/92	OP	1.9	1.7			X		

Type = Type of Visit

OP = Site visit for operationalization task.  
 PI = Site visit for pilot task.  
 SA = Site visit for sub-project assessment.  
 AV = Site visit by advisor for other reasons.

SR = Suitability Rating

0 - 0.4 = Completely unsuitable or nonexistent.  
 0.5 - 1.4 = Poor. Proper operation is severely hindered due to unsuitability of item.  
 1.5 - 2.4 = Fair. Marginally suitable - changes are needed to improve suitability.  
 2.5 - 3.4 = Good. Effort has been made to match suitability with need.  
 3.5 - 4.0 = Excellent. Item is very well matched to needs.

OR = Operational Rating

0 - 0.4 = N.U. Not being used. (U.C. indicates facility is under construction).  
 0.5 - 1.4 = Poor. Little or improper use is being made of item.  
 1.5 - 2.4 = Fair. Item is being used, but improvement in utilization is needed.  
 2.5 - 3.4 = Good. Effort has been made to use the item to address the needs.  
 3.5 - 4.0 = Excellent. Item is being used very efficiently to address needs.

Avg:	1.8	1.6																	2.2	2.0							
Total:			1	2	4	1	0													0	0	6	2	0			
Percentage:			13%	25%	50%	13%	0%													0%	0%	75%	25%	0%			

Total number of visits (by type):	OP	19
	Other	0
Total number of sites visited:		8
Total number of sites:		8
Percentage of sites visited:		100%
Percentage rated "Fair" or better on initial visit:		63%
Percentage rated "Fair" or better on last visit:		100%

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*APPENDIX E*  
*WORKSHOP CHECKLIST (ENGLISH AND ARABIC)*

CHECK LIST OF  
MINIMUM CONDITIONS FOR VILLAGE COUNCIL WORKSHOP OPERATION

- [ ] I. The building must be completed and in good condition.
  - [ ] A. Access to site and building must be clear of debris, weeds and other obstructions.
  - [ ] B. All locks should be functional and keys should be available for locked rooms, cabinets etc.
  - [ ] C. Floors must be finished.
  - [ ] D. If electrical power is available at the site, it must be connected and usable.
  - [ ] E. Internal wiring, switches, receptacles and lights should be of proper type, properly protected for safety and functional.
  - [ ] F. Water service, if available, should also be connected.
  
- [ ] II. The building must contain one or more rooms or areas set up as mechanical workshops.
  - [ ] A. Each should contain at least one solid workbench with a mounted vise.
  - [ ] B. Hand tools should be available for use and properly stored.
    - [ ] 1. Wrenches and other tools used on a frequent basis should be hung on a display board above the workbench.
    - [ ] 2. Hand tools not used on a frequent basis should be kept in tool boxes or storage cabinets.
  - [ ] C. Power tools should have proper plugs or electrical connections and stationary tools should be properly mounted.
    - [ ] 1. Bench tools should be mounted on benches or stands.
    - [ ] 2. Wheel grinders should be bolted down.
    - [ ] 3. Accessories which are needed to use tools, such as: bits for drill presses, hoses for air compressors, chucks and tools for lathes and eye shields for arc welding machines must be in place or be available.
  - [ ] D. The workshop area should be arranged for easy access to tools and be clear of excess junk.
  
- [ ] III. The building must have one room designated for spare parts storage.
  - [ ] A. Shelving should be provided to hold the small parts in an organized manner. Individual shelves should be labeled showing part number or the name of the part to be kept there.

- [ ] B. Large parts (pipeline valves, etc.) may be arranged on the floor. Pipes generally should be stored outside the building in racks or neat stacks.
- [ ] C. The items stocked and the quantities of each will depend on the amount of equipment serviced, but as a minimum should contain the following:
  - [ ] 1. One or more oil filters for each engine serviced.
  - [ ] 2. One or more air filters for each engine using replaceable filters.
  - [ ] 3. A set of tune-up parts (sparkplugs, points, condenser) for each gasoline engine.
  - [ ] 4. A selection of gaskets, seals, bolts, valves, fittings, pipe, etc. as necessary for repair of water and sewer pipe network.
- [ ] D. A record book listing all parts stocked (including the cost and stock quantity) should be kept and be available and up to date.
- [ ] IV. The building should contain the supplies and equipment necessary to perform the required maintenance including:
  - [ ] A. A suitable quantity of oil and grease for several oil changes and general servicing of each vehicle or engine.
  - [ ] B. A grease gun, oil can, filter wrench, tire gauge and water container, if engines are serviced.
  - [ ] C. Shovels, picks and baskets for servicing roads or underground pipe networks.
- [ ] V. The following plans, records and reports should be kept and be available for inspection:
  - [ ] A. A copy of the current O & M plan.
  - [ ] B. A record book of work performed in the workshop.
  - [ ] C. A file of shop work orders for work performed.
  - [ ] D. A record book of outside (hired) work done for the workshop.
  - [ ] E. A vehicle usage log book.
  - [ ] F. Vehicle maintenance record books (one for each vehicle.)
  - [ ] G. Equipment maintenance record cards (one for each stationary project, pump set, generator set, etc.)
  - [ ] H. A copy of recent QPRs from the site.

- [ ] VI. The following charts should be made and posted on a wall.
- [ ] A. Maintenance Responsibilities. This chart should list each vehicle or piece of equipment, pump set, generator set, kilometers of pipeline, kilometers of road, building, etc. that the workshop is responsible for. The name of the operator or other person responsible for each item should be included. The level of maintenance performed by the workshop staff should also be shown along with an indication of whether or not spare parts are stocked for the maintenance.
- [ ] B. Staff Organization. This chart should be a typical organizational chart. Its purpose is to show how the staff is organized to meet the maintenance responsibilities. The name of each employee of the workshop, his or her job title and who they report to should be included.
- [ ] C. Preventive Maintenance Schedule. This chart should display the information from the O&M plan PM schedule and list each piece of equipment or project and the scheduled maintenance type and date it is to be performed. This chart should be kept current showing when each maintenance was actually performed.
- [ ] D. Maintenance Records. This chart should show a list of the records that the workshop maintains up to date. It should include all the records listed above in sections III. D., and V. A - H.

rev. c  
11/2/92

## إستمارة إستبيان

### لتحديد أقل الإمكانيات الممكنة لتشغيل ورش الصيانة

أولا: يجب أن يكون المبنى كاملا وبحالة جيدة ويتوفر فيه الآتى:

- [ ] كون المبنى منظما وخاليا من أى متعلقات أخرى عدا العدد والالات
- [ ] الطرق المؤدية الى الموقع مجهزة وتسمح بدخول وخروج السيارات والمعدات
- [ ] تكون جميع الأبواب بحالة جيدة بحيث يسهل قفلها وفتحها بسهولة
- [ ] تغطيه الارضيات بالبلاط أو الخرسانة بطبقة ناعمة
- [ ] يجب توصيل الات بالمصدر الكهربى بالأسلوب السليم وعدم ترك الاسلاك أو الكابلات ملقاه على الأرض أو معلقة على الجدران
- [ ] وصلات الإضاءة وتابلوهات الكهرباء تكون بحالة جيدة ومعزولة لضمان الامان للعاملين
- [ ] تكون المياه قد تم توصيلها الى دورات المياه التى يجب أن تكون نظيفة أيضا

ثانيا: يجب إحتواء المبنى على ورشة مخصصة لاهمال الميكانيكا والكهرباء يتوفر فيها الآتى:

- [ ] تحنوى الورشة على تازجات مزودة بالمناجل
- [ ] العدد البدوية تكون جاهزة للعمل وليست بصناديق مقلقة وتكون معلقة على لوحة خشبية

[ ] العدد اليدوية والالات التى لا تستخدم يجب حفظها وتخزينها بالمخازن فى صناديقها لحين الحاجة اليها

[ ] توصيل الات بمصدر الكهرباء بمفاتيح فصل ووصل التيار مناسبة وأمنة

[ ] تثبيت الات على التازجة أو حوامل خاصة بها وليس على الأرض الا فى حالة الات الكبيرة (مخارط - مقاشط) مع ربط مسامير التثبيت جيدا وعمل قواعد خرسانية لها.

[ ] الأدوات التكميلية لتشغيل الات تكون جاهزة فى أماكنها وتم المحافظة عليها مثل البنط - ظرف المخارط - الميكرومتر - الورنية - نظارة واقية للحام الخ . . . . .

[ ] المساحات التى أمام الورش يجب أن تكون خالية بحيث يسهل الدخول والخروج من الورش.

ثالثا: يجب إحتواء المبنى على مكان مخصص للمخازن ويتوفر فيها الأتى:

[ ] أرفف لعفظ قطع الفيار والمواد المراد تخزينها ويوضع لكل صنف كارت يحتوى على الإسم ورقم العينة والكمية المتوفرة

[ ] الأصناف ذات الحجم الكبير مثل المواسير والمحابس يتم ترتيبها وتخزينها على الأرض بصورة منتظمة على أن تخزن المواسير خارج المبنى فى المساحات الخالية على حوامل مناسبة لها.

[ ] الأصناف تكون متوفرة بكمية تكفى لصيانة وتشغيل المعدات مثل

[ ] فلتر واحد أو أكثر (طبقا لعدد المعدات) من كل نوع من أنواع الفلاتر (زيت - وقود - شراء)

[ ] طقم إصلاح كهرباء (بوجيهات - أبلاطين - كندسر)

[ ] أصناف متنوعة أخرى مثل جوانات - موانع الزيت -

مواسير - وصلات ... الخ)

[ ] دفتر لتسجيل الأصناف الموجود فى المخازن مدون به أحدث

الأسعار الخاصة بكل صنف

رابعاً:تجهز الورشة ببعض الأدوات اللازمة لإجراء الصيانة مثل:

[ ] سرنجة تزييت وسرنجة تشحيم مع وجود كمية مناسبة من الشحوم والزيوت

[ ] أدوات صيانة الطرق الترابية والطبانات

خامساً:تواجد الخطط الخاصة بالصيانة والتشغيل للمشروعات والتقارير ودفاتر التسجيل والمتابعة

[ ] خطة الصيانة والتشغيل

[ ] دفتر تسجيل الأعمال التى تقوم بها الورشة

[ ] دفتر تسجيل الأعمال التى يقوم بها الجهات الأخرى (مركز/محافظة/ق/ع/ق خ)

[ ] دفتر تسجيل التشغيل اليومى للمعدات

[ ] سجل المعدات المتحركة

[ ] كارت الإصلاح والصيانة للمعدات الثابتة

[ ] صورة من آخر تقرير ربع سنوى لأعمال التشغيل والصيانة

سادساً:تواجد لوحات تحتوى على البيانات التالية وتعلق بمكتب مدير الورشة:

[ ] لوحة توضح المسئوليات والواجبات التى تقوم بها الورشة وتحتوى هذه اللوحة على أنواع المشروعات والمعدات ومسئولية الورشة تجاهه سواء من ناحية الصيانة أو الإصلاحات

[ ] خريطة تنظيمية بالعمالة الفنية طبقاً للاقسام الفنية بالورشة

[ ] جدول زمنى لإجراء الصيانة للمشروعات والمعدات والموجود ضمن خطة الصيانة

[ ] كروكى يوضح شبكات الطرق المسئول عنها الورشة

[ ] كروكى يوضح شبكات المياه المسئول عنها الورشة

[ ] كروكى يوضح شبكات الصرف الصحى المسئول عنها الورشة

## الخطط ونماذج التسجيل

ملاحظات	مكان التواجد	الوصف	النوع
	ورشة القرية - مركز صيانة المركز.	خطة التشغيل والصيانة.	الخطط
	- بجوار المعدة الثابتة. - داخل الورشة/مركز الصيانة.	- كارت لكل معدة. - سجل لكل معدة.	نماذج التشغيل
	ورشة القرية. مركز الصيانة بالمركز.	لوحة توضع خطة زمنية. بأعمال الصيانة طبقا للخطة.	نماذج الصيانة
	ورشة القرية/مركز الصيانة.	- سجل بالأعمال التي تم بالورشة أو مركز الصيانة.	سجلات الأعمال
	ورشة القرية/مركز الصيانة.	- سجل بالأعمال التي تنفذ بواسطة القطاع الخاص/العام.	
	ورشة القرية/مركز الصيانة.	- سجل قيد المصروفات.	
	مركز الصيانة.	- سجل التشغيل اليومي للمعدات	
	ورشة القرية.	- سجل صيانة الطرق.	
	ورشة القرية/مركز الصيانة	- كروت قطع الغيار - دفتر ١١٨ ع ح	سجل المنصرف من قطع
	ورشة القرية/مركز الصيانة	التقرير الربع سنوي	التقارير

## مستلزمات الصيانة والإصلاحات

الاصحاحات	قطع الطيار نم/٦	إصلاح			صيانة وقائية			المستول من التشغيل	العدد المترجمه	الوصف	النوع
		وتخص	متوسط	جاري	نصلصلووية	شورية	سوية				
										موتوسيكل جرار زراعي مقطورة سيارات ودرجات نصف نقل سيارات مجهزة اخرى	معدات متحركة
										مقطورات المحاة مضخات صومبية مضخات حرارية ومضخات منازل آبار ووجهات رفع وجهات رفع بهزل وجهات رفع كهرباء خزانات وجهات معالجة وجهات تلمية	مقطورات المحاة
										مضخات مراسير مطاطيل وجهات بهزل وجهات كهرباء وجهات معالجة	مقطورات الصرف الصحي وتشغيل المختوب
										مولد كهرباء شبكة آبار عهه الفصيات	مقطورات كهرباء
										عهه الصنابير	صنابير قمامة

أنواع الصيانة والمسئول عنها				عدد الكيلومترات	المرصف	النوع
رئيسية	طوارئ	تصحيحات	روتينية			
					طرق ترابية (كم) طرق حجرية (كم) طرق أسفلتية (كم)	مخرومات الطرق

الفرع	الوصف	الموقع	أنواع الصيانة والمسئول عنها					مباني
			تشييد	دهان	أعمال ميكانيكية	صيانة	صرف	

### مفتاح الرموز

ق = قربة	ط = مديرية الطرق
م = مركز	س = مديرية الإسكان
ط م = طرق المركز	ه ط = هيئة الطرق والكباري
م ه = إدارة منسجية	م = هيئة المياه والصرف الصحي
ق ح = قطاع خاص	س = شركة مياه

APPENDIX  
MAINTENANCE COORDINATOR MEETING SCHEDULE

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## MAINTENANCE COORDINATORS MEETINGS SCHEDULE FOR PROVINCIAL GOVERNORATES

NO	GOVERNORATES*	PARTICIPANTS AND DATES OF MEETINGS											
		FIRST MEETING 12 FEB	SECOND MEETING 5 Mar	THIRD MEETING 12 Mar	FOURTH MEETING 16 Apr	FIFTH MEETING 23 Apr	SIXTH MEETING 7 May	SEVENTH MEETING 16 May	EIGHTH MEETING 17 Jun	NINTH MEETING 25 Jun	TENTH MEETING 16 Jul	ELEVENTH MEETING 30 Jul	TWELVTH MEETING 19 AUGUST
1	Matruh	MC	MC + E		MC + E		MC + E		MC + E		MC + E		MC
2	Behara	..	..		..		..		..		..		..
3	Gharbiya	..	..		..		..		..		..		..
4	Kafr El Sheikh	..	..		..		..		..		..		..
5	Daqqliya	..	..		..		..		..		..		..
6	Damietta	..	..		..		..		..		..		..
7	Ismailiya	..	..		..		..		..		..		..
8	North Sina	..	..		..		..		..		..		..
9	South Sina	..	..		..		..		..		..		..
10	Menufiya	..	..		..		..		..		..		..
11	Sharqiya	..	..		..		..		..		..		..
12	Qalubiya	..		MC + E		MC + E		MC + E		MC + E		MC + E	MC
13	Giza	..		..		..		..		..		..	..
14	Fayoum	..		..		..		..		..		..	..
15	Bena Swrl	..		..		..		..		..		..	..
16	Minya	..		..		..		..		..		..	..
17	Sohag	..		..		..		..		..		..	..
18	New Valley	..		..		..		..		..		..	..
19	Aswan	..		..		..		..		..		..	..
20	Red Sea	..		..		..		..		..		..	..
21	Luarn	..		..		..		..		..		..	..
22	Qena	..		..		..		..		..		..	..
23	Ainout	..		..		..		..		..		..	..

\* Exclude (Sharqiya - Menufiya - Aswan - Qena) Eduystems Pilot Governorates

MC = Maintenance Coordinators Only

MC + E = Maintenance Coordinators + One Eng. from selected markaz

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*APPENDIX G*  
*EXAMPLE OF GOVERNORATE RESPONSES:*  
*NORTH SINAI ACTION PLAN AND DECREE*

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MMC's & V/C Workshops Operationlization

Training Session Recommendations

On Wednesday October 2nd, 1991, 10 AM, and according to the invitation dispatched for secretary general with the coordination of Chemonics consulting office.

A training workshop was held for operating MMC's and VMC's funded by LDII-P with the attendance of:

- \* Secretary general
- \* Marakez Chiefs
- \* V.D. director and the section's technical staff
- \* Organization and management director
- \* Legal affairs, technical affairs and administration affairs directors in governorate H.Q.
- \* V.D. director, water engineers, equipment engineers and maintenance representatives in marakez
- \* V/C Chairmen whom had been visited

The session schedule was prepared by V.D. section which invited all the previous mentioned.

**Procedures:**

The session was led by the secretary general who assured on the importance to adopt steps for sponsoring the operation procedures of MMC's, VMC's and LDII projects.

Discussions included the following subjects:

1. The purpose of establishing MMC's & VMC's.
2. Allocated funds for implementing subprojects from LDII 1st cycle, also allocated funds for outfitting workshops with tools and machine tools from LDII 2nd cycle.
3. Findings and observations at each site visited by V.D. director and Chemonics team.
4. The basic needs from technical staff for each V/C workshop is as follows:
  - \* One V/C supervisor
  - \* One mechanic
  - \* One plumber
  - \* One welder

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Where the organization and management director reveals that there are 260 vacant technical positions in the governorate budget can be occupied by advertisement in order to hire the required staff for operating the workshops.

5. The possibilities for operating the workshops as investment projects.

After elaborated discussion and considering the related section's opinion and view, the following recommendations and its action plan for implementation have been raised.

**Recommendations:**

1. Compute all the existing employees on marakez level also the actual requirement, and send this statement to the governorate V.D section by 12/10/1991.
2. Hiring the needs from technical staff according to the previous needs in stop 1 by 25/11/1991.
3. Compute training needs for MMC's and V/C workshops' staff and inform governorate V.D. section by 1/12/1991.
4. Implement the training courses for technicians by 10/1/1992
5. Submit a suggested investment regulations to operate the maintenance facilities as an investment/service projects to governorate V.D. section by 1/11/1991.
6. Final draft of investment regulations which will be approved by a committee from organization & management, financial section, V.D. section, administration affairs and legal affairs by the 10/11/1991.

The session was finished at 1.30 pm.

**Note:**

These recommendations were presented to the governor of North Sinai and he wrote his comments on it as follows:

This is good but the important is to implement what is suggested in the action plan. This is very important for the operationalization of those V/C workshops and MMC's.

NSI/2/SK.

The following page is a copy of North Sinai Governorate  
Decree #519, dated May 13,1992.

The decree appoints Engineer Naim Ibrahim Awad as Maintenance  
Coordinator working under the supervision of the Governorate  
Village Development Director.

موسم الخريف  
مستشفى  
موسم الخريف  
داينيل

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محافظة شمال سيناء

ادارة بناه وتنمية القرية

ملف رقم / ٢ / ١٠

مجلس إدارة  
٨ - ٨  
قرار رقم ( ٥١٩ ) لسنة ١٩٩٢م

محافظة شمال سيناء

بعد الاطلاع على القانون رقم ٤٧ لسنة ١٩٨٢م بنظام العاملين المدنيين  
بالدولة وتمديد مدياته ولائحته التنفيذية  
وعلى القانون رقم ٤٣ لسنة ١٩٧٩م بنظام الادارة المحلية وتمديد مدياته ولائحته  
التنفيذية

- وعلى ما ورد بقرارتنا رقم ٢٣٧ لسنة ١٩٨٢م
- وعلى مذكرة السيد المهندس بادارة بناه وتنمية القرية نى ١٠ / ٥ / ١٩٩٢م
- وعلى ما عرضه السيد وكيل الوزارة / السكرتير العام
- وعلى موافقتنا

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مادة أوليس / تعديل المادة الاولى من قرارنا رقم ٢٣٧ لسنة ١٩٨٢م لتصبح على النحو  
التالى

- يكلف السيد المهندس / نعيم ابراهيم عوض من ادارة بناه وتنمية القرية ضمنا طامبا  
للصيانة ومشرنا على تشغيل ورش ومراكز الصيانة بالمدن والقرى والمتابعة للتنمية  
واعداد البيانات والتقارير الخاصة بتشغيلها
- مادة ثانية / يكلف السيد المهندس / نعيم شوده نحاته من ادارة الشؤون الفنية  
بالديوان العام بمهام ضيق صيانة المعدات الخاصة بالتنمية المحلية
- مادة ثالثة / على جهات الاختصاص تنفيذ هذا القرار كل فيما يخصه

صدرنى / ١٢ / ٥ / ١٩٩٢م

شريف أحمد محمد شاش  
( )

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محافظة شمال سيناء

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جدة / المملكة العربية السعودية

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إبراهيم سبيح - ( )