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Fayoum Drinking Water and Sanitation Project

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Phase II - Community Hygiene Component

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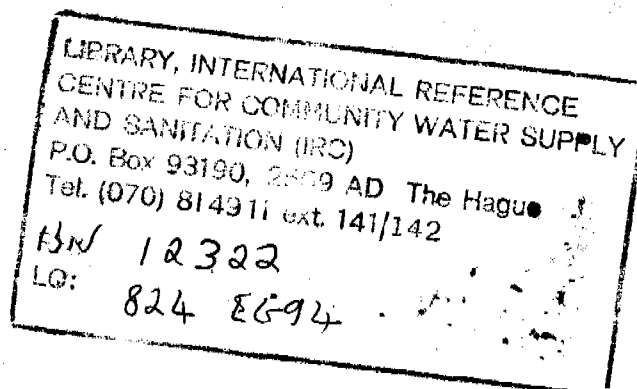
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Glossary

BEMO	DGIS Assessment Memorandum
DGIS	Directorate General for International Cooperation of the Netherlands Ministry of International Affairs
DHV	Consulting Engineers, Amersfoort, The Netherlands
DoH	Department of Health, Fayoum Governorate
ECG	Engineering Consultants Group, Cairo
El Azab	Water Works of Fayoum Governorate
FaDWS	Fayoum Drinking Water and Sanitation Project
FaRHFP	Fayoum Rural Health and Family Planning Project
FSD	Fayoum Sanitation Department
GOE	Government of Egypt
GOF	Governorate of Fayoum
GON	Government of the Netherlands
IDMO	DGIS Identification Memorandum
IWACO	Consultants for Water and Environment, Rotterdam, the Netherlands
LU	Local Unit
Markaz	District
NOPWASD	National Organisation for Potable Water and Sanitary Drainage
ORDEV	Organisation for Reconstruction and Development of Egyptian Villages
PT	Public tap
RNE	Royal Netherlands Embassy
TA	Technical Assistance

1. INTRODUCTION

The Government of the Netherlands (GON) and the Government of Egypt (GOE) through the Governorate of Fayoum (GOF) cooperate for a period of five years (August 1990 - August 1995) to improve drinking water supply and sanitation in the rural parts of Fayoum Governorate.

For this, the Fayoum Drinking Water and Sanitation Project (FaDWSP) was started. Implementation of this project was entrusted to a group of consultants consisting of IWACO and DHV from the Netherlands and ECG from Egypt.

Through assistance to El Azab, the Project aims at substantially improving the water supply situation. As a result, the amount of water available in the villages will increase. Experience worldwide has taught, that increasing the amount of water and improving the quality, will not automatically lead to an improvement in the health conditions. Sometimes it is even detrimental, when large amounts of water remain in stagnant pools, that turn into breeding places of disease germs.

Improving water supply should come with improvement in sanitation and evacuation of sullage and human waste.

In recognition of this aspect, the project specifically supports the Fayoum Sanitation Department (FSD).

Even more than with water supply, an extension programme is needed when improving sanitary conditions. It is not sufficient to undertake this on pilot basis, it should be a structural activity, or else the effects remain marginal.

In Phase I, a pilot project for hygiene education, mainly focussing on environmental health aspects was carried out for different target groups in two villages. The pilot project showed that village people can be made responsive and that their awareness can be increased through such programmes. Assistance with follow-up activities is however indispensable, while building an institutional framework for the replication of the activities is also required.

A community hygiene education component should aim at integration between water supply and sanitary improvements, solid waste disposal and hygiene education at community level. The Monitoring Committee of the Project has also emphasised the importance of making hygiene education and solid waste activities part and parcel of sanitation activities at village level.

The experience of FaDWS Phase I has taught us that the health and hygiene message to the population should be provided in an integrated way. Information to the communities should be linked directly to tangible, physical improvements. Those improvements are not possible without an improvement in the institutional set-up of the water and waste water sector.

As such, hygiene education follows the technical and institutional progress of the FaDWS, not because it is less important, but because the impact of interventions in the field of hygiene education will be greater this way.

As technical support and institutional strengthening are preconditions for a successful hygiene education component, the Plan of Operations for Phase II focusses on these preconditions. In order to address these components in a meaningful and sustainable way, all TA resources for Phase II are required.

The Project had to choose whether to include a nominal community hygiene component in the Plan of Operations, merely as a way of window dressing, or to address the needs of a fully elaborated community hygiene component in a separate document, with an additional budget. In consultation with the Royal Netherlands Embassy, the latter option has been chosen.

In this document an outline is presented for the proposed activities in the field of hygiene education and the promotion of environmental health for Phase II. The activities are directly related to the general objective of the Fayoum Drinking Water and Sanitation Project.

This document is based on the experience gained through the pilot hygiene education activities in Phase I and on the report prepared after the short mission in September/October 1993 of the socio-economic expert, Mrs. Hoogenboom.

Report!

2. OBJECTIVES

The general objective of the FaDWSP is:

To improve the drinking water supply and sanitation in Fayoum Governorate to such an extent that it has a long lasting impact on public health and the well being of the rural population in Fayoum Governorate.

To realise this general objective, a number of project aims were formulated in the Administrative Agreement for the project. One of these was:

elaborating methods and implementing a programme to inform and educate the population in the functioning of drinking water and sanitary systems.

Community activities are not only needed to achieve an optimal impact on improvement of the health standards in Fayoum, they are also important to achieve sustainability.

Substantial improvement in the water and waste water sector are impossible without considerable improvements in rates of cost recovery. Failing to achieve better cost recovery will cripple the sector on the medium term, as the Egyptian economy will not be able to continue to carry the increasing burden of an inefficient water supply and sanitation sector. Likewise, many donors have made their support for the sector dependent on financial and institutional improvements.

The objectives of the hygiene education component in the FaDWS Project in Phase II are:

- to effectuate a positive impact of physical improvements on public and environmental health;
- to involve customers in upkeep and maintenance of public and private facilities resulting in more responsibility of users; ←
- to promote an efficient and proper use of facilities to enhance their lifetime; ←
- to increase people's awareness of importance of water supply and sewerage services and to enhance their cost-consciousness, also by increasing a positive perception of the public of the water and wastewater agencies in the Governorate of Fayoum. This is a precondition for their willingness to pay for adequate services; ←
- strengthening of organisational capacities at Markaz and Local Unit (LU) level for planning, management and maintenance of infrastructure and the guidance of community involvement efforts; ←
- to support and strengthen the role of women in decision-making and community activities. ←

These objectives fit within the wider development objectives for the sector of both the Netherlands and the Egyptian government.

3. SCOPE OF WORK

3.1 General

The scope of activities as outlined in the Plan of Operations for Phase II (November 1993) is primarily technical and institutional support to El Azab and the FSD. In this document, the requirements are outlined to carry out a programme for community activities related to water and sanitation. This programme is built on the experience gained during Phase I in the pilot activities.

Although this means that project activities will be increased, the scope of the project remains within the general objective of the project, i.e. to improve the health situation through improvements in the watersupply and waste water sectors.

We distinguish four types of village level activities:

- i. On-site sanitation
- ii. Solid waste management
- iii. Environmental and sanitary health education
- iv. Public tap management

For detailed background information about these activities reference is made to various FaDWS technical reports, prepared during Phase I.

3.2 On-site sanitation

Present situation

On-site sanitation is the only short-term option for the majority of the rural people in Fayoum, because of the high investment costs in sewerage systems. The situation of on-site sanitation in the whole of Fayoum is poor.

Specific goals

(i) increasing coverage with on-site sanitation; (ii) testing of pit designs which cause less odour, overflow and health risks than the present cess pits; preferably the pit is cheaper for the user and puts less load on wastewater treatment facilities (iii) increase of desludging capacities; (iv) safe wastewater disposal and (v) introduction of cost-recovery principles for public wastewater services.

Activities

To reduce overflow and desludging costs caused by the present cess pits, FaDWS will make efforts to design a technically feasible pit, based on the septic tank with a leaching pit principle, to be tested for 30 households. After testing of sound technical options these will be promoted to the public, so a selection can be made based on cost and space. A difficulty which remains is that, even after primary treatment is applied, the leaching pit's wastewater

will not infiltrate in areas with low soil permeability. The test will be performed with plastic and other containers. *

In certain areas community septic tanks may be tried, as an intermediate step between an individual pit and modular sewerage. *

If on-site sanitation coverage increases, desludging constraints will grow. The Fayoum Sanitation Department expects that the first of 11 planned wastewater treatment plants will be operational in 1996/97. Meanwhile it seeks solutions by encouraging Local Units to reserve land for sludge stabilization ponds.

The Project can help to increase desludging capacity. Firstly by improving the efficiency of the Markaz desludging services. Secondly by advising on more appropriate equipment and thirdly by encouraging private operators. In Kafr El-Sheikh privatisation of desludging has been successfully tried. This example will be investigated and considered for application in Fayoum.

* introduction of these improvements in communities
+ cost recovery — how
by whom

3.3 Local solid waste collection systems

Present situation

Solid waste collection in rural areas is generally absent (see FaDWS Technical report on Solid Waste). Especially in the larger villages this leads more and more to unacceptable environmental conditions. Frequent solid waste dumping in drainage canals cause clogging and water pollution. Ways shall be sought to improve this situation in selected villages in the form of pilot projects.

The basic law for solid waste collection, treatment and disposal is Law no. 38 (1967), amended by Law 31 (1976). This law regulates collection and disposal of solid waste and supports the municipality, or Local Unit, to collect a fixed monthly fee from its citizens for solid waste collection and to enforce adherence to the collection system.

with comm. part?
how — with whom

how comm. part. arranged?

Activities

In some of the richer and bigger villages, for instance those where the FaDWS is planning to implement a sewer system, the introduction of local solid waste collection may be supported. The legal preconditions must be investigated first, and secondly the scope for cost recovery. If these conditions are met, some investments may be made.

investigation/research
how — by whom

3.4 Environmental health education

The pilot project on hygiene education was completed in July 1993. The lesson learned is that educational activities in the future have to be clearly linked to construction programmes and institutional backing.

However, the training module on water which was developed is unique, because it is exclusively based on the situation in Fayoum. Important elements are:

- (i) relation between general practices in villages and possibilities for behavioral changes and health improvement;
- (ii) giving insight in most critical health hazards in Fayoum to private and public health;
- (iii) providing awareness of possible ways to improve sanitary practices.

In discussions with the Department of Health and the Netherlands supported Fayoum Health and Family Planning Project (FaRHFP) the willingness has been expressed to include environmental health issues in FaRHFP health training. FaRHFP aims at training 122 village Health Promoters in Etsa District in 1994/1995. Each Health Promoter is responsible for informing and training 400 families. Given the heavy workload of Health Promoters of the FaRHFP, it is not proposed to include environmental health issues in their message, but rather to use the training set-up and facilities to train Hygiene Educators. Another option may be to train more Health Promoters, who can then bring a comprehensive health message to less families. In a joint workshop between the staff of both projects, a detailed work programme is planned to be elaborated.

Environmental health training aims at increase of user involvement in cleaning and maintenance of their public taps. Typical environmental health messages, e.g. on avoiding water wastage, proper water storage and waste water disposal, and health risks of using canal water etc. will be combined in one communication strategy.

3.5 Public taps

Present situation

For nearly 60% of rural people in Fayoum, public taps (PTs) are the only drinking water source. PT maintenance is primarily the responsibility of El Azab, but the users can also play a part. PT use is characterised by heavy water losses, because of malfunctioning taps, intensive use and poor maintenance.

Specific goals

In Phase II, FaDWSP plans to rehabilitate some 240-300 of the total of 1800 public taps and provide the reconstructed taps with platform and drain. The PTs selected must meet three criteria: (i) good water pressure in the main; (ii) having a large number of users; (iii) a poor present condition. In addition to this, the Project is assisting El Azab in setting up public tap maintenance teams. The main aims are: reduction of wastage, and maintaining a hygienic and basic service level. Other goals are better maintenance logistics, metering of consumption and where possible revenue improvements.

The goals can only be reached if the users take responsibility for cleaning and small repairs of the platform, keeping the tap environment clean and without stagnant water, for proper use of the taps and for warning El Azab maintenance team in case of leakages. A durable solution is regarded impossible without help of the users.

Close interaction is required between users and the El Azab maintenance teams who are responsible for technically properly functioning taps.

It is realised that public tap users are not easily motivated to cleaning a public tap environment, when there is dirt, waste and flies everywhere in the village environment, not the least in and around many of their own houses. A general increased awareness on hygienic environmental conditions has to be aimed at in the first place. To achieve this intensive promotion campaigns are called for.

Community activities

Users will be informed during hygiene education programmes on how to properly use and clean a public tap. Competition in cleanliness could be encouraged, for instance by providing a prize for the users of the winning tap.

Organisational development activities

With respect to proper functioning of the PT maintenance team, the El Azab maintenance Centres will be involved. Cost recovery of water consumption from PTs might be organised through the LUs, although this is not the first priority. It was analysed in the masterplan that revenues from public taps would amount to less than 7% of the total target revenue. With waste reduction at public taps and proper maintenance more important savings can be achieved.

*only some small contribution to
maintenance?*

*water/taps committees
resp. caretakers!*

4. INSTITUTIONAL ASPECTS

Community activities related to water and sanitation will be linked primarily to use and maintenance of public taps and to on-site sanitation.

For public taps, El Azab is the counterpart. El Azab is already the main counterpart in the project. Technically and institutionally they have the competence and the means to carry such a programme.

El Azab

At present, no organisation is responsible for on-site sanitation. In essence, the Fayoum Sanitation Department should be responsible for technical aspects, for the promotion and for marketing of latrines/septic tanks etc.. However, the FSD is only an organisation in its infant stage. The first responsibilities that the FSD has to assume are related to O&M of waste water treatment plants and to planning, design, implementation and O&M of sewerage systems. As it will take the whole remaining project period and probably longer, before the FSD is able to carry out these tasks satisfactory, it is certainly not advisable to add additional responsibilities at this moment

FSD

too young

Promotion of on-site sanitation facilities and proper use has a strong health aspect. For this the Health Department should be responsible. The same goes for the promotion of community health education related to public taps and on-site sanitation. In principle, the Health Department is willing to assume this responsibility and to incorporate it in its extension programme. It should be realised, that at present the Health Department in Fayoum has hardly any experience or expertise regarding environmental health.

Health Dep

no exp.

Desludging is an important aspect of on-site sanitation. At present desludging services are provided by the districts. The capacity of the district desludging services is not adequate, nor is the management of these services. To provide desludging services to every customer, the services need to be improved and expanded, and that implies a substantial involvement of the private sector.

?

Under Dutch assistance, the Fayoum Rural Health and Family Planning project (FaRHFP) is presently under execution. This project aims at providing extension services to the population. The scope of these services includes food, vaccination, water quality control, family planning and social affairs. Community activities related to hygiene education as proposed in this document would be supplementary to the present activities of FaRHFP project. Given the workload of FaRHFP, this project cannot carry out these activities in addition to its own tasks.

However, cooperation between FaRHFP, the Health Department and the hygiene education component of the FaDWSP has been discussed, and all parties agree that it would be beneficial for the general objective of improvement of the health situation, if some kind of collaboration could be established.

training

what about monitoring and support

Solid waste management is a responsibility of the Local Units.

FaDWSP works in water supply and sanitation. In the Plan of Operations for Phase II the technical and institutional components are outlined. In the present document, the community hygiene component is described.

how by whom?

Whereas institutionally, El Azab is the counterpart for the technical and institutional component of water supply and the FSD for most of the aspects of sanitation, the picture is more complicated for the community hygiene component.

Partly the activities will be linked to El Azab and to the FSD, partly they need an additional counterpart in DoH, the District and the LU.

Overall, the Project will remain under the the direction of the Advisory Committee. It is recommended that from the start of the community hygiene component, DoH and Markaz Etsa will be represented in the Advisory Committee.

In figure 4.1, the relation between the different types of project activities and the relevant counterparts is given. The activities which are covered in the Plan of Operations of November 1993 are shaded, the activities that come under the community hygiene component are given in italics. As was to be expected, there is a considerable overlap, especially in the field of sanitation.

Figure 4.1. Project activities and related counterpart

	Technical	Institutional	Consumers	Community
ACTIVITY				
1. Water Supply				
treatment	El Azab	El Azab		
distribution	El Azab	El Azab		
house connections	El Azab	El Azab	El Azab	
public taps	El Azab	El Azab	El Azab	<i>El Azab/Health</i>
2. Waste Water				
treatment	FSD/NOPWASD	FSD		
sewerage	FSD	FSD	FSD	
on-site sanitation	<i>FSD</i>	<i>FSD</i>	<i>FSD/Health</i>	<i>Health/ORDEV</i>
desludging	<i>Markaz</i>	<i>Markaz/ private sector</i>	<i>Markaz/ private sector</i>	
3. Solid Waste				
	<i>Local Unit</i>	<i>Local Unit</i>		<i>Health/ Local Unit</i>

shaded FaDWSP phase II activities, *italics* activities under the hygiene education component

5. WORKPLAN

5.1 Methodology

The activities of the hygiene education component in the FaDWSP will be organised similar to the approach of the Fayoum Rural Health and Family Planning Project. This means that the hygiene education component of the FaDWSP will work as much as possible bottom-up. Activities will be directly related to people in the villages. In cooperation with FaRHFP project, a network of community workers will be trained, who can assist the villagers in improving their sanitary and environmental health conditions. *salary ?*

The approach of the hygiene education component of the FaDWSP will be to combine activities regarding on-site sanitation and improvement in public tap management with education of village population through trained fieldworkers.

Cooperation with FaRHFP will ensure an optimal combination of expertise in community health education with technical knowledge in water supply and sanitation available in the project itself.

Activities will start on a pilot basis in selected villages in Etsa district, to be able to cooperate with FaRHFP. The aim of the project is to develop a methodology which is replicable throughout the Governorate.

Initial selection of villages, within Etsa District, will be based on the presence of trained Health Promoters or Sanitarians, so infrastructural works can be combined with users education.

Furthermore, cooperation obtained at LU level will be important.

5.2 Staffing

Domestic work regarding water and sanitation is almost exclusively done by women. Improvements in water supply and in waste water evacuation therefore benefits women in particular.

Furthermore, community activities related to water and sanitation involve many contacts with women at village level. Therefore, the staff of the Community Services Unit should consist for a major part of women. For male experts too many of the field activities would be impossible. *?*

Under the direction of the Project Manager of the FaDWSP, the hygiene education component will be coordinated by an experienced expatriate resident institutional and communications expert (female).

Her tasks include:

- Preparation of the plan of operations, establishment of relations at policy and working level with departments and agencies in Fayoum Governorate and advise on all forthcoming management issues.

She will prepare a training programme for village workers and set criteria for the selection of villages in which project activities will be carried out.

She will further be responsible for integrated component management and communications and be the liaison with the sector specialist on Women and Development of the Netherlands Embassy in Egypt.

Apart from the long term expatriate coordinator, short term expatriate consultants include a rural sanitation specialist and a socio-economist.

It is recommended to add a Bilateral Assistance Expert (BAD) with a background in environmental health to the project component.

The Egyptian staff for the hygiene education component includes a long term trainer with a technical background in rural sanitation. Two village community workers, with experience in social work are also required for the total duration of the project. Furthermore, short term consultancy is foreseen for training, promotion materials and investigation of the feasibility of private desludging.

Table 4.1. Proposed staffing for the Hygiene education component (2 years period)

Position	Qualification	Person months
Expatriate CSU coordinator	Senior institutional and communications expert	20
Expatriate sanitary engineer	Rural sanitation specialist	1.5
Expatriate socio-economist	Socio-economist	1.5
Egyptian coordinator/trainer	Rural sanitation expert (technical)	22
Junior bilateral expert (Dutch)	Environmental health expert	P.M.
2 village community workers	Experienced social workers	44
Local short term consultancies	Training, promotion materials, private sector desludging investigation	6
Markaz Steering Committee members	Heads of Departments	P.M.
Village Executive Committees members	Heads of Departments	P.M.

with inputs?

local desludging?

5.3 Timeframe

The community hygiene component is part of the Phase II activities of FaDWSP. In the Plan of Operations it was foreseen that Phase II will start by May 1994 and will last for a period of two years. It is possible however to start the activities under the community hygiene component a few months later than the other activities. As was argued before, hygiene education should build upon physical improvements in services to the population. It is important though, not to delay the start of the component beyond September.

??



6. BUDGET

6.1 Technical assistance

The Technical Assistance budget for the hygiene education component comes exclusively from GON and is additional to the TA budget for technical and institutional support as outlined in the Plan of Operations.

A summary breakdown of the required budget is given in table 6.1. More details are given in annex 1.

Table 6.1. Summary breakdown of technical assistance budget

	DFI x 000
Expatriate consultancy	842
Egyptian consultancy	442
Local experts and office staff	96
Reporting and backstopping	30
Equipment and running costs	266
training	105
TOTAL	1,781

6.2 Implementation

The implementation budget for the hygiene education component is part of the implementation budget for Phase II of FaDWSP as outlined in the Plan of Operations. The budget amounts to LE 1,860,000. One million Egyptian pounds comes from the budget of GOE, LE 860,000 is provided by GON.

A tentative breakdown of investment costs is given in table 6.2. In the workplan for the hygiene education component, this breakdown will be further detailed.

Table 6.2. Estimated Investment budget for the hygiene education component (2 years)

Item/Activity	Qty.	Unit costs (LE)	Total cost (LE)	Financing	
				GON	GOE
Testing improved pits	30	5,000	150,000	150,000	
Promotion improved pits			150,000	150,000	
Community on-site projects	8	20,000	160,000	75,000	85,000
School septic tanks	7	20,000	140,000	75,000	65,000
Ponds for sludge disposal	6	50,000	300,000		300,000
Tractors and tanks for desludging	7	60,000	420,000	100,000	320,000
Solid waste investments	3	60,000	180,000	100,000	80,000
O&M start-up fund for desludging and solid waste			200,000	125,000	75,000
Miscellaneous (to be determined)			150,000	75,000	75,000
TOTAL			1,850,000	850,000	1,000,000

ANNEX

Annex 1

PROJECT BUDGET PHASE II - COMMUNITY HYGIENE COMPONENT

	<u>Amount</u> <u>per month</u>	1994	1995	1996	Total months	Budget amount
<u>Long term</u>						
Coordinator	36,100	6	10	4	20	722,000
<u>Short term</u>						
sanitary engineer	40,000	0.8	0.8		1.5	60,000
socio-economist	40,000	0.8	0.8		1.5	60,000
<u>Egyptian</u>						
coordinator/trainer	7,000	6	10	4	20	140,000
village worker-1	7,000	6	10	4	20	140,000
village worker-2	6,000	6	10	4	20	120,000
short term input	7,000	2	3	1	6	42,000
<u>Local staff</u>						
Office staff	1,500	8	12	4	24	36,000
Counterpart costs	2,500	8	12	4	24	60,000
<u>Reporting costs</u>						
	500	6	10	4	20	10,000
<u>Backstopping</u>						
	1,000	6	10	4	20	20,000
<u>Investments</u>						
Equipment						20,000
Cars	33,000	2			2	66,000
Motorcycles	2,000	2	2	2	6	12,000
Materials	2,000	8	12	4	24	48,000
<u>Operational costs</u>						
Inventory	1,000	8	12	4	24	24,000
Transport	1,000	16	24	8	48	48,000
Office costs	750	8	12	4	24	18,000
Communication	1,000	8	12	4	24	24,000
Miscellaneous	250	8	12	4	24	6,000
<u>Training</u>						
Overseas	30,000	1			1	30,000
Local	10,000	2	2	2	6	60,000
Workshops & Seminars	5,000	1	1	1	3	15,000
Sub-total						1,781,000
Contingencies						89,050
<u>TOTAL</u>						1,870,050