PART B

PRIORITY ISSUES AND POTENTIAL SOLUTIONS

1 INTRODUCTION

Evolutionary Process

1.1 Part B of this Environmental Profile presents the results of the consultation process involved in laying the foundations for the Governorate Environmental Action Plan.

1.2 Six stages of consultations were involved, namely:

Stage 1: Discussions in January and February 1996 with the Environmental Experts responsible for preparing the specialist Technical Working Papers.

Stage 2: Meetings in January and February 1996 with primary and secondary Stakeholders in key parts of the Governorate.

Stage 3: Three Workshops held during March 1996 in three of the main cities: Mansoura, Mit Ghamr and Gamasa. The purpose of the Workshops was ,to advise on progress towards preparation of the GEAP, to stimulate interest in the GEAP and - most importantly - to obtain the views of people and their perceptions of environmental issues, problems and potential solutions., These Workshops were attended primarily by secondary stakeholders. The total number of participants was about 350 individuals. Views concerning priority environmental issues and problems were sought at the Workshops, as well as from a random sample of Dakahleyans a few days before the events. (It should be noted that the random sample was ,skewed, in that half of the respondents were Mansoura residents and 21 per cent were students). Analysis of the results features later in this section of the Profile.

Stage 4: The twelve focus group sessions, which were held in different parts of the Governorate by EQI during July 1996 and which were supplemented by twenty individual and group interviews with formal and informal service providers.

Stage 5: Discussions with primary and secondary stakeholders during the period July to December 1996, concerning the formulation of Project Concept Proposals which seek to address the priority environmental issues. The preparation of the Proposals was facilitated by AOYE in close liaison with the Dakahleya EMD.

Stage 6: Seminars with primary and secondary stakeholders to identify the measures which should be combined to form the supporting Programmes of the GEAP.

1.3 The first four of these stages are described in Part B, since they formed the starting point for preparation of the GEAP.

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1.4 From the outset it was stressed that, whilst the consultation process initially involved identifying priority environmental issues/problems and sustainable development opportunities, this was regarded merely as a vehicle for focusing upon the main purpose of the exercise. That inevitably was the definition of practicable, affordable and cost-effective solutions. Even though stakeholders were reassured several times on this point, it had to be repeated regularly. The need for this stemmed from many previous problem identification exercises, which had yielded no improvements and merely left stakeholders with a growing sense of frustration.

1.5 Against this background, Part B of the Profile records both **the range of solutions suggested and proposed** by the various consultees, as well as the priority environmental issues/problems and sustainable development opportunities. To that extent, the Profile can be regarded as innovative.

2 THE PRIORITY ISSUES/PROBLEMS AND OPPORTUNITIES

2.1 From the outset of the consultation process attention focused, not just on environmental problems but equally upon the opportunities for sustainable development of the Governorate,s natural resources. The underlying logic for covering these dual dimensions was the recognition that solving the environmental problems would inevitably need to be financed and that such finance would need to be generated locally. Furthermore, as the population grows so will the need for new jobs. It was thus appreciated that the GEAP would have to be more than just a environmental problem-solving exercise.

2.2 The technical reports prepared by national and local experts, and the Stage 1 discussions which followed, focused on these dual dimensions.

2.3 The priorities which the experts identified were subsequently verified, and in some cases confirmed, with even greater emphasis during the initial meetings (Stage 2 consultations) held with local stakeholders. The lists of local and other stakeholders consulted at that stage are contained in Annex 1.

2.4 It will be observed from Box B.2.1 that at that stage the key environmental issues were classified into two wide-ranging groups. The first related to what were broadly regarded as priority technical problems either directly or indirectly affecting public health. In contrast, the second group focused on shortcomings in the existing management systems and institutional capacities.

2.5 A similar dual classification was adopted concerning the identification of sustainable development opportunities, namely attention to existing and new resource-use activities.

2.6 The Stage 2 consultations revealed a number of contradictions between the reports of the Technical experts and the local stakeholders. These are displayed in Box B.2.2. The contradictions are hardly surprising, bearing in mind that the stakeholders consulted included several senior officials of the Governorate Directorates and Departments, primarily responsible for the provision of environmental services.

2.7 The Stage 3 consultations provided an opportunity for the priorities which emerged from Stages 1 and 2 to be paraded for public comment and debate. They enabled a consolidated list of priorities to be agreed, thereby providing a firm foundation for preparation of the GEAP. This list is presented in Box B.2.3. It is based upon the report prepared by Hanan Sabea, entitled ,SEAM Project - Evaluation of the Issues arising from and the success of the three Workshops held in Dakahleya, March 1996,.

2.8 Box B.2.3 indicates clearly the need to distinguish between top priority environmental issues which are Governorate-wide and those which are of more local importance. Altogether **ten priority issues** were identified, which the GEAP needs to address: It will be observed that five of these, since they featured in discussions at all three Workshops, can be classified as being of generic concern, namely:

- the ineffective collection and disposal of solid waste;
- the pollution of drinking water;
- the lack of sewerage treatment plants and networks;
- the inadequacies of urban planning services;
- the high water table due to insufficient drainage.

2.9 Box B.2.3 needs to be read in conjunction with Box B.2.4, which summarises what the Workshop participants considered to be the main sources of pollution in the Governorate.

2.10 Several other useful lessons emerged from analysis of the Workshops and the earlier consultations, namely:

- the large Workshops primarily served the function of raising awareness about issues and solutions. By comparison the smaller consultation meetings were helpful in identifying and prioritising issues and eliciting solutions.
- subsequent stakeholder discussions concerning solutions are best organised in relation to geographic units and the over-arching need for institutional strengthening, since the issues to be addressed have a strong geographic basis.
- subsequent Workshops, concerning the content of the draft GEAP, need to be organised at appropriate scales, so as to achieve technical consensus on the solutions proposed. A clear distinction needs to be made between this type of event and a large scale Workshop, the prime function of which is to make all stakeholders aware of the finalised GEAP.
- considerable attention needs to be given to the most effective ways of combining the scientific experts with a stakeholder group, so that it would be readily accepted by other stakeholder groups.
- understandably, strong views are held concerning the impracticability of applying the ‚polluter must pay‚ principle before people are provided with alternative solutions to their environmental problems. Thus both environmental laws and their enforcement have limited value until the infrastructural deficiencies are rectified.
- the case of Lake Manzala has been described as ‚one of the most serious examples of surface water pollution‚. The consequences are contaminated drinking water, polluted and poisoned fish and poor environmental conditions in general. Solutions are seen in conjunction with the installation of proper sewerage systems.
- behavioural patterns, which reflect traditional beliefs, are one of the main causes for the continuous pollution of surface water-ways. These activities include the disposal of umbilical cord remains of new-born babies in the Nile, the importance of cooking certain items from canal water, the washing of dark clothes in canal water, and the disposal of dead animals in the canals. The need to change anti-social and environmentally damaging wasteful practices is evident. This includes the misuse/wastage of potable water and the failure to segregate wastes.
- the persistence of environmental problems is stated to stem from political, social, administrative and financial, as well as technical forces. These include apathy on the part of Government, lack of awareness amongst communities, administrative red-tape, inadequate funding sources and laxity over law enforcement.
- action plans need to be specific to different parts of the Governorate.

BOX B.2.1: PRIORITY ENVIRONMENTAL ISSUES AND OPPORTUNITIES TO BE ADDRESSED WHICH WERE IDENTIFIED BY THE TECHNICAL EXPERTS AND CONFIRMED BY THE LOCAL STAKEHOLDER GROUPS CONSULTED, but not listed in order of importance.

CATEGORY A: KEY URBAN AND RURAL ENVIRONMENTAL ISSUES/PROBLEMS	
1.	**PUBLIC HEALTH ISSUES**
1.1	Contamination of potable and irrigation water supplies by sewage and industrial effluents.
1.2	Lack of reticulated water supply and sewage services to all urban and rural households.
1.3	Treatment facilities for solid waste and garbage through incineration, recycling, composting, bio-gas production, sanitary land-fill etc.
1.4	Treatment of sewage, industrial/other liquid effluents.
1.5	Control of the importation of pesticides, the issuance and enforcement of regulations re-usage and application practices, promotion of biological/integrated pest control methods. (This is an increasingly important issue, since certain countries have stopped the importation of Egyptian fruit and vegetables because of lack of pesticide controls).
1.6	Extension, through demonstrations, of the results of canal bank planting to control/eliminate the Bilharzia host.
1.7	Progressive pollution of Lake Manzala and the dominance by lower value fresh-water fish species.
1.8	Air and noise pollution at specific point sources in industrial/urban environments.
1.9	Inadequate repair and rehabilitation of the potable water supply pipe systems.
2.	**STRENGTHENING OF ENVIRONMENTAL MANAGEMENT SYSTEMS / INSTITUTIONAL CAPACITIES**
2.1	Lack of adequate facilities for monitoring emissions, covering all features of urban, industrial and rural environments.
2.2	Inadequate enforcement of environmental laws.
2.3	Absence of an effective Authority to manage the Lake Manzala ecosystem, including the reopening of marine inlets. (Currently there is only an Advisory Committee in existence, which has no effective powers to reduce pollution).
2.4	Lack of a comprehensive network of Environmental Management (public, private, NGO and voluntary organisations) which is well coordinated and equipped to address the key issues, problems and opportunities.
2.5	Insufficient funds available to large, medium and small firms to enable them to raise industrial emission performances and to comply with realistic environmental standards.
2.6	Inadequate professional skills and capacities to improve the quality of urban and rural environments through: • short-term house-keeping improvements; • better settlement planning, including the zoning and siting of new industrial facilities.

BOX B.2.1: (Cont,d) PRIORITY ENVIRONMENTAL ISSUES AND OPPORTUNITIES TO BE ADDRESSED WHICH WERE IDENTIFIED BY THE TECHNICAL EXPERTS AND CONFIRMED BY THE LOCAL STAKEHOLDER GROUPS CONSULTED, but not listed in order of importance

CATEGORY B: KEY SUSTAINABLE DEVELOPMENT ISSUES/OPPORTUNITIES	
1.	**EXISTING RESOURCE USE ACTIVITIES IMPROVED**
1.1	Modification of agricultural drainage and irrigation systems to be more efficient and, in particular, to remove unacceptable levels of soil and irrigation water salinity.
1.2	Establishment of potential new enterprises, which diversify/strengthen the local economy and employment opportunities.
1.3	Reduction in the losses of prime agricultural land (categories 1 and 2) to urban/industrial development.
1.4	Introduction of modern irrigation methods (sprinkler and drip) as appropriate.
1.5	Optimal use of reclaimed areas (Bilqas, etc).
2.	**NEW RESOURCE USE ACTIVITIES SUSTAINABLE DEVELOPMENT**
2.1	Development/management of rural industries, based on agricultural and natural raw materials.
2.2	Restoration/management of the fisheries potential of Lake Manzala.
2.3	Establishment of niche tourism enterprises (ornithological, eco-, agro-, nature and religious tourism).

BOX B.2.2: INFORMATION SUPPLIED AT STAKEHOLDER MEETINGS WHICH APPEARS TO CONTRADICT THAT CONTAINED IN THE WORKING GROUP REPORTS

1.	**POTABLE WATER SUPPLIES**
1.1	There is said to be no problem concerning water supplies from a public health standpoint. The Department of Drinking Water takes samples bi-weekly from the Water Treatment Plants and individual household all over the Governorate.
1.2	Where the underground water supply was found in one case to be polluted, it was reported that the Treatment Plant was shut down and the activity transferred elsewhere.
1.3	Drinking water is said to have reached all parts of the Governorate; only 5% of houses do not have a tap.
2.	**AIR POLLUTION**
2.1	As a result of the progress made by the Fertiliser Company in cleaning its processes, ammonia pollution is reported to be no longer a problem.
3.	**DIRECTORATE OF HEALTH**
3.1	The Directorate is equipped to combat all problems. Both trends in life expectancies, mortality and birth rates and comparative international statistics indicate the significant progress which has been made during the past 10 years.
3.2	The environmental health problems within the Governorate are considered to be well under control. However, the severe pollution viewed at Al-Muqata Village, which is reported to have suffered already from a serious cholera epidemic, would suggest that considerable infrastructural investments are still required in rural areas.

BOX B.2.3: THE CONSOLIDATED LIST OF PRIORITY ISSUES/PROBLEMS TO BE ADDRESSED AND IMPROVEMENTS TO BE ACHIEVED IN THE NEXT 5-10 YEARS

Key: Numbers indicate the priority ranking accorded to the issue during the Workshops and through a Random Sample Survey.

TYPE OF ISSUE	WORKSHOP LOCATIONS			GOVERNORATE	TOTAL
	Gamasa	**Mit Ghamr**	**Mansoura**	**Random Sample**	
TOP 10					
SWM	1	1	1	3	1
Potable Water	2	3	4	1	2
Sewerage	3	2	5=	6=	3
Town Planning	4	5	5=	2	4
Industrial Hazards	6	4	-	5	5
Surface Water	5	7	5=	6=	6
Public Awareness	-	6	2	6=	7
Clean Air	7	8	3	-	8
Comprehensive Environmental Development	8=	-	8	-	9
Schistosomiasis Control	10	-	9=	-	10

Others

- Improper Uses of Pesticides and Fertilisers
- Inadequate Environmental Law Enforcement
- Urban Encroachment on Agricultural Production
- Air Pollution through Car Exhaust
- The Need for Committed Leadership
- Population Growth
- Poor Levels of Public Health
- Noise Levels
- Ground Water Contamination
- The Need for Greater Local Participation
- Coordination of Government and NGOs

Source: Hanan Sabea (1996), The 3 Dakahleya Workshops: Table 13

BOX B.2.4: THE MAIN SOURCES OF POLLUTION IN THE GOVERNORATE

Key: Numbers indicate the priority ranking accorded to the issue during the Workshops and through a Random Sample Survey.

SOURCE	WORKSHOP LOCATIONS			GOVERNORATE	TOTAL
	Gamasa	Mit Ghamr	Mansoura	Random Sample	
TOP 10					
Industries	1	1	1	1	1
Solid Waste	4	3	5=	2	2
Sewage	5	2	2	5	3
Surface Water	2	5	5=	4	4
Manzala Lake	3	10	3=	-	5=
Brick Kilns	10	4	8=	7	5=
Drinking Water	6	6	-	6	7
Car Exhaust	9	7=	8=	3	8
Pesticides and Chemical Fertilisers	7	7=	3=	9=	9
Slum Areas	8	7=	8=	8	10
People,s Behaviour	-	-	5=	-	-
Population Growth	-	-	-	9=	-

Source: Hanan Sabea (1996), Table 15

3 THE SOLUTIONS SUGGESTED/PROPOSED BY CONSULTEES

Introduction

3.1 Three sets of recommendations and suggestions, which were intended to contribute to the formulation of GEAP Policies, Supporting Programmes and Projects, are summarised in the Profile. Their respective sources are:

- the Technical Experts;
- the representatives of the Governorate Directorates and Departments who attended the initial consultations organised by ENTEC and the EMD;
- the consultees involved in the Social Dynamics focus group discussions facilitated by EQI.

3.2 A possible distinction needs to be made between the manner in which these different sets of recommendations were formulated. In the case of the Technical Experts, the recommendations were clearly the product of careful investigation and considered analysis. They were formulated over weeks rather than days or hours. By comparison, the recommendations proposed by the other two sets of consultees were much more reactive. Whilst the ideas voiced may have been the result of previous careful consideration and discussion, they nonetheless were merely expressed verbally and in a forum which sought almost instantaneous reactions. However, it should also be noted that Governorate Directorate and Department consultees were assisted in formulating their proposals through the distribution and explanation in Arabic of an aide memoire during the meetings. These observations are not intended to belittle any of the contributions, but merely to draw attention to the fact that care should be exercised before attaching equal weight to all recommendations.

The Recommendations of the Technical Experts

3.3 As expected, the coverage of the recommendations from this source is quite extensive. The recommendations are summarised in Box B.3.1. It will be noted that the recommendations relate primarily to correcting environmental and resource problems rather than to the sustainable development of opportunities. Whilst, for the most part, the recommendations focus upon technical matters, some reference is made to the need for administrative and management improvements. Measures designed either to develop social capital stocks or to improve their performance are conspicuous by their absence.

The Recommendations proposed by Local Stakeholder Consultees

3.4 By comparison, the recommendations of these groups, summarised in Box B.3.2, were even more wide-ranging. Moreover, they not only covered technical solutions but also addressed the need to identify opportunities for both sustainable development and the generation of additional employment.

3.5 Possibly the most notable feature of Box B.3.2 is the fact that the issue for which the largest number of recommendations was made did not relate to technical matters. Instead it focused on the need for investment in increasing social capital stocks through improving the Environmental Management System.

BOX B.3.1: SUMMARY OF THE RECOMMENDATIONS CONTAINED IN THE REPORTS PREPARED BY THE WORKING GROUP SPECIALISTS

1. PREVENTION AND CONTROL OF AIR POLLUTION RECOMMENDATIONS

1.1 These relate to the reduction of the main pollutant, namely particulates.

1.2 The introduction of cleaner fuels for use in vehicles and industrial engines/processes would contribute major improvements.

1.3 The introduction of technology and equipment, specifically geared to the reduction of particulate emissions (e.g. through cyclones and electrostatic precipitators) and gaseous pollutants (e.g. through scrubbers).

1.4 The adoption of better house-keeping practices.

1.5 The adoption of strict testing of vehicles in relation to their exhaust emission levels.

1.6 The zoning of industrial activities, so that they are distanced from residential areas.

1.7 The introduction of building and construction regulations

2. RECOMMENDATIONS FOR ENVIRONMENTAL PROTECTION AND IMPROVEMENT OF WATER RESOURCES

2.1 Potable water supplies should be expanded in villages and settlements with no water supplies.

2.2 High priority should be given to supply the villages with sewage systems. Disposal of raw sewage into canals and drains represents a major health hazard and is responsible for the incidence of water-borne diseases.

2.3 Projects for potable water and sewage treatment in most urban areas of the Governorate should be implemented in ,due time,.

2.4 Law 48, regarding the protection of the Nile and related water-ways from pollution, must be enforced, subject to realistic progressive phasing of emission standards.

2.5 A public educational campaign, relating to all aspects of water treatment, use, personal hygiene and management, should be established and sustained for all Stakeholder Groups.

2.6 A Water Quality Board should be established, with representation from all of the appropriate organisations, in the interest of protecting Egyptian water-ways.

2.7 The limits of phosphorus allowed in imported or locally manufactured detergents must be regulated so as not to exceed 1%.

2.8 The discharge of industrial effluents (especially in the case of the fertiliser plant at Talkha) must both comply with national standards and be upheld through enforcement of Law 48/1982.

2.9 ,A central laboratory for environmental quality monitoring should be established in Dakahleya to provide a comprehensive and accurate assessment of the environmental quality of the surface water, ground water and soils associated with Damietta Branch, canals, drains, lakes and ground water aquifers,.

BOX B.3.1: SUMMARY OF THE RECOMMENDATIONS CONTAINED IN THE REPORTS (Cont,d) PREPARED BY THE WORKING GROUP SPECIALISTS

2.10 It is reported that ,the Egyptian Government has plans to provide all factories that are disposing their effluents into the Nile (or its two branches and canals) with treatment plants. ... Through governmental funds and foreign aid, it is believed that the factories will be supplied with the treatment plants in the future and that pollution levels will be always within the WHO limits,.

2.11 Specific filtration and other measures should be taken in the case of Water Treatment Plants servicing those three main locations where ground water concentrations of iron and manganese are known to be high (Mit Ghamr, Sinbillawayn and Aga).

2.12 Specific schemes for pumping, drainage and the lining of canals/main irrigation channels need to be devised to lower the ground water table by removing those volumes of surplus drainage water, which are not suitable for irrigation purposes, to non-cultivated areas.

2.13 More efficient irrigation methods (sprinkler and drip) should be introduced wherever appropriate.

2.14 Re-use of treated effluent, where the quality is suitable for irrigation purposes, should be encouraged.

2.15 The maintenance of drinking water wells should be efficiently programmed and undertaken.

3. RECOMMENDATIONS FOR CONSERVATION AND IMPROVEMENT/RESTORATION OF LAND AND SOIL RESOURCES

3.1 National and regional, as well as Governorate, solutions are required.

3.2 Research into potential sea level rise and its impacts is required.

3.3 Lake Manzala,s problems require more than just technical solutions; administrative co-ordination is also required.

3.4 Effective control of urban encroachment onto good agricultural land is required, involving the determination of urban borders in compliance with Urban Planning Law No. (3) 1982.

3.5 Pollution of potable water, low levels of sanitation, inadequate solid waste facilities and poor personal hygiene practices leading to public health hazards, must be corrected.

3.6 Eradication of land pollution by:

- obsolete industrial plant processes and poor house-keeping;
- low levels of sanitation in rural and urban areas;
- excessive and inappropriate use of agricultural chemicals;
- contaminated irrigation water;
- irrigation problems;
- high water table and drainage problems.

3.7 The classification of soils within the Governorate needs to be up-dated.

3.8 The installation of land drainage facilities is required in many areas which have a high water table.

3.9 The finance required for the purchase of modern land-levelling equipment (lasers) needs to be procured.

3.10 Adequate storage facilities need to be provided for gypsum storage.

BOX B.3.1: SUMMARY OF THE RECOMMENDATIONS CONTAINED IN THE REPORTS (Cont,d) PREPARED BY THE WORKING GROUP SPECIALISTS

3.11 EIAs need to be conducted for all major development projects, eg. the international northern road.

3.12 Improvement of the quality of urban housing environments, especially the informal housing areas

3.13 Re-location of industries that cause serious industrial pollution of residential areas, especially brick kilns (Mit Ghamr).

4. RECOMMENDATIONS FOR ACHIEVING REDUCTIONS IN HEALTH RISK HAZARDS AND IMPROVEMENTS IN HEALTH RISK MANAGEMENT

4.1 Small adjustments or changes in management: eg maintenance of village pumps; technical training to provide skills required in handling toxic chemicals or controlling machinery; monitoring and surveillance.

4.2 An environmental clean-up programme for Lake Manzala, based upon a co-ordinated approach to the reduction and ultimate control of pollution entering the Lake from six different Governorates.

4.3 The careful zonation of industrial and residential areas so that the pollution prevention controls are optimised.

4.4 The provision of essential infrastructure and service facilities (safe potable water supplies, management of solid waste etc) to all communities.

4.5 The regulation of the use of fertilisers and pesticides.

4.6 The modification of public and private hygiene practices, such that irrigation and drainage canals are not used for waste disposal.

BOX 3.2: SUMMARY OF RECOMMENDATIONS PROPOSED BY LOCAL STAKEHOLDER CONSULTEES

1.	**PREVENTION AND CONTROL OF INDUSTRIAL AIR POLLUTION RECOMMENDATIONS**
1.1	Rehabilitation of the chemical plants owned by the Al Nasr Fertiliser Co to improve both overall commercial and environmental performances, especially with respect to air and drainage pollution, noise and energy levels.
1.2	The introduction of modern technology to reduce pollution emissions from brick factory stacks with the co-operation of the Brick Manufacturers Association.
2	**ENVIRONMENTAL PROTECTION AND IMPROVEMENT OF WATER RESOURCES**
2.1	The Sanitary Drainage Department of the Ministry of Health to replace the obsolete water pipe system.
2.2	The provision of an effective sanitary drainage plant, purification plant (lead removal) and biological treatment plant to improve/protect/control the quality of water entering Lake Manzala.
2.3	The protection of canal water abstraction points.
2.4	Investment in water treatment facilities (Compact Units) for individual rural settlements.
2.5	Sewage Treatment Plants required for each village.
3.	**CONSERVATION AND IMPROVEMENT/RESTORATION OF LAND AND SOIL RESOURCES**
3.1	Re-open/widen the NW channel from the Mediterranean Sea to Lake Manzala.
3.2	Designate Lake Manzala as a Ramsar site or a Man and Biosphere Reserve.
3.3	The substitution of liquid for granular fertilisers leading to an estimated reduction in consumption of 50% and yield increases of approximately 25%.
3.4	Provision of a treatment plant for irrigation water.
3.5	The adoption of more efficient irrigation methods based on sprinkler and, preferably, drip systems for ,reclaimed land, projects in particular.
4.	**REDUCTIONS IN HEALTH RISK HAZARDS AND IMPROVEMENTS IN HEALTH RISK MANAGEMENT**
4.1	Investment in bio-gas generation plant for the re-cycling of solid waste from both households and factories.
4.2	Provision of public incinerators for each village/settlement.
4.3	Investment in sewage treatment facilities (LE 490,000) required to overcome the chronic sanitary drainage problems of Al-Muqata village, where there is a naturally high water table.

BOX B.3.2: SUMMARY OF RECOMMENDATIONS PROPOSED BY LOCAL STAKEHOLDER CONSULTEES (Cont,d)

5. DEVELOPMENT OF NEW/EXPANDED ECONOMIC ENTERPRISES AND EMPLOYMENT OPPORTUNITIES

5.1 Investment in a fish processing plant for the Lake Manzala Fishery.

5.2 Investigation of alternative business development opportunities and incentives to assist brick factory businesses which are forced to re-locate or close for environmental reasons.

5.3 Diversification into new rural enterprises which supplement low farm incomes; such enterprises to include weaving, electric engine assembly, ironmongery, carpet making, car painting, milk processing, etc.

6. GENERAL ENVIRONMENTAL MANAGEMENT SYSTEM IMPROVEMENTS

6.1 Introduction/adoption of realistic environmental performance standards.

6.2 Introduction of the more punitive type of Dutch laws used to control discharges by the Oil and Soap industry.

6.3 Introduction of a system of environmental performance rewards.

6.4 Provision of more noise measurement equipment for use inside factories (via a Factories Inspectorate service).

6.5 Decision as to what Laboratory facilities need to be harnessed for provision of an effective environmental monitoring system.

6.6 Requirement to improve central water analysis laboratories so that municipal and ground water supplies used for washing wheat are properly tested.

6.7 Individual (larger) companies should be encouraged to establish their own environmental measurement facilities, covering dust, noise and heat emissions.

6.8 Provision of investment funds and privatisation incentives to enable industrial plant to be up-dated for compliance with environmental standards.

6.9 Appointment by the Banks of an Environmental Liaison Officer to service the branches within the Governorate and to liaise with the EMU, EEAA and donors.

6.10 Provision of environmental training courses for the management staff of Banks.

6.11 Co-funding of infrastructural improvements by Governorate and local communities is required.

6.12 The demand exists for the EMU to provide a technical extension service to local communities covering environmental management matters. (This is currently not provided due to lack of funds).

The Recommendations resulting from the Focus Group and Service Provider Discussions

3.6 As expected, and as presented in Box 3.3, the recommendations were location specific. Interestingly, they display both significant interest in effective privatisation of environmental services and a willingness to pay provided that the services are efficient.

3.7 In addition, the EQI report draws attention to the need for comprehensive solutions that entail co-operation between stakeholder groups and effective co-ordination by the EMD. For instance, private sector waste collection and disposal initiatives require the Government to make available dumpsites through either realistic provision or leasing arrangements. The same applies to the provision of some Government assistance towards the coverage of open drains by local communities. Such ,joint ventures, would facilitate the establishment of much needed community parks which could be created and maintained substantially through self-help initiatives. However, without a Government catalyst, such opportunities are unlikely to be realised, at least in the foreseeable future.

3.8 Other solutions mooted include the provision of extended credit through the establishment of a revolving fund to finance the purchase of vehicles for emptying septic tanks, and the installation of filters. Community involvement, through the introduction of a range of sponsored environmental improvement competitions, was also raised as a further possible measure.

3.9 Finally, the possibility of ,allowing the NGOs to become extension arms of the EMD, is seen as meriting investigation. This includes the involvement of University staff and students in environmental awareness and improvement schemes throughout the Governorate. The potential of the voluntary sector to contribute towards environmental improvement is regarded as considerable. This applies particularly in the case of religious leaders.

BOX B3.3: RECOMMENDATIONS RESULTING FROM THE SOCIAL DYNAMICS STUDY FACILITATED BY EQI (Items are not presented in order of priority)

ISSUE/PROBLEM	SOLUTION(S) PROPOSED
1. Air and Water Pollution	
Mansoura and Villages	• Sources of pollution to be relocated to non residential areas. • Enforcement of environmental laws • Exposure of detrimental practices by the media.
Mit Ghamr and Villages	• Relocation of brick factory stacks, workshops and industries to non-residential area on the outskirts of the town. • Law enforcement. • Use of cleaner car fuels and replacement/repair of faulty exhausts.
Sinbillawayn and Villages	• Closer monitoring and regular water testing. • Installation of filters at personal expense.
Aga and Village	• Relocate brick kilns in the desert far from the Delta. • Closer monitoring of the use of pesticides and irrigation process. • Stricter enforcement of Law 48/1982 to protect waterways.
Gamasa	• Provision of a water supply/treatment plant. • Introduction of charges to prevent excessive water-use by tourists.
2. Garbage and Sewage	
Mansoura and Villages	• Establishment of a private waste collection system, based on levying realistic charges.
Mit Ghamr and Villages	• Reinstatement of private sector collection service through tax incentives, realistic charges and regular collection times. • Provision of an effective municipal collection and disposal service on village market days. • Connecting septic tanks to the main sanitary drainage network, based on realistic service charges (and thereby preventing contamination of surface water).
Sinbillawayn and Villages	• Effective private sector collection and disposal service, based on realistic charges.
Gamasa	• Anti-littering awareness campaigns.
3. Insects and Rodents	
Mit Ghamr and Villages	• Control over the use of space in residential areas for keeping livestock. • Covering open drains and forbidding animal owners to deposit wastes in canals.

ANNEXES

ANNEX 1

ORGANISATIONS WHICH PARTICIPATED IN THE PREPARATION OF THE DAKAHLEYA GEAP

Contributors

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Participatory/Consultee Organisations

Central Government

- Ministry of Local Administration
- Regional Planning Centre, Tanta
- General Organisation for Physical Planning

Dakahleya Governorate Directorates and Departments

- Environmental Management
- Planning
- Tourism
- Industry
- Social Affairs
- Water Supply and Sanitation
- Agricultural
- Security Department
- Labour Research
- Manpower and Training

- Environmental Healt
- Youth and Sports
- Development
- Public Health and Population
- Education
- Information
- Cleansing
- Fisheries
- Lake Manzala Executive
- Supply

Aga Markaz

- Youth and Sports Department
- Agriculture Department
- Social Department
- Health Department

Bilqas City Council

- Labour Department
- Irrigation Department

Dikirnis City Council

- Education Department
- Youth Department
- Quran Learning Protection Department
- Engineering Department
- Consumer Protection Department
- Control Department
- Supply Department

Deraka Council

- Education Department

Gamaliya City Council and Markaz

- Municipality
- Labour Department
- Social Department

Gamasa City Council and Local Unit

- Planning and Follow-up Department
- Environmental Department
- Local School
- Supply Department

Mansoura City Council

- Cleansing Department
- Fisheries Department
- Water and Sanitation Department
- Gardens Department
- Solid Waste Department
- Services and Utilities Directorate
- Organisation and Administration Department
- Education Department
- Quality and Media Unit
- Public Department of Agricultural Co-operatives
- Shop Permits Department
- Culture Centre

Manzala City Council

- Engineering Department
- Labour Department
- Municipal Department
- Quality Department
- Industrial Safety Department

Matariya City Council and Local Unit

- Water Networks Department
- Cleansing Department
- Development Department
- Education Department
- Electricity Department
- Engineering Department

Mit Ghamr City Council

- Accounting Department
- Solid Waste Department
- Citizens, Services Department
- Gardens Department
- Commercial Licences Department
- Planning and Highways Department
- Public Relations Department
- Utilities Department
- Emergencies Department
- Cleansing Department
- Sewage Department
- Agriculture Department
- Industrial Security Department
- Social Affairs Department
- Agricultural Co-operation Department
- Planning and Monitoring

- Health Department
- Labour Office
- Kafr Serenga Mosque
- Youth Centre
- Industrial Safety Department

Mit Salsil Council

- Environmental Management Unit
- Utilities Department

Nabaruh City Council

- Engineering Department

Sinbillawayn Council

- Environment and Population Department
- Education Department
- Manpower Department

Shirbin City Council

- Education Department
- Health Department
- Industrial Safety
- Supply

Talkha City Council

- Social Affairs Department
- Education Department
- Youth Centre
- Labour Office
- Health Department

Timmayy Al Imdid Council

- Industrial Safety Department
- Social Affairs Department
- Labour Office
- Agriculture Department
- Education Department
- Engineering Department

University of Mansoura

- Faculty of Engineering
- Department of Education
- Faculty of Agriculture
- Faculty of Science
- Faculty of Medicine
- University Environmental Council
- Faculty of Engineering

Business and Financial Organisations

- Agricultural Development Bank, Manzala
- Chamber of Commerce, Nabaruh
- Chamber of Commerce, Mansoura
- Mit Ghamr Theatre Company
- Development Bank, Mit Ghamr

Industrial Companies and Co-operatives

- Misr Co for Dairy and Food Products
- El Nasr Co for Fertilisers and Chemicals
- El Nasr Company for Pressed Board and Resins
- Misr Co for Oils and Soaps
- Dakahleya Co for Spinning and Weaving
- Misr Brick Company
- Crops Co-operatives
- Mit Ghamr Aluminium Factory

Local Communities

- Ezbet Sakr
- Mansoura Markaz Villages:
    - Awish El Hagar
    - Kolongeel
    - Badaway
    - Mehalet Demnah
    - Baramone
    - Shawah
    - Barque El Ezz
    - Shoha
    - Mit El Sarrem
    - Tanah
    - Gedelah
- Mokataa
- Salamoun El Kommesh
- Shirbin
- Sinbillawayn Markaz Villages
- Tanboul El Kobra

Media

- Middle Delta New Journal

NGOs (National and Local) and CDAs

- CARE
- Health Improvement Association
- Oxfam
- Professional Industries and Co-operative Production
- Regional NGO Union, comprising the following organisations:
    - Environment Development Protection Society of Dakahleya (Mansoura University)
    - Women,s Society for Health Improvement at Dikirnis
    - Holy Quran Preservation Society at Shirbin
    - Local Community Development Society at Bilqas Village
    - Local Community Development Society at Bilqas City
    - Holy Quran Preservation Society at Bilqas City
    - Community Development Society at Touk Al-Aqlam, Sinbillawayn Markaz
    - Students, Care Society at Dakahleya
    - Women,s Society for Health Improvement at Talkha
    - Community Development Society at Nusa Al-Gheit, Aga Markaz
    - Child Care and Family Upgrading Society at Talkha
    - Islamic Charity Society at Brembal Al-Qadima, Minyat An-Nasr Markaz
    - Residential Community Development Society at Aga
    - Community Development Society at Shoha, Mansoura Markaz
    - Community Development Society at Danabeik, Mansoura Markaz
    - Community Development Society, Mit Tareif, Dikirnis
    - Child Care and Family Upgrading at Manzala
    - Local Community Development Society at Gamaliya
    - Local Community Development Society at Matariya
    - Local Community Development Society at Al-Muqata, Sinbillawayn Markaz
    - Islamic Care Society at Mit Ghamr
    - Holy Quran Preservation Society at Mansoura
- Social Development Fund
- The Ford Foundation
- The Women,s Association
- UNDP
- UNICEF

ANNEX 2

REPORTS PREPARED AS PART OF DAKAHLEYA GEAP

SERIAL	REPORT TITLE	AUTHOR	DATE
1	Dakahleya Governorate Environmental Action Comments on Working Group Draft Reports: Water, Land Air Health, Economics.	Dina El Naggar, Phil Jago, John Warburton	October 1995
2	Water Resources Groundwater	Dr. Abu Mandour A Abdel Daiem	1995
3	Water Resources: Groundwater, Dakahleya	Dr. Abu Mandour A Abdel Daiem	April 1995
4	Report on the Environmental Legislation & Institutional Framework in Dakahleya Governorate	Dr. Ahmed Abdel Daiem Salama	March 1995
5	Dakahleya Governorate Environmental Action Plan	Dr Faisal Abdul Maksoud and Prof. Hassan Meshraf	November 1995
6	Preliminary Report on the Biodiversity and Natural resources of Dakahleya	Dr. M.A. El Dermedash	March 1995
7	Environmental Profile: First Draft on Water	Dr. M Samir Tosson & Dr Abu Mandour A Daiem	September 1995
8	Environmental Profile: Final Report on Water	Dr. M Samir Tosson & Dr Abu Mandour A Daiem	November 1995
9	Dakahleya Environmental Profile: Economic Chapter	Dr M Walid Gamal Eldeen & Dr Alaa Sarham	January 1996
11	A Preliminary Report on Environmental Management Development	General Talat Sherif	March 1995
12	A Preliminary Report on Air Quality in Dakahleya Governorate	Dr Abdel Fattah Youssef	March 1995
13	Environmental Grading of the Governorate of Dakahleya Industry Sector	Dr Abdel Gelil M Khalil	March 1995
14	Environmental Profile Project Dakahleya Governorate: Industry Sector	Dr Abdel Gelil M Khalil	March 1995
15	Water and Sanitation in Dakahleya Governorate	Dr Ahmed Fadel	March 1995
16	A Report on the Land Resources and Soil for Dakahleya Governorate	Dr. H. Meshref	March 1995
17	Health Impact of Environmental Pollution in Dakahleya Governorate	Dr Wagida A. Anwar & Prof. Dr. Ahmed Niazi	September 1995
18	Final Report on Air Quality	Dr Kamal H. Noweir & Prof. Dr. Abdel Fattah Youssef	October 1995
19	Surface Water in Dakahleya Governorate Irrigation and Drainage Systems	Dr Z. M. Zaghloul	March 1995
20	Workshop on the Preparation of the Environmental Action Plan (GEAP) for the Governorate of Dakahleya	Tom Hall	January 1995
21	Epidemiological Issues of Health Aspects in Dakahleya Governorate	Dr Adel Abdel Ghaffar El Saied	March 1995
22	Environmental Profile of Dakahleya Governorate	Tom Hall	
23	Composting Domestic Waste in Egypt (Desk Study)	Ecological Sciences Limited	November 1995
25	Evaluation of the Issues Arising from and the Success of the Three Workshops Held in Dakahleya Governorate, March 1996	Hanan H. Sabea	June 1996
26	Report on the Social Study of Dakahleya	EQI	August 1996
27	Proposal for a Social Development Study of Dakahleya	EQI	May 1996
28	Social Study on Dakahleya	EQI	August 1996
29	The Dakahleya Social Dynamics Study	EQI	October 1996
30	Dakahleya Governorate Environmental Action Plan Working Groups Inaugural Meeting	Entec/TCOE	July 1995
31	Preliminary Report on Agricultural Environmental Profile for Dakahleya Governorate	Dr. Mohamed Ewaida	March 1995
32	Community Environmental Project Details of Dakahleya Governorate	AOYE	January 1997
33	Dakahleya Governorate Environmental Action Plan	Entec/TCOE	February 1997
34	Dakahleya Governorate Waste Management Strategy -Draft Project Concept Notes	Entec/TCOE	September 1996
35	Dakahleya Governorate Waste Management Strategy -Draft Report	Entec/TCOE	September 1996
40	Sohag Governorate Waste Management Strategy -Draft Report	Entec/TCOE	December 1996
41	Dakahleya Governorate Environmental Profile	Ralph Cobham	January 1997