SUSTAINABLE RURAL SANITATION SERVICES PROGRAM FOR RESULTS

Environmental and Social Systems Assessment

Final Draft Report

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List of Acronyms

CAS	Conventional Activated Sludge
CDA	Community Development Association
CEA	Country Environmental Analysis
CSO	Civil Society Organization
DLIs	Disbursement-Linked indicators
DRI	Drainage Research Institute
EA	Extended Aeration
EEAA	Egyptian Environmental Affairs Agency
EGP	Egyptian Pound
EHS	Environmental Health and Safety
EIA	Environmental Impact Assessment
ESIA	Environmental and Social Impact Assessment
ESSA	Environmental and Social System Assessment
EWRA	Egyptian Water Regulatory Authority
GIIP	General International Industry Practice
GoE	Government of Egypt
H&S	Health and Safety
ISSIP	Integrated Sanitation and Sewerage Infrastructure Project
LGU	Local Governorate Unit
M&E	Monitoring and Evaluation
MoH	Ministry of Health
MoHUUD	Ministry of Housing, Utilities, and Urban Development

MoU	Memorandum of Understanding
MSEA	Ministry of State for Environmental Affairs
MWRI	Ministry of Water Resources and Irrigation
NOPWASD	National Organization for Potable Water and Sanitary Drainage
NHBRC	National Housing and Building Research Center
NRI	Nile Research Institute
NWRC	National Water Research Center
O&M	Operation and Maintenance
OP	Oxidation Ponds
PAP	Program Action Plan
PDO	Project Development Objectives
PE	Population Equivalent
PforR	Program for Results
PM	Particulate Matter
PPE	Personal Protective Equipment
RBC	Rotating Biological Contactors
RSU	Rural Sanitation Unit
SOP	inclusive Standards Operational Procedures
WBG	World Bank Group
WSC	Water and Sanitation Company
WSP	The Water and Sanitation Program
WWTP	Wastewater Treatment Plant

Executive Summary

Introduction

Egypt is a middle income country with a rapidly growing population, high levels of unemployment and a heavily skewed income distribution. The Government of Egypt (GoE) has placed a high priority on providing drinking water and sanitation services and is currently implementing 1400 projects and with a 2014/15 budget of LE 4.2 billion (USD 587 million). Most investment over the last 20 years has been on water supply and this has raised access to safe drinking water from 39% to 93% whereas sanitation services have lagged and only about 12% of the population in rural areas are connected to piped sewerage systems with adequate wastewater treatment. Most people in rural areas use traditional permeable septic tanks which due to the high water table in the Nile Delta lead to sewage in the streets, the collapse of buildings and very high septage emptying costs. Rural sanitation is therefore now a major priority of the government particularly in the low lying and densely populated Nile Delta. The GoE has started implementing major sanitation programs and a major part of the current budget is allocated to sanitation.

The National Rural Sanitation Program (NRSP) was launched in 2014 with the goal of serving all the rural population by 2037 and a development objective to "*accelerate access to rural sanitation services and to ensure sustainable service delivery*". It has an estimated cost of LE 100 million (USD 14 billion) and will cover 4700 villages and 27,000 satellite villages. The initial focus of the NRSP is a program to cover 769 "polluting" villages in 7 governorates that discharge untreated wastewater surface watercourses that ends at the Al Salam Canal and the Rosetta Branch Canal.

The World Bank Group (WBG) will support the NRSP through the Program for Results (PforR) financing instrument, where funds are released on achievement of results measured using Disbursement Linked Indicators (DLIs), rather than on the basis of expenditures. The PforR approach focuses Bank support on helping governments improve the design and implementation of their programs using country systems and directly linking achievement of results to the disbursement of Bank funds. The PforR, the Program, is designed to increase sustainable sanitation services and reduce pollution from wastewater in three of the seven governorates in the national program, namely Beheria, Sharkia and Dakahlia. The scale of the Program is defined by the implementation budget of USD 1.1 bn, with USD 550m in phase 1. In addition there is a proposed USD 3.5 million grant for capacity building Technical Assistance and a transfer of USD 7m from another WBG project: The Second Integrated Sanitation and Sewerage Infrastructure Project (ISSIP 2) for establishing the a Program Management Unit (PMU) and associated services. The Government of Egypt (GoE) is currently funding water and sanitation projects through the National Organization for Potable Water and Sanitary Drainage (NOPWASD) where the majority of funds are being spent on sanitation in secondary cities and rural areas. For the 3 governorates the current

planning for sanitation expenditures is LE 966 million (USD 130 million) which indicates a co-financing of sanitation infrastructure of just over 25%.

This document, the Environmental and Social Systems Assessment (ESSA), has been prepared by the Bank team, according to the requirements of WBG Operational Policy OP9.00 for PforR financing for adequately manage the environmental and social effects of the program. The ESSA aims at reviewing the capacity of existing government systems to plan and implement effective measures for environmental and social impact management and to determining if any measures would be required to strengthen them.

The Bank's assessment team used various approaches to review the environment and social systems that are relevant to the program. It included review of legislation and guidelines, existing WSC procedures and relevant documentation, review of similar projects, field visits to existing sanitation facilities in the Program area and analysis of different effects.

The preparation of the ESSA involved a series of consultation activities that targeted wide range of stakeholders related to the sanitation sector. In addition to the consultation with the HCWW and the WSCs, number of consultations was arranged with local stakeholder in the villages where the program is going to be implemented including villagers. Consultation activities were also extended to number of the communities that are served with formal sanitation system and selected unserved communities. The team also conducted a number of transact walks and short semi-structured interviews with key informants from the visited villages.

Program Description

The Program Development Objectives (PDO) are strengthening institutions for increasing access and improving rural sanitation services in three participating governorates in Egypt. The PDO level outcomes include (i) increased access demonstrated by number of people provided with access to "improved sanitation facilities" under the project; (ii) annual performance assessment plans designed and implemented; and (iii) strengthened institutional arrangements demonstrated by the adoption of a new National Rural Sanitation Strategy.

The Program will be implemented over a period of 5 years and will focus on achieving 3 main result areas:

- Improved sanitation access (rehabilitated, extended, and new facilities): This results area encompasses the planning, design and construction of new sanitation facilities, including new networks to maximize the capacity of existing WWTPs or extended existing WWTPs that will connect an additional 833,300 people to piped sanitation systems that have effective wastewater treatment. In order to ensure that increased access supported through this Results Area is linked to more sustainable service delivery, the Program will put in place a system of

Performance Based Capital Grants (PBCG) from the Central Government to the WSCs to support priority rural sanitation investments identified through the Five Year Plans and included in the Annual Capital Investment Plan of the WSCs

- Improved Operational Systems and Practices of WSCs: The rationale for this result area is to ensure the sustainability of the sanitation investments and the provision of a long term high quality sanitation service to the beneficiaries. The activities under this result area include improving investment planning, operations and maintenance as well as service delivery through the compensation and reward mechanisms built into annual performance assessments (APA). APAs will be designed and implemented on a transparent and predictable basis centered on a formula taking into account of four key dimensions: Operational; Financial; Institutional; and Stakeholder engagement.
- Strengthened National Sector Framework: The rationale for this result area is that the WSCs do not operate in a vacuum and there are several activities that are critical to ensuring the long term sustainability of the Program which need to be addressed at national level by the PMU and others. The activities in this result area include development of a tariff structure for water and sanitation services that would enable cost recovery; (ii) the formulation of a revised and strengthened National Rural Sanitation Strategy and the creation of a Central Unit (i.e. the PMU) which will be responsible for the coordination of the National Rural Sanitation Program and implementation of the Strategy; and (iii) finalization of the standard operating procedures for land acquisition.. The DLIs relevant to the results are illustrated in the following table.

DLI	Purpose	Definition & Measurement
Result Area 1 – Improved Sanitation Access		
DLI 1A. Number of new functioning household connections to working sanitation facilities with a percentage targeting satellites	Major DLI that measures the increased coverage of sanitation. Satellites percentage helps ensure that smaller often poorer satellites are included.	Household means the people served by a single water connection. Working sanitation facility means treatment to Law 48
DLI 2. Performance Grant (PG) allocated and disbursed annually by MoF to MHUCC and to eligible WSCs in a timely manner	To ensure the financial incentive for improved performance of WSCs.	
Result Area 2 – Improved Operational Systems and Practices of WSCs		
DLI 3. Annual Performance Improvement Action Plans for the WSCs designed and	Relates to the improved planning and capacity of the WSCs. The annual performance action plans	

implemented	are to be designed and implemented under the guidance of HCWW to trigger disbursement	
DLI 4: Annual Performance Assessment (PA) system for WSCs designed and Implemented and WSCs have attained the required PA threshold Scores	The annual PA is based on a formula based on improved operational and financial performance, institutional strengthening and stakeholder engagement, based on (but not limited to) KPIs already used by WSCs.	Use existing measures and tools such as TSM and KPIs but focus on problem areas, in particular procurement, pro poor citizen engagement and Operating ratio.

Result Area 3 – Strengthened National Sector Framework

DLI 5. New National Tariff structure to allow for sustainable cost recovery approved	Financial sustainability	The PAP will need to evaluate what is the appropriate tariff level for cost recovery under efficient management (including staffing levels)
DLI 6. Central Unit for implementing the National Rural Sanitation Plan in place and a strategy for National Rural Sanitation prepared	To ensure replicability for the national program	The role of the PMU will need further definition in the PAP, which will also need to agree a definition of the scope and purpose of the revised national strategy.
DLI 7. Standard operating procedure on Land acquisition procedure for NRSP issued by MHUUC.	To streamline the current complex process which involves many organizations.	Should include simplification of current regulations and mandates, not just documenting the current processes.

To serve the NRSP, MHUUC have set up a Program Management Unit (NRSP-PMU). The PMU will be the formal implementing agency for the PforR but with day to day implementation delegated to the WSCs. The PforR activities will be carried out by a number of executing agents. The main executing agency will be the WSCs (through PIUs) who will be responsible for result area 1 (sanitation access); the WSCs and HCWW will both act as executing agencies for result area 2 (operational improvements) and, the MHUUC and others will act as executing agencies for result area 3 (enabling environment).

A Program Management Consultancy Firm (PMCF) will be attached to the PMU to assist in carrying out its preparation, oversight, coordination and reporting tasks. WSC Implementation Support Consultants (ISC) will be attached to a PIU in each of the three WSCs to assist the WSCs in carrying out construction planning and management and to improve their performance in this area.

The PMU will support the WSCs to measure progress using M&E system and will collate the results to assess progress in achieving the DLIs. Once satisfied with the accuracy of the reporting, the PMU will present evidence of the DLI achievement to an Independent Verification Agency (IVA), which is tasked with verifying the results.

Description of the Existing Environmental and Social Management System

In general the local legislation, policies and guidelines sufficiently addresses the environmental and social issues associated with the Program, with few gaps. In terms of complying with those standards and integrating them in the procedures of HCWW/WSCs, there are many gaps. The limited institutional capacity is one of the main drawback in the existing procedures of HCWW/WSCs as many of the required environmental and social measures were carried out by NOPWASD which left the HCWW/WSCs with limited practical experience in those areas. Also some issues, such as sludge handling and HSE issues, require resources that are not readily available in WSCs. Description of the current procedures and correspondent gaps in complying with national legislation, policies and guidelines are discussed below.

Environmental Assessment

Environmental assessment for projects is included in the Law 4/1994 modified by Law 9/2009 or "The Law for the Environment", which is the main legislation regulating environmental protection in Egypt, it is being regulated by The Ministry of State for Environmental Affairs (MSEA) and its executive agency the Egyptian Environmental Affairs Agency (EEAA). Since the effectiveness of the Law in 1994 significant improvements have been introduced to the environmental legal system following the gained experience through implementing the law in the past 20 years. According to Law 4/1994 the Environmental Impact Assessment (EIA) is a licensing requirement for development projects that are likely to cause impacts to the environment. The existing EIA Guidelines (modified in 2009) include detailed requirements for the EIA process, including social assessment and consultation, and is compatible with the WBG environmental assessment requirements. The Guidelines are even more stringent than many other international environmental assessment regulations as it consider any sanitation project to be from the highest assessment category, which is not the conclusion reached by the ESSA team as later indicated.

Regarding the procedures of environmental assessment, the EIA preparation and fulfillment of the EEAA requirements is well defined in the Guidelines. Also The EIA approval is well integrated in the licensing system for new projects, especially the sanitation projects.

For the sanitation sector, NOPWASD used to take the lead for undertaking EIAs as it is responsible for the new investments. Therefore, the WSCs have limited capacity in environmental assessment and keeping Environmental Register in compliancy with Law 4/1994. This gap has been addressed in the PAP.

Effluent Standards

The Nile Protection Law 48/1982 is the main legislation regulating water quality in the River Nile, its two branches, canals, drains and groundwater aquifers. Although the effluent standards in Law 48/1982 are not highly stringent if compared to effluent standards in other countries, the application context in Egypt shows that it is actually very demanding, mainly due to the large uncovered areas with sanitation services and the amount of investments needed to connect those areas to secondary treatment with disinfection.

Most of the WWTPs in the Program areas are complying with Law 48/1982 standards of effluent quality. This is usually verified at the WWTP level through taking daily samples from the influent, effluent and different points at the treatment stream, and when some water quality issues arise there would be direct coordination to improve the operation at the problem area to return to the standards. Usually such plants meet the effluent quality standards except for few exceptional cases where some operational problems arise.

On the other hand, there are some WWTPs that are known for being non-compliant with the effluent standards for different factors. The common reason for this is that those WWTPs require investments for major repairs or extensions to provide sufficient treatment. Some of the overloaded WWTPs, which face operational problems, tend to bypass the discharges in excess to its effective capacity to the drain. This is not a documented procedure or a technical recommendation, but some WWTP managers tend to do that for keeping their effluent quality to the extent possible, especially that the bypass line, or the discharge outfall to the drain is not monitored, but inspection bodies usually take effluent samples from the effluent collection point after chlorination. Furthermore, some WSCs connect villages to PSs which are not connected to WWTPs due to lack of funding for constructing force mains, so these PSs discharge untreated sewage to drains. This is defined as “negative discharge” and is one of the shortcomings that are addressed by the PAP.

Handling of Sludge

The handling of sludge generated at WWTPs is regulated through Law 93/1962 and the Executive Regulations by Decree 44/2000. According to the Law if the dried sludge is to be used as organic fertilizers it should meet certain standards otherwise it should be landfilled or safely incinerated.

These standards are generally equivalent with international sludge standards, however, in terms of application, WSCs do not monitor the sludge quality as required by Law 93/1962 and Decree 44/2000, before selling it as fertilizer. This has been addressed in the PAP.

Management of Sewerage Networks

Connecting households, and other commercial industrial facilities, to the sewerage networks is controlled under Law 93/1962 and Decree 44/2000. The Law provides standards for the wastewater parameters (that could be accepted in the network), so that industries and commercial establishments generating high load wastewater should install pretreatment units for their wastewater before discharging to the sewer. These standards are frequently monitored and inspected for industrial establishments, but usually frequently inspected for commercial establishments and rarely inspected for animal barns and farm slurry, which is most relevant to the rural areas covered by the program.

The design and operation of networks and pump stations are regulated through the Engineering Codes issued by Decrees 286/1990 and 268/1997 respectively. The Codes provides the standards that should

be applied during design, construction and operation of networks and PSs to avoid blockage, seepage, structural collapse, hydraulic and electromechanical malfunctioning … etc. Private networks are not allowed except after having licensing from the regulatory authority and after fulfilling the requirement of the Engineering Codes, however, some villages still build private networks by self-initiatives that ends at watercourses. It is very difficult for regulating bodies to prevent these private networks.

Handling of Septage

The discharge of septage evacuated from individual septic tanks and cesspits to freshwater canals or drains is not allowed according to Law 48/1982, but, In terms of application, the implementation of these conditions showed little success due to difficulty of enforcement. Usually the septage is removed from cesspits in unserved areas by local contractors using tankers, and then they discharge the septage in the nearest location in an agriculture drain or even in freshwater canals. Furthermore, most of the WSCs do not allow for receiving septage in their sewers and WWTPs, as there is no system in place to allow for regulating the receiving of septage. WSCs would usually be unwilling to accept septage with high organic loads that would add to the shock loads received in WWTPs and may affect their performance and the quality of the final effluent. The lack of an official system to handle septage, although helps in reducing shock loads at WWTPs level, risks attaining the objectives of sanitation projects on surface water quality, as the unregulated small scale septage discharges to surface water will continue to be one of the major pressures on water quality. Accordingly on site sanitation, including official septage management system that would serve remote and satellite villages, would be included in the Result Areas of the Program, this system will be identified during the feasibility studies for each governorate.

Handling of Hazardous Substances

The handling procedures of hazardous substances and wastes are included in Law 4/1994 with adequate level of details. The handling of chorine cylinders, which is the most common hazardous substances handled within WWTPs, is further detailed in the Engineering Code for Wastewater Treatment Plants (Decree 169/1997). Also the Engineering Codes for fire protection include sufficient measures for safeguarding against fire risks, however, in terms of application some of the facilities designs do not follow these safeguards and sometimes safety issues arise during operation. The PAP includes measures to overcome this issue through including H&S standards in the ToRs for the design works and allowing H&S staff to review and verify the designs.

Solid Waste Management

Solid waste is usually accumulated in screens of WWTPs and PSs as well as removed from grit removal chambers, this separated solid waste should be adequately handled by the facilities. Solid waste management is regulated by specific articles of Law 4/1994, in addition to the General Cleansing Law

38/1967. In terms of application, WSCs usually do not adequately collect and dispose of solid wastes at licensed site. This gap has been addressed in the PAP.

Health and Safety

The Labor Law (Law 12/2003) is the main legislation regulating H&S issues, the Law comprises a Chapter on working environment and health and safety issues, and also includes a comprehensive annex on the safety standards to minimize physical, dynamic, biological and chemical risks. Following the Law standards would minimize occupational health and safety risks. In terms of application, the H&S departments in WSCs do not have sufficient manpower to audit and follow-up the adherence of sanitation facilities to H&S standards. Also many construction contractors do not usually comply with H&S requirements and close supervision is required to ensure construction safety. This gap has been addressed in the PAP.

Cultural Heritage

Law 117/1983 has been issued for protection of antiquities and culturally valuable sites. Being one of the richest countries of the World with antiquities from ancient civilizations, the GoE gives the Law high importance and weight. The Law includes stipulations for structural protection of known and unknown antiquities through certain procedures for chance finds. The stipulations of the Law would adequately safeguard against negative impacts during construction phase of the Program interventions, and the Antiquity Authorities are closely inspecting the protection of registered sites.

Land tenure and Related Laws to Land Expropriation in Egypt

There are three main forms of land ownership in Egypt: public or state land (in Arabic Amlak Amiriya), private land (in Arabic Mulk horr), and waqf land (land held as a trust/endowment for religious or charitable purposes). Article 33 of the 2014 Constitution provides that “the State shall protect ownership with its three types: the public, the private and the cooperative.” Article 35 of the Constitution further provides that “private properties shall be protected, and the right to inheritance thereto is secured”. According to the Constitution (Article 63), all types of involuntary relocation using force or excessive violence is banned and whoever violating this article will be brought to court"

Law 10 of 1990 concerning the Expropriation of Ownership for Public Interest was issued to regulate the cases where private land is needed for public interest projects. In addition, expropriation of property is further regulated by Law 59 of 1979 concerning the Establishment of New Urban Communities and Law 3 of 1982 concerning Urban Planning. The term “public interest” in the context of expropriation has been defined in Article 2 of Law 10/1990. Water supply and sewage projects are among the projects identified by this article. Other laws and decrees added to the list of projects stipulated under article 2 of Law 10/1990.

Law 10/1990 has described the expropriation procedures starting with a declaration of public interest pursuant to a Presidential Decree accompanied with a memorandum on the required project and a complete plan for the project and its buildings (Law 59/1979 and Law 3/1982 provide that the Prime

Minister issues the decree). The decree and the accompanying memorandum must be published in the Official Gazette. A copy for the public is placed in the main offices of the concerned local government unit. A number of operational steps take place afterwards until the land is acquired.

On the central level, the governmental agency in charge of the implementation of the expropriation acts issued for public interest is the Egyptian General Authority for Land Survey ("ESA"), except for projects handled by other entities pursuant to a law to be issued in this respect. As mentioned above, ESA is charged with the formation of the expropriation and compensation committees. Usually the executing body could be other Ministries (e.g., Ministry of Housing) or Governorate. Accordingly, this executing agency would be responsible for paying the compensation to affected groups through ESA or under its supervision, offering alternative resettlement options, and implementing the resettlement project. On the local level, several local departments and directorates should be involved in the resettlement program depending on the type of program to be implemented and the nature of land ownership.

Although Law 10/1990 does not clearly specify lessees as entitled to compensation, they implicitly fall within the group of "right holders" referred to in the law. It is clear, however, that lessees may not have recourse against the landlord for termination of their lease agreements as a result of the expropriation act. Another important issue that has not been addressed in Egyptian law, is the right of squatters to be compensated in cases of displacement or resettlement. The Egyptian legislation framework has not recognized the rights of squatters). However, the Egyptian experiences in dealing with this issue has shown the fact that due to the political pressure and the social dimension, the government has been forced to provide an alternative for those groups of households whether in terms of alternative shelter, cash liquidity or other types of in-kind compensation (e.g. jobs).

Land acquisition procedures:

When a rural sanitation project is being planned and land is needed, priority is usually given to obtaining land through state owned land as an avoidance strategy to prevent negative resettlement impacts on population. In case of unavailability of state owned land, there are four other different approaches to obtain the land for pumping stations and WWTPs, including **i) voluntary land donation, ii) community contribution which is a very common approach for pumping station; iii) willing buyer-willing seller; and iv) acquiring land by using eminent domain.** The WSCs are not heavily involved in the process of finalizing land purchase (willing buyer willing seller approach) for pumping stations and waste water treatment plants (WWPTs) because the part relates to investment for sanitation project is officially mandated to National Organization for Potable Water and Sanitary Drainage (NOPWASD). There is no legal obstacle for the WSCs to complete the process of acquiring land through both purchase and donations, the lack of resources for the WSCs usually limit their chances in land acquisition, specifically the purchase part. Accepting donated land or land obtained through community contribution for pumping station is a more common area for the involvement of the WSCs compared to the purchase for WWTP. The Properties Department under the Legal Department within WSC is responsible for the land purchase (in the scarce cases of the WSCs' involvement in land purchase) and also for accepting donated land or land obtained through community land contribution for pumping stations. For WWTPs, the lands are obtained mainly through willing buyer-willing seller approach. WSCs are reluctant to use eminent domain to acquire land as it may take longer time.

Decrees and procedures for regulating households' connection fees

As per law27 year 1978 regulating public resources for water and sanitation, covering the cost of the households' connection is the responsibility of the beneficiary. According to the WSCs, the exact amount that each household is requested to pay depends on the distance of the house from the main force, the number of houses participating in the communal inspection chambers and the amount of works and material associated with each item. It is roughly estimated that each household should pay and average of EGP 1300 to EGP 1500 to get the building connected to the public sanitation network once a project is completed in the area. This connection fees get higher in some cases to reach EGP 3000.

Procedures for engaging with communities

Previously, HCWW was not heavily involved in planning and preparation of rural sanitation projects. The formal role of the HCWW and the WSCs is more about O&M. No structured mechanism is followed to carry out communities' needs assessment for sanitation projects or to engage the communities in the planning of the projects. In the cases when private land for pumping stations or WWTP is needed, the WSCs play a role of more technical and legal nature in this regard. The social aspects related to land are not very much taken into consideration. During projects construction (specifically the construction of the networks), the WSCs play a supervisory role over the contractors. The monitoring of the construction process has technical orientation nature. The social issue that may arise (e.g. damage in

structures) are handled through a reactive approach. There is no local grievance system and systematic methods for consultations with local communities during construction. During project operation and maintenance, the HCWW and the WSCs have number of key mandates that involve community engagement in the project operations and maintenance. Awareness raising, measuring community satisfaction (which serve in projects' monitoring) and handling grievance mechanisms are the key relevant fronts for community engagement during projects' operation. Water projects are significantly over dominating the scope of work for these departments.

Procedures for Grievances Redress

The Hotline is one of the key formal grievance channels and the one which is meant, by design, to be the single official channel. The HCWW is working to strengthen the Hotline system including the call centers within the WSCs and is aiming, through this strengthening, to enable this channel to be the single official uptake modality. However, in practice, most complaints are still being communicated through other informal channels including verbally to laboratory staff, maintenance service staff, security, commercial personnel or media. There is no strict documentation and record for the complaints received through these informal channels.

Program Environmental and Social Benefits, Risks and Impacts

Screening of Category A-type interventions

The PforR instrument should not be used to finance activities that are likely to have significant adverse environmental impacts that are sensitive, diverse, or unprecedented. These impacts may affect an area broader than the sites or facilities subject to physical works. This definition is believed to be inapplicable to Program interventions. Within the context in Egypt, the largest WWTP within the Program boundaries is 30,000 m3/d which explicitly small compared to many large WWTPs in the country with capacities reaching 2 Mm3/d. Previous experience with WBG projects shows that sewerage interventions are classified as Category B projects, and also projects that involves relatively small WWPTs, such as the ones that are included in the Program, are classified as Category B. It is worth noting that there are a number of WWTPs, such as Gharb El Mansoura WWTP currently under construction with capacity 185,000 m3/d, is part of the government program but is not part of the PforR. There will be measures in the PAP to ensure that DLI1 and DLI2 are not measured against connections to this WWTP so that the boundaries of the PforR are clearly verified during implementation.

Risk screening against OP9.00 Core Principals

A preliminary risk assessment has been carried out using the Environmental and Social Risk Screening Format included in OP 9.00, and the likely environmental and social effects have been addressed. Regarding the context, the Program will be implemented in rural areas with health, economic and psychological pressures and polluted watercourses in the downstream of the Nile, so the interventions are expected to effectively address these geographic shortcomings. No sensitive habitats are located

within the Program areas and the risk on culturally valuable sites is low. In terms of sustainability, the Program is expected to enhance the sustainability of watercourses through enhancing their quality, the sustainability of agriculture lands through alleviating the rising groundwater table problems and improving the quality of irrigation water. In terms of institutional complexity, the environmental and social issues will be handled through different bodies under the umbrella of MoHUUC and the system is expected to operate without complexity. Regarding the institutional capacity, although is currently limited, the PAP measures identify measures for improving the capacity. There are no governance or corruption risks associated with the environmental aspects of the Program. The overall environmental risks have been rated as medium and the overall social risks have been rated as substantial.

Environmental Benefits, risks and impacts

The overall impact of the Program is expected to be positive. The Program will allow for adequately discharging and treating considerable amount of sewage according to the standards of Law 48/1982, which was, prior to the Program, being inadequately collected and discharged to watercourses.

The environmental benefits are providing adequate treatment to about 90,000 m3/day used to be inadequately discharged to watercourses, improving health conditions to the Program beneficiaries, help in alleviating the rising groundwater table problem, and including septage management as part of the interventions.

The overall environmental risks are medium, however, some individual risks are rated substantial. The main environmental risks are: risks of improper handling of sludge (substantial), risk of improper handling of solid wastes separated at WWTPS and PSs (medium), risks of discharging noncomplying effluent (medium), risks to the safety of workers and neighbors of WWTPs from handling chlorine, diesel and lab chemicals (medium), risks of sewerage blockage/leakage during operation especially private networks (medium), risks on structural integrity of structures during dewatering operations (medium) and risks of improper handling of chance find culturally valuable objects (low). Also the limited institutional capacity of the WSCs poses substantial risk on the program implementation.

The main environmental impacts are: changing land use at the footprints of PSs and WWTPs, temporary impacts during construction and impacts on receiving waters from compliant effluent and on lands from sludge and solid waste. These impacts are considered of low significance.

Social Benefits, risks and impacts

The implementation of the Program will help in elevating the negative impacts through providing the sanitation service which is very highly demanded by the poor rural communities of the targeted Governorates. There are number of benefits and positive returns that the Program is expected to help local communities to attain. Most important benefits include:

1. Economic saving on the household level:

2. Health and safety benefits
3. Creating an enabling environment for community development at village level
4. Enhanced level of public hygiene awareness
5. Special return and benefits for women and children

The project will entail land acquisition for constructing the pumping stations and the WWTP. If not handled carefully, land acquisition might result in serious impacts on individuals of land owners and land users. At this stage, since the technical design of the program is premature, it is difficult to know the exact amount of land that will be needed and consequently, it is also difficult to estimate the number of land owners and land users who would be affected from the land transaction process. The severity of the impact of land taking depends on number of factors and case by case analysis will need to be carried out by the WSCs before the Program implementation to define the magnitude of the impacts, the affected persons and the methods to mitigate the impacts. The main Land related risks identified are:

1. Limited capacities of the WSCs to manage land issues
2. Potential delay in the time scheduled as a result of land acquisition
3. Lack of a consistent and transparent approach in managing land related issues
4. Livelihoods risk related to lands
5. Potential emerging disputes over the land that has been acquired before the start of the Program
6. Poor management to the temporary impacts related to land:

The following are the key non-land related risks identified:

1. Risk of damages associated to the construction activities
2. Non-land based livelihoods risks
3. Weak sense of demand for and/ acceptance and readiness for projects in certain communities
4. Risk of social tensions as a result of exclusion of certain villages
5. Risk related to affordability of poor households
6. Potential escalation for unresolved community concerns/complaints

On the impacts side, the construction phase is expected to generate number of local job opportunities to the villagers who could be engaged with the contractors in various activities associated to the construction phase. In the meantime, number of negative impacts might result from the construction phase of the project. This most importantly include:

- Temporary impacts on land including the temporary use of land for construction camps and materials' storage and the potential damage for crops.
- Permanent land acquisition and potential implication on an livelihoods of an average of the rural families
- Inconvenience to the local communities and potential implication on the local activities within the villages, including distracting local business

- Health and safety risks on workers and local residents within the project site

During the Program operation, numerous benefits and positive impacts are anticipated. Returns entail benefits on health, economics of the households, enhanced level of awareness and special benefits to women and children.

Program Capacity and Performance Assessment and Gap Identification

Performance of WSCs with regard to the legal and regulatory framework on environmental aspects

The main gaps could be summarized as follows:

- There are no clear guidelines that controls the management of septage.
- Similar to the above issue, although there is legal prohibition to establish private sewers that discharge to watercourses, no enforcement mechanisms or alternative solutions to those networks. Those networks achieve important benefit for the villages where they serve, however, the legal framework and technical guidelines do not allow for a sound solution for those networks. The Program design would allow for connecting those networks with due diligence assessment of their conditions, through the ISC, and take feasible measures to improve their condition.
- There are no explicit standards for land contamination. Also no explicit requirements for ensuring secondary containment of hazardous substance storage tanks that covers 110% of the storage capacity, and for taking adequate measures during filling the tanks. This gap would be bridged through including such requirements in the ToRs of site-specific ESIAs which would be prepared/supervised by the WSCs.

In terms of implementation of and compliance with the laws/standards, there are some weaknesses and gaps in the system including:

- The strict punishment of non-compliant WWTPs operators sometimes gives opposite results, as they tend to bypass portion of the received influent for meeting the effluent standards.
- The “negative discharge” by PSs, although done as a last resort in absence of sufficient finance, there should be assessment to the advantages and disadvantages for starting the connections without having enough resources to discharge the collected wastewater in a WWTP
- Most of WWTPs do not keep a documented environmental register that is being frequently updated according to the requirements of Law 4/1994.
- Most of WWTPs do not handle sludge, solid waste removed by screens, or removed grit according to the law requirements. This need to be improved as indicated later in the PAP
- The Safety procedures need to be improved and integrated within the procedures for design, construction and operations of networks and WWTPs.

Performance of WSCs with regard to the legal and regulatory framework on land acquisition

The existing laws and regulation have a number of positive sides in dealing with land acquisition. This most importantly include provisions related to compensation, sharing information with the affected persons, rights of affected persons to appeal and provisions related to the temporary damage and associated compensation. In reviewing the legal and regulatory framework against the international best practices, a number of gaps related to the following areas were identified:

- Consultation with affected individuals:
- Identification of entitled categories:
- Absence of proactive local level mechanism for handling grievance
- Land Valuation Process
- Replacement Cost
- Performance of WSCs with regard to the legal and regulatory framework on grievance mechanism:

Adequacy of institutional arrangements and capacity on land acquisition

The analysis of the existing institutional arrangement and capacity for handling land acquisition issues showed a number of shortfalls and gaps that need to be addressed to allow for a more standardized, approach for land acquisition. This most importantly includes the fact of the dominant nature of the technical and legal orientation in handling land acquisition in a way that comes on the cost of managing the social issues related to land. This could be attributed to number of factors including the relative limited capacities of the WSCs (particularly in finalizing willing buyer willing seller process due to lack of resources), shortage in human resources. The absence of the inter-agencies coordination role to facilitate the process of obtaining approvals is resulting in huge delay in the process of finalizing land acquisition.

Adequacy of institutional arrangements for handling community engagement issues:

The conducted institutional assessment for handling community engagement showed that existing resources and mechanisms for managing community engagement has a number of strengths that include availability of teams for awareness and communication on the Governorate level, teams are working under agreed upon annual work plan, a monitoring and evaluation system for the performance of the WSCs is in place, there is a number of community based monitoring techniques (e.g. surveys) and solid awareness and communication guidelines exist and are applied.

In the meantime, a number of institutional gaps were identified. Those could be summarized in:

- Limitations in the mandates of the WSCs scope (e.g. absence of planning, design and construction) from the current mandates and accordingly limitations in the WSCs capacity to handle community engagement related to these stages.
- Shortage in human resources and lack of staff representation on the Markaz and village level
- High staff turnover rate

- Lack of monitoring system to measure the impacts and the efficiency of the implemented community based activities including the awareness
- Lack of resources for logistical support
- Inconsistency in the capacities of the assigned teams

Adequacy of institutional arrangements for handling grievance redress:

The following are the main identified gaps related to the existing grievance mechanism, specifically the Hotline:

- Deficiencies in the mode of operation due to lack of automation for the system
- The informal channels including the direct complaints to technicians are still more largely used than the Hotline.
- Problem in the monitoring system since monitoring is done only on selected cases because the HCWW does not have full access to all the calls due to database shortfalls.
- Time interval for resolving the complaints is not clearly communicated with the complainers.
- The dominant orientation to the operation and maintenance and the absence of focus on grievance related to projects planning, design and construction.

Recommended Actions to Address Identified Risks and Gaps

Actions to address identified Environmental Risks and Gaps

The institutional support for managing the environmental aspects of the PAP will be as follows:

- The main implementation responsibility of the PAP will be on the PIUs who should recruit an environmental specialist on full-time basis. The 3 environmental specialists at the PIUs will be supported by an Environmental Specialist at the PMU level, who is expected to be recruited with sufficient environmental assessment and management experience (10+ years of experience). Also the Environmental Specialist of the HCWW will provide support in reviewing the ESIAs and giving insight about the bottlenecks usually confronted in other projects and how to overcome them.
- The ISC would support the environmental specialists of the PIUs on implementation and supervision of site-specific ESMPs. The WSCs would take advantage for the ISC role in construction supervision to overlook the environmental management of construction contractors.
- The Quality Sectors in the 3 WSCs should either introduce a new Department for Sludge Quality or add the sludge quality to the mandate of the Effluent Quality Department. The WSCs should procure sufficient laboratory equipment in the labs of WWTPs and the central labs at each WSC to analyze sludge.

- The Occupational Health and Safety Department should add the following responsibilities to its mandate reviewing designs of new WWTPs and PS and ensure that sufficient H&S measures are taken, following up the adherence of WWTP and PSs staff to the H&S site specific measures.
- The Operation Sector should prepare a documented O&M manual specific for each WWTP including the environmental measures included as recommended by the environmental specialists and should ensure that WWTP managers adhere to such manuals.

The PIUs should assess the achievement of DLIs based on the WWTPs within the borders of the Program, other clusters from the national program, especially clusters that include relatively large WWTPs, which might be considered as Category A, should be excluded from the assessment.

The following measures are proposed for minimizing environmental risks and mitigating environmental impacts:

- The PIUs, with support from the PMU and HCWW, should initiate the ESIA process for new clusters through preparing ToRs for the ESIAs putting sufficient weight to the covering the issues identified in this ESSA and the site specific issues. There should be robust system for following up the implementation of site specific ESMP measures.
- Sludge analysis should be included in the regular operations of the Quality Sector in WSCs. In case the sludge is complying with the standards it could be sold to contractors on condition that the contractor would be responsible for making farmers aware of the application rate of sludge, this responsibility should be reflected as an article in the contract. In case the sludge is not complying with the standards, it should be transferred to an adequate disposal site.
- The Operation Sector for each WWTP should prepare and O&M manual specific to each WWTPs that includes standard procedures on normal conditions as well as on emergency conditions. The manuals should include measures for reporting bypass incidents, adequate handling of solid waste, and measures for ensuring effluent quality.
- The new Code of rural sanitation should have measures for putting rural shock loads into consideration when designing the WWTPs.
- The ISCs should provide sufficient site supervision on contractors during excavation works to report on any chance finds of culturally valuable objects. The ISCs should also ensure that H&S issues are adequately managed during construction and that dewatering operations are controlled.
- The Occupational Health and Safety Department should provide needs assessment for existing PSs and WWTPs to improve the health and safety standards. The Department should review designs of new facilities and provide comments as needed. The Department should conduct quarterly inspection for each WWTP and PS to ensure compliance with H&S standards.
- Connecting PSs that are negatively discharging to drains and private networks should be calculated among the results of DLI1 which will promote the environmental benefits of the

Program. In caste of connecting private networks the ISC should assess their conditions and identify necessary measures to improve its quality to prevent/minimize clogging and leakage.

- The PMU and HCWW should establish dialogue with MWRI and MoH regarding the possible modifications of Law 48/1982. This would help in making the PMU technically and financially prepared for any future modifications of the Law.

Actions to address identified Social risks and gaps

For developing a standardized, approach for land acquisition

- Develop ToRs for the "Standards Operational Procedures"
- Develop "Standards Operational Procedures"
- Develop Memorandum of Understanding (MoU) and associate mechanisms

Enhancing the system for engaging with communities and addressing social risks

- Develop ToRs for the Procedural Guidelines for Community Engagement
- Develop the "Procedural Guidelines for Community Engagement"

Addressing poverty and affordability issues:

- Set and apply a strategy for assistance scenarios (including targeting techniques) to be provided to the poor households

Crosscutting measures

- Strengthened grievance mechanism to accommodate various issues
- Establish a strategy for ongoing consultation with stakeholders across various stages
- Establish transparent system for sharing and disclosing information

Institutional Issues

- Assign the appropriate human resources for handling land acquisition
  - ✓ Develop ToRs for the Senior land acquisition officer on the central level and the land acquisition officer on the level of the WSC and obtain the Bank approval
  - ✓ Assign the land acquisition teams
- Assign the appropriate human resources for community engagement and handling social risk
  - ✓ Develop ToRs for the Senior Community Engagement officer on the central level, the Community Engagement officer on the level of the WSC and the Focal Points on the Markaz/branch level.
  - ✓ Assign the community engagement teams
- Enhance the performance evaluation system
  - ✓ Establish performance based monitoring system to evaluate the teams that will be assigned.
  - ✓ Establish strong reporting mechanism that allow for bottom up flow of information and allow decisions to be made accordingly

Implementation support

Training and capacity building will be key prerequisites to enable the assigned teams to carry out their responsibilities as stipulated in their ToRs. The following are the main areas of support for the Program Implementation:

For land Acquisition

The "Standards Operational Procedures" should be the applications related to land acquisition. The implementation support in this regard will entail:

- Providing guidance and support to the PMU and the WSCs in the preparation of the ToRs for the responsibilities of the team and the preparation of the ToRs for the SOP and the Procedural Guidelines for Community Engagement.
- Provide training to the WSCs teams working in land acquisition[1].

Initially proposed topics of training for the teams working in land acquisition:

- International policies and best practices related to resettlement
- Legal and social aspects associated to resettlement
- Preparing of resettlement assessments and action plans
- Monitoring the land acquisition and resettlement impacts

For community engagement

The "Procedural Guidelines for Community Engagement" will set the core for the work of the community engagement team. The implementation support in this regard will entail:

- Provide assistance in development of the "Procedural Guidelines for Community Engagement"
- Support the WSCs in strengthening the GRM system
- Provide assistance to WSCs to strengthen their monitoring and evaluation system in terms of the service feedbacks
- Provide training to the teams of the WSCs and relevant stakeholders on community engagement related aspects

Initially proposed topics of training for the teams working in community engagement:

- Social assessments

[1] Training should be initiated once the teams are assigned in order to enable them to carry out their tasks in a sound diligent and socially sensitive manner

- Social risk assessment
- Participatory planning approaches
- Monitoring consultants and contractors

Crosscutting modules to all the teams:

- Consultation and engagement with affected persons
- Information sharing and Disclosure
- Grievance redress mechanisms
- Monitoring and evaluation
- Report Writing

1 Introduction

1.1 Background

Egypt is a middle income country with a rapidly growing population, high levels of unemployment and a heavily skewed income distribution. Economic growth has averaged a relatively low 2% p.a. since 1980 and the economy has suffered in recent years due to the effects of the Arab Spring. Despite rapid urbanization over recent years, over 50% of the population is rural: villages range from small satellite villages of under 500 people to large urbanized villages of over 10,000 people. Agriculture, one of the mainstays of the economy, relies on irrigation from the Nile and water resource management and the protection of water quality is therefore a significant issue for the country.

The Government of Egypt (GoE) has placed a high priority on providing drinking water and sanitation services and is currently implementing 1400 projects and with a 2014/15 budget of LE 4.2 billion (USD 587 million). Most investment over the last 20 years has been on water supply and this has raised access to safe drinking water from 39% to 93% whereas sanitation services have lagged and only about 12% of the population in rural areas are connected to piped sewerage systems with adequate wastewater treatment. Most people in rural areas use traditional permeable septic tanks which due to the high water table in the Nile Delta lead to sewage in the streets, the collapse of buildings and very high septage emptying costs. Rural sanitation is therefore now a major priority of the government particularly in the low lying and densely populated Nile Delta. The GoE has started implementing major sanitation programs and a major part of the current budget is allocated to sanitation. In addition, there are several major donor funded rural sanitation programs with total budgets of nearly USD 500 million.

1.2 The National Program

The National Rural Sanitation Program (NRSP) was launched in 2014 with the goal of serving all the rural population by 2037 and a development objective to "*accelerate access to rural sanitation services and to ensure sustainable service delivery*". It has an estimated cost of LE 100 million (USD 14 billion) and will cover 4700 villages and 27,000 satellite villages. The initial focus of the NRSP is a program to cover 769 "polluting" villages in 7 governorates that discharge untreated wastewater surface watercourses that ends at the Al Salam Canal and the Rosetta Branch Canal[2]. The seven governorates are: Sharkiya, Dakhalia, Damietta, Giza, Menoufya, Gharbiya and Beheira. This initial program, which does not cover all settlements in the seven governorates but just the villages close to the two canals aims, to:

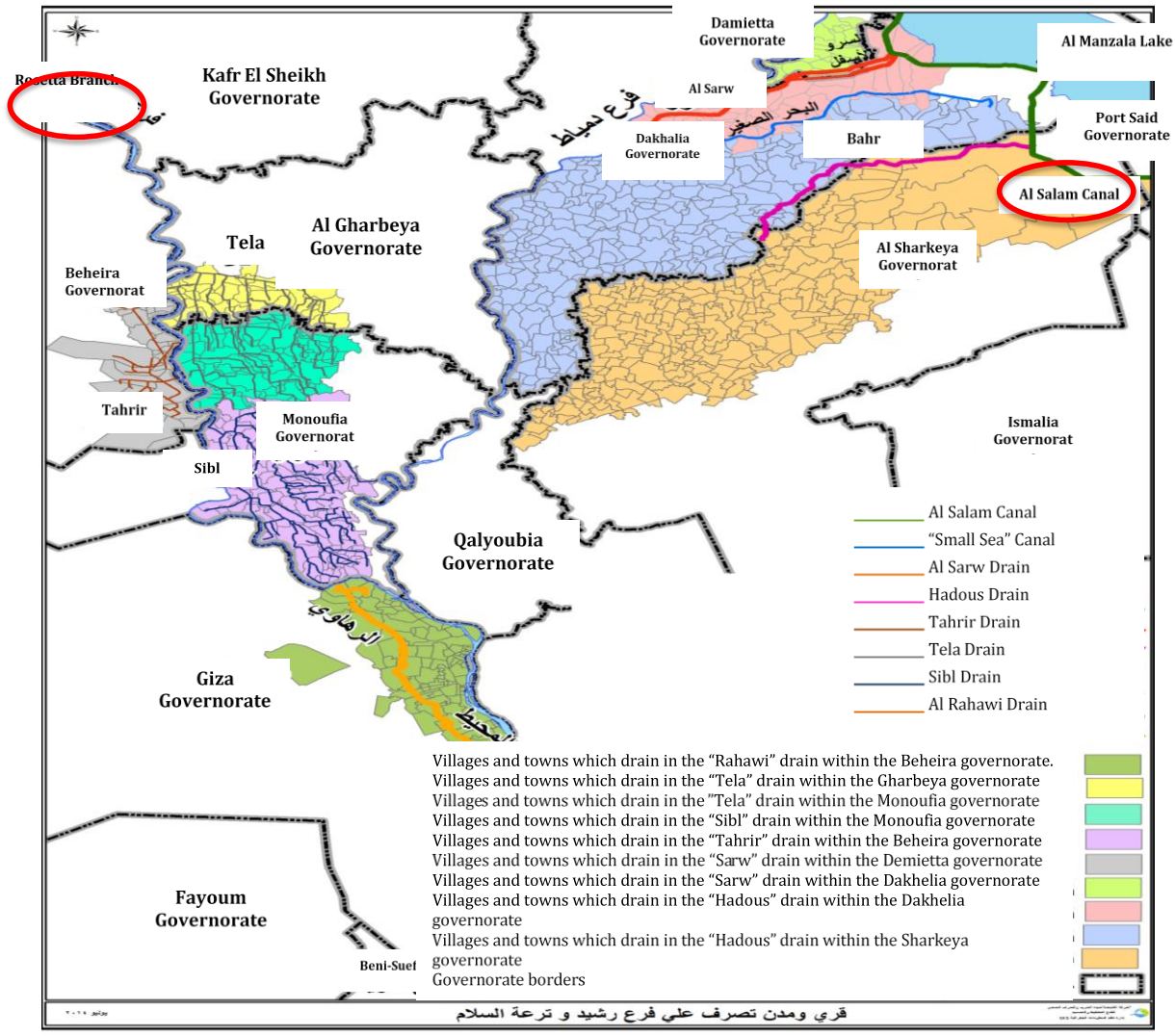
- Provide sanitation services to the target villages with associated health and service provision benefits.

[2] The main drains that are discharging to Rosetta Brach are El Tahrir Drain, Tala Drain, Sibl Drain and Rahawy Drain, while the main drains that discharge to El Salam Canal are are El Serw Drain and Hadous Drain

- Reduce pollution in the two irrigation canals - reducing untreated wastewater discharge into the Al Salam canal will reduce the fresh water mix needed for the planned irrigation extension in the Sinai as well as having wider environmental and health benefits.

The NRSP is informed by The National Rural Sanitation Strategy developed in 2008, Development Policies, Water and Waste Water Sector in Egypt developed in 2010 and the national and governorate rural sanitation master plans. The figure below illustrates the geographic coverage of the initiate stage of the NRSP in the watershed of Rosetta Branch and El Salam Canal.

Figure 1: NRSP interventions in 769 villages in the watershed of Rosetta Branch and El Salam Canal



1.3 The PforR Boundaries

The World Bank Group (WBG) will support the NRSP through the Program for Results (PforR) financing instrument, where funds are released on achievement of results measured using Disbursement Linked Indicators (DLIs), rather than on the basis of expenditures. The PforR approach focuses Bank support on helping governments improve the design and implementation of their programs using country systems and directly linking achievement of results to the disbursement of Bank funds.

The PforR, the Program, is designed to increase sustainable sanitation services and reduce pollution from wastewater in three of the seven governorates in the national program, namely Beheria, Sharkia and Dakahlia. The scale of the Program is defined by the implementation budget of USD 1.1 bn, with USD 550m in phase 1. In order to ensure the sustainability of the Program infrastructure investments, the Program is designed to promote Water and Sanitation Companies (WSC) to become more operationally and financially sound and also addresses some national level constraints such as tariff levels.

The Table below shows the outline of the NRSP and an indicative outline of the PforR based on a first application of program level selection criteria. The nominal program assumes an average construction cost of USD 550/capita (using current populations to calculate per capita costs). In addition 9% is added to cover the cost of design, construction supervision, land purchase i.e. a total unit cost of USD 600/capita which allows 500,000,000/600 = 833,300 people to be served. The actual content of the PforR work will be developed during the project preparation using project level selection criteria.

Table 1: General Scope of the National Program and the PforR Program

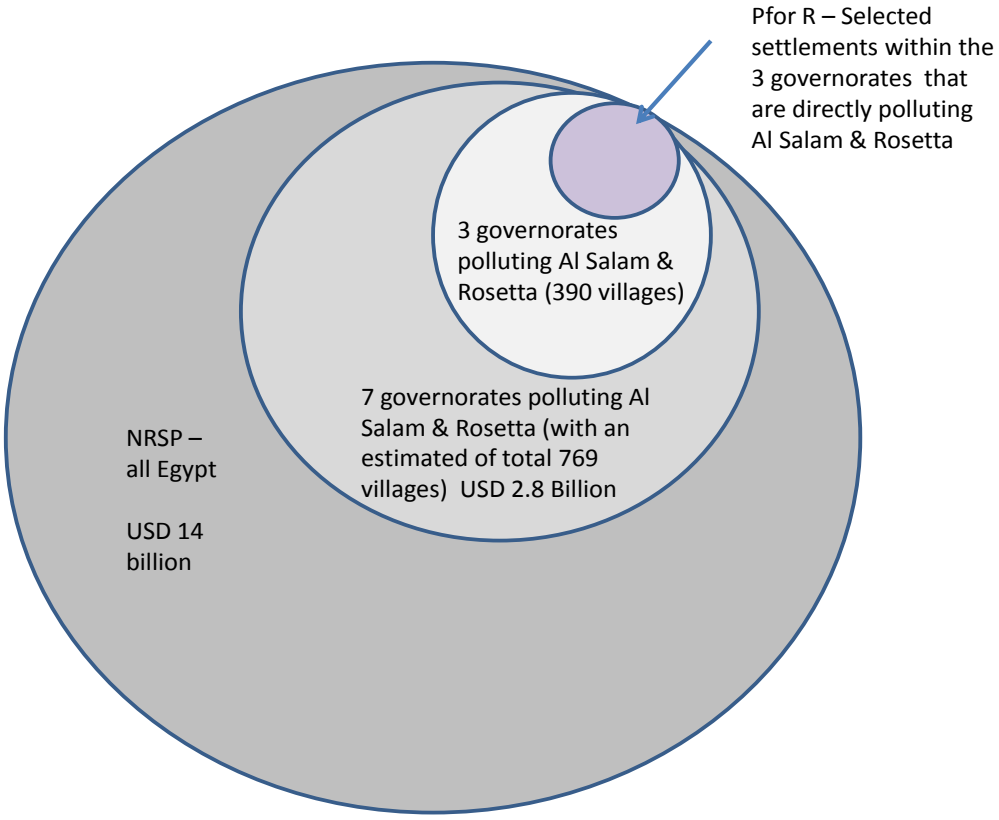
Governorate/WSC	Beheira	Sharkiya	Dakhalia	Total
NRSP				
Total polluting villages	14	218	279	511
Total Clusters	2	45	58	106
Estimated cost (LE million)	387	6436	7024	13,848
Estimated Cost (USD million)	54	900	982	1937
PforR Program				
Total polluting villages served by other programs	9	83	29	121
Remaining unserved polluting villages[3]	5	135	250	390
Villages to be served under PforR Phase 1	5	46	104	155
Clusters to be served under PforR Phase 1	1	11	25	37
Population to be served under PforR Phase 1	18,300	350,500	464,100	833,300
Program distribution by population	2%	42%	56%	100%

[3] More details about the remaining villages are illustrated in the Annexes

The Program will be funded by a USD 1.1 billion loan from the WBG split into two equal phases. In addition there is a proposed USD 3.5 million grant for capacity building Technical Assistance and a transfer of USD 7m from another WBG project: The Second Integrated Sanitation and Sewerage Infrastructure Project (ISSIP 2) for establishing the a Program Management Unit (PMU) and associated services. This assessment deals with the first phase of the Program which has a total budget of USD 550 million. The Government of Egypt (GoE) is currently funding water and sanitation projects through the National Organization for Potable Water And Sanitary Drainage (NOPWASD) where the majority of funds are being spent on sanitation in secondary cities and rural areas. At current rates the estimated funding over the 5 year period is over USD 2.5 billion. For the 3 governorates the current planning for sanitation expenditures is about USD 400 million which indicates a co-financing of sanitation infrastructure of just over 22%.

The Following Figure illustrates the boundaries of the NRSP, the initial phase of NRSP in the watershed of El Salam Drain and Rosetta Branch, the government program in the 3 Phase 1 governorates and the PforR Program.

Figure 2: The Boundaries of the national program and the PforR Program



1.4 Objectives of the ESSA

This document, the Environmental and Social Systems Assessment (ESSA), has been prepared by the Bank team, according to the requirements of WBG Operational Policy OP9.00 for PforR financing for adequately manage the environmental and social effects of the program.

The ESSA aims at reviewing the capacity of existing government systems to plan and implement effective measures for environmental and social impact management and to determining if any measures would be required to strengthen them. The specific objectives of the ESSA is to:

- Identify potential environmental and social benefits, risks and impacts applicable to the program interventions
- Review the policy and legal framework related to management of environmental and social impacts of the program interventions
- Assess the institutional capacity for environmental and social management system within the program system
- Assess the program system performance with respect to the core principals of the PforR instrument and identify gaps
- Describe actions to be taken to fill the gaps that will input to the program action plan
- Describe the consultation process for the preparation and implementation of the program

1.5 Methodology of the ESSA

1.5.1 Screening of Environmental and Social Effects According to O.P 9.00 Tool

A preliminary risk assessment has been carried out using the Environmental and Social Risk Screening Format included in OP 9.00, and the likely environmental and social effects have been addressed. Regarding the context, the Program will be implemented in rural areas with health, economic and psychological pressures and polluted watercourses in the downstream of the Nile, so the interventions are expected to effectively address these geographic shortcomings. No sensitive habitats are located within the Program areas and the risk on culturally valuable sites is low. In terms of sustainability, the Program is expected to enhance the sustainability of watercourses through enhancing their quality, the sustainability of agriculture lands through alleviating the rising groundwater table problems and improving the quality of irrigation water. In terms of institutional complexity, the environmental and social issues will be handled through different bodies under the umbrella of MoHUUC and the system is expected to operate without complexity. Regarding the institutional capacity, although is currently

limited, the PAP measures identify measures for improving the capacity. There are no governance or corruption risks associated with the environmental aspects of the Program. The overall environmental risks have been rated as medium and the overall social risks have been rated as substantial. More details are given later in Chapter 4.

1.5.2 Timeline and Approach to Consultations

The Bank's assessment team used various approaches to review the environment and social systems that are relevant to the program. It included review of legislation and guidelines, existing WSC procedures and relevant documentation, review of similar projects, field visits to existing sanitation facilities in the Program area and analysis of different effects.

The preparation of the ESSA involved a series of consultation activities that targeted wide range of stakeholders related to the sanitation sector. In addition to the consultation with the HCWW and the WSCs which took the form of meetings in Cairo and the concerned Governorates/Markazes, number of consultations was arranged with local stakeholder in the villages where the program is going to be implemented including villagers. Consultation activities were also extended to number of the communities that are served with formal sanitation system and selected unserved communities. Consultation with local communities and village-level stakeholders were conducted through focus group discussions and semi-structured interviews. To ensure convenience to the local communities and allow for participation from women, village- level consultations took place in the villages with the Bank team reaching out to the targeted served and unserved communities. Consultations took place in communities' events halls, omda's house, Local Governorate units…etc). The team also conducted a number of transact walks and short semi-structured interviews with key informants from the visited villages.

Figure 3: Selected Pictures for the Conducted Consultations

The following table summarizes the main consultations events during the process of the ESSA preparation. It also presents the consultations timeline including the dates of the key conducted activities, number of participants including a breakdown for women representation.

Table **2**: Summary of the Key Consultation Events Including Timeline

Date	Aim of the consultation meeting	Targeted participants of consolation	Participants (#)	Women (#)	Location
Jan 28, 2015	Consultation for the ESSA preparation (land issues)	WSCs and HCWW	11	1	HCWW in Cairo
Jan 29, 2015	Consultation for the ESSA preparation (community participation)	WSCs and HCWW	16	3	Conrad Hotel in Cairo
Feb 15, 2015	Consultation for the ESSA preparation with Dakahlya WSC	WSC	10	4	Kafr El Zayat, Dakahlya
	Consultation for the ESSA preparation with served local communities	Village level stakeholder including local communities	18	5	Santamay village, Dakahlya
	Consultation for the ESSA preparation with unserved local communities	Village level stakeholder including local communities	13	3	Karf El Noaman village, Dakahlya
Feb 16, 2015	Consultation for the ESSA preparation with Behaira WSC	WSC	6	1	WSC in Damanhour
	Consultation for the ESSA preparation with unserved local communities	Village level stakeholder including local communities	17	1	Kom El Nasr, Behaira
Feb 17, 2015	Consultation for the ESSA preparation with Sharkia WSC	WSC	10	5	WSC in Zakazik
	Consultation for the ESSA	Village level	4	-	El Zalankon,

Date	Aim of the consultation meeting	Targeted participants of consolation	Participants (#)	Women (#)	Location
	preparation with served local communities	stakeholder including local communities			Sharkia
	Consultation for the ESSA preparation with unserved local communities	Village level stakeholder including local communities	14	3	Kom El Helein, Sharkia
Feb 26, 2015	Verification session with the Awareness Department in HCWW	Team of the Public Awareness and Customer Service Department in HCWW	5	2	HCWW in Cairo
March 23, 2015	Verification session with the Awareness Department in HCWW	Team of different relevant Departments in HCWW and WSCs	16	3	HCWW in Cairo
April 21, 2015	Consultation on the draft finding of the ESSA	Wide range of stakeholders from Sharkia Governorate	47	18	WSC in Zakazek, Sharkia
April 22, 2015	Consultation on the draft finding of the ESSA	Wide range of stakeholders from Dakahlya Governorate	32	8	WSC in Mansoura, Dakahlya
April 23, 2015	Consultation on the draft finding of the ESSA	Wide range of stakeholders from Behaira Governorate	81	14	WSC in Damanhur, Behaira

Annex 3 includes the registration sheets of the conducted consultations and Annex 4 includes the photo log of the consultations.

1.5.3 Summary of the main consultation activities

A) Consultation Activities During the Preparation of the ESSA

1. Consultative meetings with the HCWW and the WSCs

The ESSA team had a number of meetings and small workshops with relevant concerned departments from the HWCC and the three WSCs in the targeted Governorates. On the level of the HCWW, the team met with General Department for Public Awareness and Customer Service, the Legal Department and

the PIUs of rural sanitation Bank-financed projects. On the level of the WSCs, the team consulted the members of:

- The Public Relations and the Awareness raising Department
- The teams of the Costumers Service Department
- The Properties Department
- The Hotline Department
- Sanitation Sector
- Quality Sector
- Occupational Health and Safety Department

A total of around 40 staff from the HCWW and the WSCs were consulted to collect information about:

1. The current system, resources and mechanisms for acquiring land, community engagement, handling grievance and complaints, effluent quality control, sludge and septage handling systems, Health and Safety (H&S) procedures and interaction with other stakeholders
2. The shortfalls in the existing systems
3. The proposed actions and recommendations to improve the existing system

1. Consultative meetings with community members and other stakeholders from the served communities

The team met with local community members and stakeholders within the served communities as follows:

1- Santimay village, Dakahlya. A total of 18 community members of men and women, CDAs and community leaders (Sheikh Balad, Omdas, religious leaders) participated
2- Kom El Nasr village[4], Behaira. A total 17 community members of men and women, CDAs and community leaders participated
3- El Zankalon village, Sharkia. A total of 4 community members of men participated.

The consultation with community members and local stakeholders helped the team to get better understanding for the following:

1- The impacts of the implemented projects on the households' level (domestic activities, health, households' expenditure…etc)
2- Households' contributions to get the project implemented
3- How grievances are currently being handled
4- The main recommendations from local stakeholders' perspective for better planning for the rural sanitation projects

[4] Although the village was introduced to the team by the WSC as "served" because the treatment plant and the pumping stations are completed, the meeting revealed that the households do not have connection to the service yet.

5- Land related issues including how the process of land acquisition was managed, impacts of land acquisition and how the process could be improved

2. Consultative meetings with community members and other stakeholders from the unserved communities

The team met with local community members and stakeholders within the unserved communities as follows:

1- Kafr Noaman, Dakahlia. A total of 18 community members of men and women, CDAs, agriculture associations and community leaders Sheikh Balad, Omdas, religious leaders) participated.
2- Kom Hellini, Sharkia. A total of 14 community members of men and women, CDAs, agriculture associations and community leaders Sheikh Balad, Omdas, religious leaders) participated.

The consultation with community members and local stakeholders helped the team to get better understanding for the following:

1- The current situation and the strategies for handling sanitation issues on the households and village level
2- The impact of this situation on the households level (including expenditure, health, impacts on women, children and elderlies…etc)
3- Willingness to contribute for new sanitation projects, including contribution with land
4- Key recommendations for engaging with local communities along the various projects stages
5- Land related issues including availability of land for pumping stations and treatment plants, willingness of local communities to contribute with land and the potential anticipated impacts related to land acquisition

B) Field Observations and transact walks

The team conducted a number of field visits and walks including informal interactions with villagers to record observations and listen to communities' description and diagnosis for the sewage problem within the villages. Community members played a leading role in guiding the walks and advising on the places to visit. The following are the key sites visited in the villages:

- Pumping station in Sentimai, Dakahlya
- Grave yard adjacent to highly populated residential areas in Kom El Nasr, Dakahlya
- Models of poor households of the village Kom El Nasr, Dakahlya
- Streets and commercial areas in El Zankalon village, Sharkia
- Street, households and un-operational pumping station in Kom Hellinin, Sharkia
- WWTPs of Kom Hamada, Sahragt and El Qenayat

C) Verification activities

In addition to the consolation activities to prepare the ESSA, a number of verification sessions were conducted with the PMU, the HCWW and the WSCs to verify the main findings of the ESSA including the impacts, risks, gaps and the measures needed to prepare the PAP.

The first verification session was conducted on Feb 26 with the team of the Public Awareness and Customer Service Department in HCWW to verify the findings related to community engagement and Hotline dimensions. A second session was conducted on March 23 with the PMU, HCWW and WSCs (departments of Public relations, properties, health and safety and labs). The findings from these verification activities were incorporated in this draft of the ESSA.

D) Consultation Activities After Drafting the ESSA

After drafting the ESSA, 3 consultation events were conducted in the 3 targeted Governorates. The consultations took place between April 21 to April 23, 2015. The WSCs supported in the preparation of the consultation events. They prepared invitations and distributed along with Arabic Executive Summary of the ESSA. They also hosted the events in their premises. As indicted in Table 2 above, around 160 participants attended the 3 consultations, with representation from women (40 participants) and significant participation from youth. The main categories of the participants included:

- Relevant Department in the WSCs (Public Relations and Awareness, Hot line, Properties, Labs and Quality Control, Health and Safety, Sludge Management)
- Same departments from the HCWW
- Representation from the Local Governorate Units (LGU)
- Representatives from CDAs and other local level institutes (youth centers, awkaf…etc)
- Directorates of Irrigation
- Directorates of Health
- Directorates of Agriculture
- Directorates of Labor and Manpower
- Environmental Management Unit in the Governorate
- Cleansing and Solid waste Management Unit in the Governorate
- Regional Branch Offices of EEAA (in Zakazik, Mansoura and Damanhour)
- Antiquity Inspection Unit
- Directorate of social solidarity
- Representatives of local communities
- Universities of Zakazik, Mansoura and Damanhour

The consultation session were managed in a highly participatory and interactive manner. Arabic presentation was delivered on the key environmental and social findings of the ESSA. This was followed by open discussions when the participants were encouraged to give their feedback about the ESSA findings. Comments were carefully recorder and reflected, where possible, in the revised version of the ESSA. Comments sheets were also distributed to participants who wished to leave comments in writing. Annex 5 includes details about the received comments, which could be mainly summarized in the following:

Environmental Comments:

- The private networks cause many operational problems. Rehabilitation of such networks could be an option to connect these communities
- Receiving septage should be accounted for in the design of the projects (so that WWTPs can receive high loads of septage). Some of the WSCs are already accepting septage, and this need to be expanded so as to have good geographic coverage.

- Representatives from the Antiquity Authority indicated that the Authority can participate in protecting the antiquity sites during the design phase through clearing sites selected, and during construction through providing site supervision by the Authority to sensitive sites.
- There should be dialogue between the WSC, Directories of Health, Irrigation and Health to give WWTPs that are overloaded grace periods for compliance.
- The exclusion of Gharb El Mansoura WWTP (originally was 135,000 and now 185,000 m3/d after reviewing the plans) should be only for the WWTP, while the networks ending at this WWTP should not be excluded as the networks are separate from the relatively large WWTP. Including these villages, which are located near the Nile, will maximize the benefits of the Program[5].
- H&S requirements are very important, but the main obstacles towards full compliance with such requirements are the budget and the awareness/training of workers. Providing the budget and capacity building for H&S are key factors.
- WWTPs which are located in or near residential settlements should be given priority to improve their performance
- Noncompliant sludge should be disposed in hazardous waste landfill, but there are no such landfill in the Governorate. It might be beneficial to have such site in the Governorate
- The handling of hazardous materials and hazardous waste (include used containers of chlorine) should be included in the Register of WWTPs
- There should be capacity building for the environmental staff in the EMU (along with WSCs staff) among the Program activities
- One of the University representatives recommended to raise the risk on structures from dewatering operations to medium according to their practical experience[6].
- Control on industrial discharges to the network (through monitoring for Law 93) is very important in controlling the quality of the sludge and the quality of final effluent
- Using existing capacities of WWTPs should consider the increase of population from existing served communities
- There should be consideration for establishing fertilizers plant from WWTPs sludge.
- The existing WWTP are overloaded and under maintained and in many cases need urgent renovation.
- In private networks, sometimes the level of water supply pipes are lower than sewerage gravity networks, which elevates the risk of drinking water contamination

[5] This comment has been carefully assessed by the ESSA team and the RSA, it was concluded that it is important to exclude such large WWTPs and their networks to keep the boundaries of the Program
[6] This comment has been addressed in modified versions of the ESSA

Social Comments:

- Law enforcement is critical to minimize the risk for the major violations of the illegal dumping on agricultural drains.
- The readiness of the communities should be taken into consideration. Communities with readily available land and designed facilities should be given priority. This is important for the Program credibility.
- The Program is excellent and highly needed. However, there is still a long way to go in terms of raising the awareness of local communities to mobilize local resources to contribute/finance rural sanitation projects.
- Land is a critical challenge. The idea of signing MoU among ministries is very good but it will need to be supplemented with actions like a “one stop shop” or a “Higher Committee” to be in charge of coordinating all the approvals on fast track.
- Governors should be key partners in signing the Land MoU.
- Community participation is a critical part of the program. If not done probably, the implications will go beyond not meeting a DLI. Other DLIs (including those related to the service delivery and the review of the tariff structure) will not be met without community participation.
- The awareness departments have serious challenge related to the limitations in human resources working in community mobilization.
- It would be beneficial to the Program if the land price is included in capital cost. This would mitigate potential risk related to limitation of resources.
- Upper Egypt WSCs have good experience (Sohag Governorate) for making connections fees affordable to poor households. The Program should be benefiting from this experience in designing the pro-poor strategy.
- More critical role for the media in awareness raising should be played on the national level particularly since the Program is a priority for the Government.
- There is difference between the scope of the awareness as carried out now by the WSCs and the level of community engagement and community participation that the program is aiming for. This shift will require capacity building
- To launch a revolving loan for targeting poor households, the Program may need to seek grants from different donors.
- The role of different actors including NGOs, Youth centers and worship establishments is very important in mobilizing communities.

2 Program Description

2.1 Program Development Objectives

Strengthening institutions for increasing access and improving rural sanitation services in three participating governorates. The PDO level outcomes include (i) increased access demonstrated by number of people provided with access to "improved sanitation facilities" under the project; (ii) annual performance assessment plans designed and implemented; and (iii) strengthened institutional arrangements demonstrated by the adoption of a new National Rural Sanitation Strategy.

2.2 Program Scope and Interventions

The Program will be implemented over a period of 5 years and will focus on achieving 3 main result areas: Improved sanitation access (rehabilitated, extended, and new facilities), improved operational systems and practices of WSCs and strengthened national Sector Framework. Each of the result areas will include the following activities.

2.2.1 Result Area 1: Improved Sanitation Access (rehabilitated, extended, and new facilities)

The Program is structured to incentivize the provision of access to sanitation to about 833,300 people living in the three governorates of Daqahliya, Sharqiya, and Beheira, with each governorate serviced by a separate WSC. Improved access is determined by a connection to a sewer network that is linked to a wastewater treatment facility meeting Egyptian treatment standards, or to any other acceptable sanitation solution (including decentralized treatment facilities). The Program targets 167,000 new connections, or approximately 833,300 people, living in a specified geographic area which covers about 200 priority villages which routinely dump their sewerage into the Nile River system, as well as the satellite villages around them.

The Program will include free household connections, and supports a Pro-Poor strategy. The cost related to individual household connections (except for internal plumbing) is included in the unit cost of connection, and therefore provided free of charge to households. This is justified because of the positive economic externalities related to providing sanitation services: the more households that connect to proper sanitation systems, the greater the positive externalities, or the lower the negative externalities of having unsanitary neighbors (see Economic Justification in Technical Assessment). Free household connections are also justified in terms of being pro-poor: it has been repeatedly demonstrated throughout the world that subsidies for access are more pro-poor than consumption-based subsidies. Further, the Program provides additional incentives to the WSCs to reach out to "satellites", areas generally on the distant outskirts of the main villages, as these satellites are on average poorer and have been excluded from services in the past.

In order to ensure that increased access supported through this Results Area is linked to more sustainable service delivery, the Program will put in place a system of Performance Based Capital Grants (PBCG) from the Central Government to the WSCs to support priority rural sanitation investments identified through the Five Year Plans and included in the Annual Capital Investment Plan of the WSCs. It should be noted that the introduction of the PBCG system would be a key contribution of this program as it would promote a culture of transparency and accountability in the fiscal transfers system.

The performance-based capital grants will be allocated to the WSCs on a per capita basis and will be determined by the ability of the WSC to meet the performance standards set by the MHUUC and measured through a set of Minimum Conditions (MCs) and performance targets with increasing level of ambition throughout implementation of the Program. The Program will start with a base grant allocation for the first two years that will be available to the WSCs upon the satisfaction of the Minimum Conditions. From the third year onwards, in addition to the base grant, a performance-based top-up grant will be provided to the WSCs. The performance-based capital grants will be programmed into the National budget annually and structured as unconditional fiscal transfers that will flow from the National budget into the annual budget of the WSCs, which the WSCs can use to finance the investment projects prioritized in their annual capital investment plans. In case any of the WSCs would not receive the performance top-up, it would be reallocated into the total grant pool available to the WSCs for investment (related to Results Area 1). Performance targets would include operational, financial, institutional and stakeholders' engagement indicators.

2.2.2 Result Area 2: Improved Operational Systems and Practices of WSCs

Participating WSCs will be explicitly incentivized to improve investment planning, operations and maintenance as well as service delivery through the compensation and reward mechanisms built into annual performance assessments (APA). APAs will be designed and implemented on a transparent and predictable basis centered on a formula taking into account of four key dimensions: Operational; Financial; Institutional; and Stakeholder engagement. These performance standards will relate to measures demonstrating performance including for example:

- Operational: comprising of indicators measuring: (1) Non Revenue Water (2) percentage of functioning WWTP in compliance with the Egyptian law and standards (3) Septage management
- Financial: comprising of : (1) Operating ratio (2) Collection Efficiency
- Institutional: addressing areas such as (1) Efficient Procurement Processes (2) Implementation of Environmental and Social Safeguard measures
- Stakeholder Engagement: addressing areas including (1) Communication and engagement with Citizens in WSC processes (2) Effective Grievance Handling measures

By introducing concrete indicators on operation and maintenance of the systems, as well as on stakeholder engagement, the Program intends to address key issues that currently undermine performance of the WSCs. Moreover, it should be highlighted that the GoE has agreed to allocate significant resources to strengthen these dimensions in the proposed service delivery model. By strengthening the overall capacity of the WSCs to ensure effective operation and maintenance, the

sustainability of all investments, including those directly financed through the Program, will be enhanced.

Cost recovery will be one of the critical factors in determining the performance score of the respective WSC. The performance improvements put in place as well as the APA score will help support and incentivize each WSC to improve efficiency and reduce costs. Because the Program is structured as results-based, therefore not prescribing any specific technology (although following Egyptian standards), it is expected that unit costs should eventually decrease. And because the Program places the investment planning responsibility with the WSCs, it is expected that the WSCs, HCWW and the MHUUC will strive for more cost efficient solutions that would bring operating costs down by better aligning investment choices with feasible and efficient operating procedures.

Accountability to citizens will form a critical pillar of the APA "formula" described above, and of performance improvements supported more broadly through the Program. Citizen engagement through beneficiary feedback surveys, awareness campaigns, strengthened communications systems of WSCs, and the development of a strategy for serving the poor are all integral to the Program. They are incorporated either directly through results-based incentives, required measures, or through capacity building programs. Engaging and including women will be an important element within the stakeholder engagement activities. Women play a key role in setting and shaping health and sanitation attitudes in the household, and therefore women must be at the center for any citizen engagement strategy to be successful.

Centralized organizations, such as the HCWW, will provide necessary guidance, technical and advisory support to WSCs to design and implement performance improvement action plans (PIAP) for addressing managerial and operational gaps and weaknesses, and thereby enable the WSCs to achieve better scores on their annual performance assessment. The PIAPs would include measures to improve performance across the areas described above (i.e. operational, financial, institutional and stakeholders engagement). In line with their role as the holding company of WSCs in Egypt, the HCWW will coordinate the Program support for strengthening institutional capacities and improving institutional performance of WSCs. The HCWW and the three WSCs will identify gaps and weaknesses in the existing systems and processes of the WSCs with a focus on the areas measured under the annual performance assessment. Based on these assessments, HCWW and the WSCs will work together to prepare performance improvement action plans (PIAPs) to enable each WSC to address these gaps and weaknesses so that the WSCs can achieve the threshold scores in the annual performance assessments. HCWW will also provide implementation and advisory support, as necessary, to the WSCs to execute the performance improvement action plans. The Egypt Water Regulatory Authority (EWRA) is expected to play a critical role in the assessment of the WSCs performance, which will be strengthened given its appointment as the Program's Independent Verification Agent (IVA). The Water and Sanitation Program (WSP)[7] support to EWRA will provide specific technical and financial resources for publication of WSCs performance and establishment of a national benchmarking system that will ensure that the citizen engagement dimension of the Program will be enhanced in the participating WSCs.

[7] One of WBG Global Practice programs

2.2.3 Result Area 3: Strengthened National Sector Framework

MHUUC will coordinate the Program activities for strengthening the enabling environment that will allow for more efficient and accountable rural sanitation service delivery and lend more fluidly to future scaling-up. This includes: (i) development of a tariff structure for water and sanitation services that would enable cost recovery; (ii) the formulation of a revised and strengthened National Rural Sanitation Strategy and the creation of a Central Unit (i.e. the PMU) which will be responsible for the coordination of the National Rural Sanitation Program and implementation of the Strategy; and (iii) finalization of the standard operating procedures for land acquisition. These measures are critical elements for the long-term sustainability of the sector. A series of consultations and citizen engagement will help embed these institutional changes more firmly into the sector. The PforR Program being implemented in the three governorates will in particular rely on these institutional changes to support the deeper changes in service delivery mechanisms being implemented. These broader institutional reforms and national strategy developments will in turn enable replicability and scalability of the new service delivery mechanisms being piloted by the Program.

The MHUUC will also undertake or commission relevant policy and analytical studies to inform the policy making process in the sector. Support will also be provided to the EWRA to enhance its capacity to build and sustain an effective regulatory and oversight framework. Additionally, support will be provided to oversight agencies such as the Central Auditing Organization of Egypt, to conduct regular and timely financial audits of WSCs as well as to carry out performance audits of the Program under their mandate. The WSP will be carrying out a Public Expenditure Review (PER) in coordination with the Program. The findings of the PER will inform the broader sector policy dialogue within the Government as well as between the Government and the development partners in terms of policy choices and financing sustainability in the sector. With the decision of the Government to move to a more decentralized model of service delivery, these policy and regulatory initiatives will set the stage for providing a strong enabling framework for empowering the WSCs to become efficient and accountable service delivery institutions. This will also clarify the current overlap of institutional roles and responsibilities that act as a deterrent to clear institutional accountabilities.

2.3 Institutional Set-up

To serve the NRSP, MHUUC have set up a Program Management Unit (NRSP-PMU). The main responsibilities of the PMU will be:

- to prepare, oversee and report on the NRSP;
- to coordinate, monitor and report on external support to the NRSP and World Bank financed PforR,
- to spearhead consolidation of the sector reforms.

The PMU will be the formal implementing agency for the PforR but with day to day implementation delegated to the WSCs. The PforR activities will be carried out by a number of executing agents. The main executing agency will be the WSCs (through PIUs) who will be responsible for result area 1 (sanitation access); the WSCs and HCWW will both act as executing agencies for result area 2 (operational improvements) and, the MHUUC and others will act as executing agencies for result area 3 (enabling environment). The principle of subsidiarity will apply; meaning that all those functions that can

be done better or as well at a lower level will be undertaken at the lower level. The PMU will be supported by A Program Management Consultancy Firm (PMCF) will be attached to the PMU to assist in carrying out its preparation, oversight, coordination and reporting tasks. WSC Implementation Support Consultants (ISC) will be attached to a PIU in each of the three WSCs to assist the WSCs in carrying out construction planning and management and to improve their performance in this area. The ISCs attached to each WSC will be responsible for:

- Feasibility level and detailed design
- Tendering and procurement support services for all relevant works (contractors, construction supervision services and time limited operator services where relevant)
- Construction supervision services
- Endorsement and confirmation of adherence to contract conditions for invoices of all relevant works (contractors, construction supervision services and time limited operator services where relevant)
- Follow-up the implementation of ESIAs measures during the projects implementation

The structure and staffing of the PIU will depend on the preferences of the WSC. Some have indicated a preference for seconding specialist staff from the sanitation and other sections e.g. legal; others have indicated that they prefer to staff the PIU with project managers in charge of a batch of projects with access to legal and other specialist inputs within the WSCs. The structure of the PIU in each WSC will be one of the PAP actions and will be based on a standard but dependent on the circumstances and preferences of the WSC.
The PMU will support the WSCs to measure progress using M&E system and will collate the results to assess progress in achieving the DLIs. The results across the Program region will be aggregated as the basis for meeting the DLIs. Once satisfied with the accuracy of the reporting, the PMU will present evidence of the DLI achievement to an Independent Verification Agency (IVA), which is tasked with verifying the results. In order to validate the disbursement request submitted by the PMU, the Independent Verification Agency will verify all DLI target indicators through both a desk review and physical inspection.

2.4 Disbursement Linked Indicators

The results framework to support the Project Development Objective is structured into three results indicated in the following Table.

Table 2: Program Result Areas and DLIs

DLI	Purpose	Definition & Measurement
Result Area 1 – Improved Sanitation Access		
DLI 1. Number of new functioning household connections to working sanitation facilities, with percentage targeting satellites	Major DLI that measures the increased coverage of sanitation. Satellites percentage helps ensure that smaller often poorer satellites are included	Household means the people served by a single water connection. Working sanitation facility means treatment to Law 48

DLI 2. Performance Grant (PG) allocated and disbursed annually by MoF to MHUCC and to eligible WSCs in a timely manner	To ensure the financial incentive for improved performance of the WSCs.	

Result Area 2 – Improved Operational Systems and Practices of WSCs		
DLI 3. Annual Performance Improvement Action Plans for the WSCs designed and implemented	Relates to the improved planning and capacity of the WSCs. The annual performance action plans are to be designed and implemented under the guidance of HCWW to trigger the disbursement.	
DLI 4: Annual Performance Assessment (PA) system for WSCs designed and Implemented and WSCs have attained the required PA threshold Scores	The annual PA is based on a formula based on improved operational and financial performance, institutional strengthening and stakeholder engagement, based on (but not limited to) KPIs already used by the WSCs.	Use existing measures and tools such as TSM and KPIs but focus on problem areas, in particular procurement, pro poor citizen engagement and operating ratio.

Result Area 3 – Strengthened National Sector Framework

DLI 5. New National Tariff structure to allow for sustainable cost recovery approved	Financial sustainability	The PAP will need to evaluate what is the appropriate tariff level for cost recovery under efficient management (including staffing levels)
DLI 6. Central Unit for implementing the National Rural Sanitation Plan in place and a Strategy for National Rural Sanitation prepared	To ensure replicability for the national program	The role of the PMU will need further definition in the PAP, which will also need to agree a definition of the scope and purpose of the revised national strategy.
DLI 7. Standard operating procedure on Land acquisition procedure for NRSP issued by MHUUC.	To streamline the current complex process which involves many organizations.	Should include simplification of current regulations and mandates, not just documenting the current processes.

3 Description of the Existing Environmental and Social Management System

3.1 Policy and Legislation

In general the local legislation, policies and guidelines sufficiently addresses the environmental and social issues associated with the Program, with few gaps as identified in the following sections.

3.1.1 Environmental Assessment

Environmental assessment for projects is included in the Law 4/1994 modified by Law 9/2009 or "The Law for the Environment", which is the main legislation regulating environmental protection in Egypt, it is being regulated by The Ministry of State for Environmental Affairs (MSEA) and its executive agency the Egyptian Environmental Affairs Agency (EEAA). Since the effectiveness of the Law in 1994 significant improvements have been introduced to the environmental legal system following the gained experience through implementing the law in the past 20 years.

The Country Environmental Analysis (CEA) report for Egypt, issued by the WBG in 2005, indicates that, historically, the enforcement of environmental laws in Egypt was not very successful mainly due to fragmentation among regulatory institutions, licensing agencies, police authorities . . . etc. The CEA further clarifies that since 2003, there have been substantial efforts to improve this situation as "Major institutional and organizational reforms have taken place within the Environment and Surface Water Police of the Ministry of Interior. The Central Department for Environmental Inspection & Environmental Compliance in EEAA was further strengthened. Periodic monitoring and inspections are made by this directorate, especially for controlling air emissions and waste water discharges. Furthermore, the preparation of environmental registers and compliance action plans has increased as a result of the continued monitoring of the various commercial and industrial establishments".

According to Law 4/1994 the Environmental Impact Assessment (EIA) is a licensing requirement for development projects that are likely to cause impacts to the environment. EEAA has issued Guidelines for preparing EIAs in 2005, these Guidelines have been modified in 2009, and is currently being reviewed for another possible modification.

The CEA indicates that the features of the Egyptian EIA system are generally compatible with the corresponding features of World Bank Operational Policies (OP 4.01), but with few gaps regarding the preparation and follow up of the Environment Management Plans (EMP), the consultation, disclosure and dissemination of the EIA reports, however, the CEA mentioned that Since 2004, there have been serious efforts by EEAA to improve the EIA information dissemination through the design of an EIA database. After 2005, when the CEA was issued, there have been significant improvements in the EIA systems that have, to a great extent, bridged those gaps. The requirements for consultation and dissemination of EIA reports have been officially added to the EIA requirements in the new Guidelines

issued by EEAA in 2009. These Guidelines have been made with support from the WB and in compliance with its general requirements. The social aspects have been also integrated in the new Guidelines, the definition of EIA according to the Guidelines reads: "*EIA process is the systematic examination of consequences of a proposed project, aiming to prevent, reduce or mitigate negative impacts on the environment, natural resources, health and social elements as well as capitalize on positive impacts of the project*", the social aspects are integrated in the Guidelines through the EIA screening process, description of baseline conditions, assessment of impacts, analysis of alternatives and preparation of management plans.

Currently the EIA guidelines classifies projects into the classifications according to their expected impacts:

- Class C, which includes the higher impacts projects (equivalent to Category A according to WBG classification) requiring full-fledged EIA. According to the 2009 Guidelines, WWTPs and sewerage networks are among this category.
- Form B projects, requiring Form B EIA with less level of details that Class C EIA
- Form A projects, requiring From A EIA with less requirements than above
- Special Condition projects, which do not require EIA but will be licensed given that the project developer will comply with certain standard requirements
- Projects that are not subject to the EIA and environmental licensing system

The classification of all wastewater facilities (treatment and networks) among the highest impacts class was introduced in 2009 Guidelines. In the older Guidelines of EIA, only WWTPs of more than 1,000,000 Population Equivalent (PE) were classified as the highest category, while WWTPs from 1,000 to 1,000,000 PE were classified as B, and WWTPs less than 1,000 PE were classified as A (the least category).

It is worth noting that classifying all sanitation facilities among the highest assessment category is more stringent than the requirements in many other environmental assessment legislation/standards, including the WBG safeguard policies as discussed in further details in Chapter 4. Most of environmental assessment screening of projects depends on subjective evaluation of the project impacts based on its size, location, zone of influence, sensitivity of receptors … etc. However, some countries are using quantitative criteria showing some threshold size of projects that trigger mandatory comprehensive environmental assessment. The table below shows the screening criteria used in the environmental assessment legislations of some countries.

Table 3: Environmental assessment screening category in legislation of some countries

	Highest impact category	**Middle impact category**	**Lowest impacts category**
European EIA Directive (85/337/EEC), amended by Directive 2011/92/EU	WWTPs > 150,000 PE. Requires mandatory EIA	WWTPs<150,000 PE and sludge deposition sites Requirement of EIA to be identified by member states case by case based on screening criteria. For example in UK, WWTPs exceeding 1,000 m2 and sludge deposition sites of areas more than 0.5 ha are identified as requiring EIAs	EIA categories are only two. Other projects do not need to carry out EIAs
Belarus Environment Law	WWTPs with discharge exceeding 5% of the receiving water body	Other developments may require EIA case by case	EIA categories are only two. Other projects do not need to carry out EIAs
Saudi Arabia Environment Protection Law	WWTPs and sewerage networks and their extensions. Requires detailed EIA	No sanitation projects	No sanitation projects
Lebanon (Decree 8633 for Environmental Assessment)	WWTPs and outfalls	Sewerage networks	EIA categories are only two. Other projects do not need to carry out EIAs
Jordan (Law 37/2005)	No sanitation projects	All infrastructure projects	EIA categories are only two. Other projects do not need to carry out EIAs

It is worth noting that the Bank's team met with MSEA officials responsible for EIA system during the preparation of this ESSA, and knew that the EIA Guidelines and the EIA screening criteria are currently under review by MSEA/EEAA, including the screening criteria for sanitation projects.

Regarding the procedures of environmental assessment, the EIA preparation and fulfillment of the EEAA requirements is well defined in the Guidelines. Also The EIA approval is well integrated in the licensing system for new projects, especially the sanitation projects.

3.1.2 Effluent Standards

The Nile Protection Law 48/1982 is the main legislation regulating water quality in the River Nile, its two branches, canals, drains and groundwater aquifers. The Law sets certain standards for ambient water quality in freshwater bodies, drains that are discharging to freshwater bodies and effluents that are discharged (from WWTPs, industrial and tourist facilities) to freshwater bodies and drains.

The Law prohibits the discharge of WWTPs effluent to freshwater bodies and only allows it to be discharged to drains if it meets the standards shown in the table below.

Table 4: Effluent Standards for WWTPs discharging to drains under Law 48/1982 according to the latest modifications in 2013

Parameter	Allowable limit	Parameter	Allowable limit
pH	6-9	Chromium (mg/l)	0.1
Temperature	< 3°C above receiving watercourse	Copper (mg/l)	0.5
BOD (mg/l)	60	Nickel (mg/l)	0.5
COD (mg/l)	80	Zinc (mg/l)	2
DO (mg/l)	>4	Iron (mg/l)	3.5
O&G (mg/l)	10	Total Coliforms (MPN/100 ml)	5,000
TDS (mg/l)	2,000 and 5,000 in coastal areas	Aldrin and dieldrin (mg/l)	0.015
TSS (mg/l)	50	Alachlor (mg/l)	0.1

Parameter	Allowable limit	Parameter	Allowable limit
Sulfates (mg/l as H2S)	1	Aldicarb (mg/l)	0.5
Free cyanides (mg/l)	0.1	Atrazine (mg/l)	0.1
Phenols (mg/l)	0.05	Bentazone (mg/l)	0.15
Murcury (mg/l)	0.01	Carbofuran (mg/l)	0.35
Lead (mg/l)	0.1	Chlordane (mg/l)	0.01
Cadmium (mg/l)	0.003	2,4 – Dichoroprop (mg/l)	0.5
Arsenic (mg/l)	0.05	Fenoprop (mg/l)	0.5
Selenium	0.1	Mecoprop (mg/l)	0.45

The law also stipulates that treated effluent should be disinfected by chlorination, where the remaining free chlorine in the effluent should be between 0.5-1 mg/l.

The Law has been modified many times since its issue, the latest modifications were in 2009 and 2013 (which is the current version). In the 2009 version, nutrients (total nitrogen and total phosphorous) were added to the standards where the maximum limit for total nitrogen was 10 mg/l and that of phosphorous was 2 mg/l, while the 2013 modifications have removed those nutrient standards but indicated in Article 54 that within 2 years from the activation of the latest modifications, total nitrogen, total phosphorous, ammonia and Ascaris Eggs will be reviewed. The Law is regulated mainly by Ministry of Water Resources and Irrigation (MWRI), while effluent samples are taken, according to the Law, by MoH.

Although the effluent standards in Law 48/1982 are not highly stringent if compared to effluent standards in other countries, as indicated in the table below, the application context in Egypt shows that it is actually very demanding, mainly due to the large uncovered areas with sanitation services and the amount of investments needed to connected those areas to secondary treatment with disinfection. Also some WWTPs which are overloaded require further investments to meet the effluent standards set by the law through capacity extensions. Within this context, the introduction of nutrients standards in 2009, and is currently under review, would have required many improvements in the existing WWTPs to allow for nutrients removal which would have required extra investments.

Table 5: Effluent standards in a number of countries

	Law 48/1982	Clean Water Act in USA – secondary treatment standards	EC Directive 91/271/EEC concerning Urban Wastewater Treatment	Saudi Arabia Environment Protection Law	National Environmental Quality Standards in Pakistan
BOD	60 mg/l	30 mg/l based on 30-day average with removal efficiency > 85% and 45 mg/l based on 7-day average	25 mg/l and minimum reduction in the WWTP is 70-90%	25 mg/l	80 mg/l
COD	80 mg/l	n/a	125 mg/l and minimum reduction in the WWTP is 75%	150 mg/l	150 mg/l
SS	50 mg/l	30 mg/l based on 30-day average with removal efficiency > 85% and 45 mg/l based on 7-day average	35 mg/l for PE > 10,000 with minimum reduction in WWTP 90% and 60 mg/l for PE < 10,000 with minimum reduction in WWTP 70%	15 mg/l	150 mg/l
P	Under review	n/a	For sensitive water bodies only: 2 mg/l for PE 10,000 – 100,000 and 1 mg/l for PE > 100,0000	1 mg/l	n/a
N	Under review	n/a	For sensitive water bodies only: 15 mg/l for PE 10,000 – 100,000 and 10 mg/l for PE > 100,0000	5 mg/l	n/a

The existing watercourses suffer from many pressures from untreated sewage discharge (from uncovered areas with sanitation), solid wastes, agriculture wastes and industrial wastes, which has contributed to having low surface water quality and many of those watercourses do not comply with the ambient water quality standards of Law 48/1982, and some drains have deteriorating water quality even lower than the effluent standards of WWTPs. Accordingly, complying with the existing effluent standards is reducing pressures on existing drains as significant amounts of pollutants are removed by WWTPs to comply with the law. Making the effluent standards stricter may, theoretically, yield environmental benefits in terms of more pollutants removal, but practically it would lead to a situation where many WWTPs might be uncompliant unless they receive additional funds for treatment capacity,

or else they might bypass portion of the influent to keep the standards, which might lead to a cumulative negative impact on surface water quality.

3.1.3 Handling of Sludge

The handling of sludge generated at WWTPs is regulated through Law 93/1962 and the Executive Regulations by Decree 44/2000. According to the Law sludge should be stabilized through aerobic, anaerobic, thermal treatment, addition of lime, co-composting with solid waste or laying in drying beds for 6 months. The laying of sludge in drying beds should be done in 15-cm layers with maximum of 3 layers, the drying beds should be adequately isolated from the subsurface soil and groundwater. If the dried sludge is to be used as organic fertilizers it should meet the standards shown in the table below, otherwise it should be landfilled or safely incinerated.

Table 6: Sludge standards that should be met before utilization as fertilizer

Parameter	**Allowable limit**	**Parameter**	**Allowable limit**
Zinc (mg/kg)	2,800	Molybdenum (mg/kg)	18
Copper (mg/kg)	1,500	Selenium (mg/kg)	36
Nickel (mg/kg)	420	Arsenic (mg/kg)	41
Cadmium (mg/kg)	39	Faecal Coliforms (cells/gm dry wt)	1,000
Lead (mg/kg)	300	Salmonella (cells/100 ml @ 4% dry wt)	3
Mercury (mg/kg)	17	Ascaris eggs (live egg/100 ml @ 5% dry wt)	1
Chromium (mg/kg)	1,200	Ascaris (no of species)	3

The Law puts further limitations on the sludge distributer/user when he applies the sludge, including limitations for the lands that will receive the sludge, the crops that will be cultivated, the transportation/handling procedures and the rate of application according to soil type (8-14 m^3/feddan/year for thick soil, 10-16m^3/feddan/year for medium soil and 12-20 m^3/feddan/year for light soil).

The above standards are generally equivalent, and more stringent in some parameters, with the sludge standards set in the US Environmental Protection Agency[8], however, the application of such standards by the WSCs has many gaps as indicated later.

3.1.4 Management of Sewerage Networks

Connecting households, and other commercial industrial facilities, to the sewerage networks is controlled under Law 93/1962 and Decree 44/2000. The Law stipulates that the final inspection chamber of sewage at the household should be adequately designed and leveled to smoothly convey the sewage discharge to the sewer at the road. Commercial and industrial units (including car services facilities, bakeries, mills, animal barns and other facilities that produce non-regular wastewaters) should install solids settlement and/or oil separation chambers before discharging to the public sewer. The Law provides standards for the wastewater parameters (as indicated in the table below) that could be accepted in the network, so that industries and commercial establishments generating high load wastewater should install pretreatment units for their wastewater before discharging to the sewer.

Table 7: Standards for wastewater received in the network

Parameter	**Allowable limit**	**Parameter**	**Allowable limit**
pH	6-9.5	Settleable solids (cm3/liter after 30 minutes)	15
Temperature (° C)	43	Total Heavy Metals (mg/l)	5
BOD (ppm)	600	Chromium^{+6} (mg/l)	0.5
COD (ppm)	1,100	Cadmium (mg/l)	0.2
TSS (ppm)	800	Lead (mg/l)	1
Oil and Grease (O&G) (ppm)	100	Mercury (mg/l)	0.2
Sulphates(ppm)	10	Silver (mg/l)	0.5
Total Nitrogen (ppm)	100	Copper (mg/l)	1.5
Total Phosphorous (ppm)	25	Nickel (mg/l)	1
Cyanides (ppm)	0.2	Arsenic (mg/l)	2
Phenols (ppm)	0.05	Tin (mg/l)	2

[8] 40 CFR 503 Subpart D

Parameter	Allowable limit	Parameter	Allowable limit
Settleable solids (cm3/liter after 10 minutes)	8	Boron (mg/l)	1

The design and operation of networks and pump stations are regulated through the Engineering Codes issued by Decrees 286/1990 and 268/1997 respectively. The Codes provides the standards that should be applied during design, construction and operation of networks and PSs to avoid blockage, seepage, structural collapse, hydraulic and electromechanical malfunctioning … etc. Private networks are not allowed except after having licensing from the regulatory authority and after fulfilling the requirement of the Engineering Codes.

3.1.5 Handling of Septage

The discharge of septage evacuated from individual septic tanks and cesspits to freshwater canals or drains is not allowed according to Law 48/1982. Also the discharge of septage to land is not allowed according to the General Cleansing Law 38/1967, and it should, according to the Law, disposed in locations identified by the Local Authority. In terms of application, the implementation of these conditions showed little success due to difficulty of enforcement.

3.1.6 Handling of Hazardous Substances

The handling procedures of hazardous substances and wastes are included in Law 4/1994 with adequate level of details. These procedures includes identification, segregation, labeling, documentation, monitoring and emergency response. Such procedures are generally in conformity with the requirements of the Environmental Health and Safety (EHS) of the WBG (General EHS Guidelines) according to General International Industry Practice (GIIP).
The handling of liquid fuels, usually stored at WWTPs and PSs for back-up generators and also used during construction, is generally regulated by Law 4/1994 which stipulates that the storage should be according to adequate engineering requirements but does not specifically demand having an impervious secondary containment of 110% of storage tank volume as required in EHS Guidelines.

The handling of chorine cylinders, which is the most common hazardous substances handled within WWTPs, is further detailed in the Engineering Code for Wastewater Treatment Plants (Decree 169/1997), the Code includes design specifications and operational guidelines for handling chlorine cylinders that consider minimizing the risk and adequate response to emergencies. Law 4/1994 (Annex 8) gives detailed thresholds for allowable concentrations of certain chemicals in the work environment, where the maximum threshold for chorine is 0.5 ppm for 8 hours of exposure and 1 ppm for short exposure (15 minutes). This is the same limits given by the US Occupational Safety and Health Act (OSHA) but it is worth noting that the permissible exposure level according to the US National Institute for Occupational Safety and Health (NIOSH) is 0.5 ppm for maximum exposure of 15 minutes.

3.1.7 Solid Waste Management

Solid waste is usually accumulated in screens of WWTPs and PSs as well as removed from grit removal chambers, this separated solid waste should be adequately handled by the facilities. Solid waste management is regulated by specific articles of Law 4/1994, in addition to the General Cleansing Law 38/1967. Both laws require waste generators to place their waste in allocated locations identified by the local authority. This is consistent with the EHS Guidelines which require management of the waste in a way which is consistent with the waste characteristics and conforming to local regulations, however, the EHS Guidelines give examples for the suitable facilities for waste disposal as engineered landfills, composting plants, safe incinerators or bioremediation sites. This is not usually available in the Egyptian context especially in rural areas, however, best available technologies should be employed to ensure safe disposal of solid waste. Usually available option in rural areas is to safely collect, transport and dispose the waste in site approved by the local authority. Although sometimes this site could be an open dumpsite, but this is the available method of disposal that would cause least environmental impacts.

3.1.8 Air Quality

Ambient air quality standards of Law 4/1994, according to the latest modifications of 2012, includes acceptable limits for SO_2, CO, NO_2, O_3, PM, PM_{10}, $PM_{2.5}$, Pb and NH_3. The WBG General EHS Guidelines[9] include guideline values for all these parameters, while CO, Pb and NH_3 regulated in Law 4/1994 are not included in the EHS Guidelines. The Law 4/1994 limits generally meets with the interim targets of the EHS Guidelines[10], with few exceptions, while it is much less stringent than the guideline values. This gap is not expected to be triggered, as the Program interventions have very little effects on the ambient concentrations of the parameters included in EHS guidelines, as the sources of fuel combustion will only be temporary during construction and operation.

For air emission from point sources Law 4/1994 provides certain standards for height of stacks as well as allowable limits for PM, CO, SO_2 and NOx. Stack height standards of Law 4/1994 is relating to the height of adjacent structures, while it is not using the GIIP equation used in the EHS guidelines, the stack height requirements in Law 4/1994 could be more stringent as it requires height of 2.5 times the height of adjacent buildings with minimum height of 18 meters. The Law 4/1994 limits for PM and NO_2 meet, or more stringent than, the EHS Guidelines limits.

It is worth noting that there are no specific regulations for odor control, and the allowable ambient concentration of ammonia (120 µg/m3), however, the detection and recognition thresholds of ammonia are much less concentrations. Therefore the regulation of odors mainly depends on complaints of neighboring areas of wastewater facilities and the documentation of those complaints in Environmental

[9] Which are also the WHO ambient air quality guidelines

[10] The interim targets are considering stepped approach for achieving the guideline targets.

Register as required by Law 4/1994. Also the Ministry of Health (MoH) has introduced a condition that WWTPs should be at least 500 meters from the nearest official settlements to safeguards against odor and vermin impacts (Decree 27/1997).

3.1.9 Noise

Law 4/1994 includes standards for ambient noise during night and day, in addition to standards of occupational noise and correspondent exposure periods. The ambient noise standards are matching with the correspondent EHS Guidelines, but the later includes additional requirement that noise caused by an activity should not raise the background noise by more than 3 dB. The Program interventions are not associated with noisy equipment during operation as most pumps and blowers are indoors and usually no major noise impacts are detected at the boundaries of wastewater treatment facilities.
For the occupational noise, the maximum noise allowed by Law 4/1994 is 90 dBA for 8 hours only for establishments that have been licensed before 2011, which is slightly higher than the maximum occupational noise indicated in the EHS Guidelines 85 dBA for hours. However, such gap is not expected triggered by the Program interventions because usually workshops at WWTPs or PSs only includes minor works that do not extend for many continuous hours.

3.1.10 Health and Safety

The Labor Law (Law 12/2003) is the main legislation regulating H&S issues, the Law comprises a Chapter on working environment and health and safety issues, and also includes a comprehensive annex on the safety standards to minimize physical, dynamic, biological and chemical risks.
The physical risks identified by the Law includes heat stress, cold conditions, noise and vibrations, light intensity, explosion, radiation and pressure. The noise standards, which are the same limits stipulated in Law 4/1994. The light illumination standards are given in the law for different types of work, and they are more stringent than the minimum illumination limits given in EHS Guidelines. Other physical risks indicated in the Law has little relevance to the Program.

The dynamic risks are related to moving objects and collision risks. The Law provides details of the required precautions to be taken during construction and demolition activities, especially the safety requirements for working at heights, scaffoldings, stairs, elevators, demolition works, excavation works and access to work sites. Electric risks are also considered in the Law among the dynamic risks, and there are requirements to ensure adequate insulation of live electric conductors and instruments. The Law includes stipulations for safe working environment for construction labor, including providing safe working conditions against dynamic risks and necessary PPE.

Biological risks are related to working in areas exposed to pathogens. The Law identified certain requirements for safeguarding against getting infected, these requirements include having a system for safe handling of food in designated areas within the establishment, regular vaccination for the workers against correspondent pathogens, provide adequate PPE, carryout adequate cleaning and housekeeping, provide facilities for personal hygiene, provide healthcare and first aid equipment and

provide training. The Law also stipulates that establishments where workers that are handling unclean materials, that may contaminate their cloths and bodies, should be provided with areas for washing and changing their contaminated cloth before they leave.

Chemical risks are related to the exposure to harmful chemicals, where the most relevant chemical to wastewater facilities is chlorine, which has been discussed earlier.

The Law also comprise stipulations for regulated establishments for taking measures to protect against fire risks, and should abide to the requirements of Civil Defense Department, including installing fire detectors and adequate extinguishing equipment. Furthermore, The National Housing and Building Research (NHBRC) has issued the Egyptian Code for protecting structures from fire in four parts detailing the requirements that should be taken during design, finishing and operation of different buildings to safeguard against fire risks. The Code has been prepared, as indicated in its introduction, according to international standards such as the US National Fire Protection Association and the British Standards.

The Law also requires regulated establishments to prepare emergency plans, tools for preventing accidents and handling casualties in emergencies. The Law gives comprehensive standards that would minimize occupational health and safety risks.

3.1.11 Natural Habitats

Natural habitats are regulated in Egypt by Law 102/1983, where 28 areas have been declared as protected areas in addition to 144 islands along the River Nile. The Law restricts the establishment of structures, roads, agriculture, industrial or commercial activities unless a permit is granted from the competent administrative authority. None of the protected areas are located within the Program boundaries.

In addition to the protected areas regulated by Law 102/1983, EEAA has identified 34 areas as important birds areas, some of them are coinciding with the protected areas and some are not. The identification of important birds' areas is meant to be guidance for planning authorities, including EEAA in clearing EIAs, for taking measures for protecting birds, especially rare and endangered ones. Lake Manzala is the only bird important area located within the Program geographic boundaries, and it is known for being route of migratory birds during autumn.

3.1.12 Cultural Heritage

Law 117/1983 has been issued for protection of antiquities and culturally valuable sites. Being one of the richest countries of the World with antiquities from ancient civilizations, the GoE gives the Law high importance and weight.

The Law defines antiquities as "each structure or movable object produced by different civilizations". The definition includes productions of arts, science, literature and religions from ancient ages up to 100 years ago. The definition also includes human corpses, and species, which have remained from the ancient ages. All discovered antiquities are registered by Decrees of the Minister of Antiquities. The Law

includes stipulations for structural protection of known and unknown antiquities through certain procedures for chance finds. The stipulations of the Law would adequately safeguard against negative impacts during construction phase of the Program interventions, and the Antiquity Authorities are closely inspecting the protection of registered sites.

3.1.13 Land tenure and Related Laws to Land Expropriation in Egypt

A. Land Tenure

There are three main forms of land ownership in Egypt:

- Public or State land (in Arabic Amlak Amiriya), which is divided into the State's public domain that cannot be alienated and the State's private domain, which can be alienated generally through sale, lease, Takhssiss (i.e. transfer of ownership conditional on meeting certain criteria, such as keeping the land use unchanged and paying the remaining instalments of the land price) or through Haq Intifaa (i.e. usufruct);
- Private land (in Arabic Mulk horr), which may be alienated/transferred freely; and
- Waqf land (land held as a trust/endowment for religious or charitable purposes), which is often subject to covenants on transfer or use, and which is typically transferred through leasehold or usufruct.

B. Egyptian Constitution

The Egyptian Constitution recognizes three main types of ownership. Article 33 of the 2014 Constitution provides that "the State shall protect ownership with its three types: the public, the private and the cooperative."

Article 35 of the Constitution further provides that "private properties shall be protected, and the right to inheritance thereto is secured. It is not permissible to impose guardianship there on except in the cases defined by Law and by virtue of a court judgment. Expropriation shall be allowed only in the public interest and for its benefits, and against fair compensation to be paid in advance according to the Law."

According to the Constitution (Article 63), all types of involuntary relocation using force or excessive violence is banned and whoever violating this article will be brought to court" According to this article, it is understood that amicable procedures for the private property expropriation is guarantee by law. The competent jurisdiction shall be entitled to take cognizance of the lawsuits raised by individuals against the administration for appropriate compensations.

C. Other relevant laws and regulations

As mentioned above, the Constitution prohibits the expropriation of private property except for public interest against compensation determined pursuant to the law. Law 10 of 1990 concerning the Expropriation of Ownership for Public Interest was issued to reflect this constitutional mandate. In

addition, expropriation of property is further regulated by Law 59 of 1979 concerning the Establishment of New Urban Communities and Law 3 of 1982 concerning Urban Planning.

The term “public interest” in the context of expropriation has been defined in Article 2 of Law 10/1990. The Article specifies the acts that are considered for public interest. These include:

- Constructing, widening, improving, or extending roads, streets, or squares, or the construction of new districts.
- Water supply and sewage projects.
- Irrigation and drainages projects.
- Energy projects.
- Construction or improvement of bridges, cross roads for railway and tunnels,
- Transportation and telecommunication projects.
- Urban planning purposes and improvements to public utilities.
- Other acts considered as acts for public interests mentioned in other laws.

In addition, other laws have also added some acts which are as follows:

- Law 3 of 1982 concerning Urban Planning added to the foregoing list acts aiming at the establishment of green areas and public parking.
- Prime Ministerial Decree No. 160 of 1991 added to the list the establishment of governmental educational buildings.
- Prime Ministerial Decree No. 2166 of 1994 further added fishery farms established by ministries, governmental departments, local government units, and public authorities.

Article 2 of law 10, 1990 delegates the Cabinet of Ministers to add other acts to the foregoing list. Expropriation may not be limited to those land or buildings directly subjected to the previous acts but it could include also any other neighboring properties that are deemed useful for the acts.
Law No. 3, 1982 for Physical Planning, in its Sixth chapter concerning District Renewal (this also applies for slums' redevelopment or resettlement projects) has obliged the concerned local body entitled to renewal to first plan and prepare the proposed relocation sites where the occupants of the original area under renewal or redevelopment, would be resettled. The concerned local body should first prepare these relocation sites to be suitable for housing and proceeding different activities of the relocates prior to their transfer to the new site.

Article 40 of this law stated that it is not allowed to commence with the resettlement before at least one month from officially notifying the affected groups with their new destination. Any occupant, who would be subjected to the resettlement and receives a new housing unit, has the right to complain of its unsuitability within 15 days of receiving the notification to a specialized committee formulated by the concerned Governor. The committee should reach its decision concerning the complaint within a maximum one month period. However, the right to complaint does not include the location of the new resettlement site, rather it is only limited to the unit itself.

D. Expropriation Procedures

Law 10/1990 has described the expropriation procedures as follows:-
The procedures start with a declaration of public interest pursuant to a Presidential Decree accompanied with a memorandum on the required project and a complete plan for the project and its buildings (Law 59/1979 and Law 3/1982 provide that the Prime Minister issues the decree). The decree and the accompanying memorandum must be published in the Official Gazette. A copy for the public is placed in the main offices of the concerned local government unit. Based on that, the operational steps go as follows:

- The entity requesting the expropriation of the ownership of a real property for public interest ("Expropriating Entity") submits a memorandum with the request to the President or the Prime Minister (if a delegation of authority by the President is granted). The Egyptian General Authority for Land Survey ("ESA") has been defined as the Expropriation Entity, except for projects handled by other entities pursuant to a law to be issued in this respect.
- The memorandum would explain the reasons for the request, stating the compensation to be offered to the concerned owner of the property, together with evidence that the compensation amount has been issued in the form of a bank check in favor of Egyptian General Authority for Land Survey (ESA).
- The compensation is usually determined in accordance to the prevailing price for land surrounding the expropriated land (the market price). These prices are taken from recorded contracts in the Real Estate & Authentication Offices. However, usually this entails a crucial problem that always faces such expropriation projects, as these prices are, in most cases, not real, since the parties to the contracts usually state lower prices in order to reduce charges and fees decided on the basis of data recorded in the contracts. Also it should be noted that the representatives of ESA are assumed to be experts in evaluating land prices.
- If approved, the President or the Prime Minister would issue the required decree declaring the property in question appropriated in the public interest and authorizing taking the property pursuant to direct enforcement procedures by the Expropriating Entity.
- Once the authorizing decree is published, the concerned Expropriating Entity is authorized to enter into the property in question in the case of long-term projects and after giving notice of its intention to do so for other projects. The objective of such immediate authorization is to conduct necessary technical and survey operations, position landmarks, and obtain information on the property.
- The Expropriating Entity shall communicate the authorizing decree to ESA, together with the information on the project to be executed and a drawing of the full project and the real property needed in order to take procedures for expropriating the property in question.
- According to Article 3 of the Executive Regulation of Law 10, a committee will be formed to determine the properties required for the public interest. The committee is to be composed of:

    - A representative of ESA;
    - A representative of the local government unit within which jurisdiction the project is located;
    - The treasurer of the local area in question.
- The committee shall declare its activities to the public 15 days prior to the commencement of its works.
- The land survey department shall verify the information collected by the committee referred to in the preceding paragraph by comparing such information with that found in the official records.
- The General Department for Appraisal within ESA shall inspect the property of the project in question, examine and complete the appraisal maps and lists of transactions concerning the property within the area of the project. It shall also prepare a consultative report with the estimated compensation for consideration by the Compensation Estimation Committee within ESA.
- After depositing the compensation amount by the Expropriating Entity within ESA—the concerned local office—lists of all real properties and facilities being identified shall be prepared, their areas, location, description, names of their owners, and holders of property rights therein, their addresses, and the compensation determined by the Compensation Estimation Committee.
- ESA shall thereafter officially notify the property owners, other concerned parties and the Expropriating Entity with the dates on which the lists prepared in accordance with the preceding paragraph shall be presented to them, at least 1 week prior to such presentation. These lists will be posted for a period of 1 month in the offices of the concerned local government unit and shall also be published in the Official Gazette and two widespread daily newspapers.
- Owners of the properties and holders of rights therein shall be officially notified with an evacuation request within a period not to exceed 5 months from the date of their notification.
- The holders of rights include: owners of beneficiary rights, using rights, housing rights, mortgaging rights, concession rights, the right holders
- Court of Cassation decisions have resolved that rights holders are those who hold rights on the tenement and that; accordingly, the holders of leasing rights are regarded as right holders since they are holders of personal rights.
- Article (26) of Law 577 of 1954 states, “All the real suits shall not stop the procedures of the expropriation and shall not stop its results. The rights of the right holders are transferred to the compensation.”

E. Institutional Arrangements

On the central level, the governmental agency in charge of the implementation of the expropriation acts issued for public interest is the Egyptian General Authority for Land Survey (“ESA”), except for projects

handled by other entities pursuant to a law to be issued in this respect. As mentioned above, ESA is charged with the formation of the expropriation and compensation committees.

Usually the executing body could be other Ministries (e.g., Ministry of Housing) or Governorate. Accordingly, this executing agency would be responsible for paying the compensation to affected groups through ESA or under its supervision, offering alternative resettlement options, and implementing the resettlement project.

On the local level, several local departments and directorates should be involved in the resettlement program depending on the type of program to be implemented and the nature of land ownership:

- **Directorate of Housing and Infrastructure**, this department is to be responsible for setting the alternative resettlement options for the affected group and participate in all operational procedures concerning defining compensation and setting improvement actions within informal settlements.
- **Department of Physical Planning**, this department is to be responsible for preparing the detailed plans for areas subjected to resettlement and provide all detailed maps and documents required to define the affected groups (e.g., roads right-of-ways, Set-backs,..)
- **Department of Amlak**, is to be responsible for providing all required documents for ownerships or tenure status within the affected areas with all attached historical documents for those properties that show the different transactions of the properties.
- **Department of Land Surveying** is the main responsible body for defining the size, area ad locations of different ownerships to be affected by the resettlement. It is also responsible for defining the compensation mechanisms and values in cooperation with ESA and other relevant local bodies.
- **Department of Social Affairs** is to be responsible in some cases for conducting all field surveys required to define the affected groups, their socio-economic status, and affordability level, their preference against different resettlement options and compensations mechanisms. Another major role to be played by this department is to mitigate the negative impact of resettlement whether during or after resettlement, through preparing rehabilitation programs for those affected group, and monitoring the impact of the process.
- **Department of Legal Affairs**, to deal with legal issues related to tenure and ownerships and resolve dispute between different involved parties
- **Head of District (Local Governorate Unit)** where the resettlement project takes place, to manage the overall project

F. Issue of Tenants and Squatters

Although Law 10/1990 does not clearly specify lessees as entitled to compensation, however, lessees implicitly fall within the group of “right holders” referred to in the law.

It is clear, however, that lessees may not have recourse against the landlord for termination of their lease agreements as a result of the expropriation act.

Another important issue that has not been addressed in Egyptian law, is the right of squatters to be compensated in cases of displacement or resettlement. The Egyptian legislation framework has not recognized the rights of squatters whether squatting took place on State private land (where adverse possession applies after 15 years of peaceful visible and uninterrupted possession) versus those of State public land (where no adverse possession applies irrespective of time). However, the Egyptian experiences in dealing with this issue has shown the fact that due to the political pressure and the social dimension, the government has been forced to provide an alternative for those groups of households whether in terms of alternative shelter, cash liquidity or other types of in-kind compensation (e.g. jobs).

3.1.14 Decrees and procedures for regulating households' connection fees

As per law27 year 1978 regulating public resources for water and sanitation, covering the cost of the households' connection is the responsibility of the beneficiary. According to the WSCs, the exact amount that each household is requested to pay depends on the distance of the house from the main force, the number of houses participating in the communal inspection chambers and the amount of works and material associated with each item. It is roughly estimated that each household should pay and average of EGP 1300 to EGP 1500 to get the building connected to the public sanitation network once a project is completed in the area. This connection fees get higher in some cases to reach EGP 3000. This should be covering the cost of the engineering measurements by the WSC, installation of inspection chamber, installation of the communal chamber (normally 2 to 3 houses get connected to the chamber) and the associated labor. The measurements and the supervision of works are mandated to the WSCs' technical department. If the contractor does not carry out the works for the households' connection, the beneficiary has to provide the labor needed for this process.

3.2 HCWW/WSCs Environmental and Social Management Procedures

Although the legislation, policies and guidelines covering environmental and social issues sufficiently capture the issues, with few gaps as identified above, in terms of management procedures to comply with those standards, many improvements need to be introduced. The limited institutional capacity is one of the main drawback in the existing procedures of HCWW/WSCs as many of the required environmental and social measures were carried out by NOPWASD which left the HCWW/WSCs with limited practical experience in those areas. Also some issues, such as sludge handling and HSE issues, require resources that are not readily available in WSCs. Description of the current procedures and correspondent gaps in complying with national legislation, policies and guidelines are discussed below.

3.2.1 Organizational Set-up for managing the environmental and social issues

A) Environmental Issues

The management of the environmental issues related to the sector is usually carried out by different departments in WCSs. The effluent quality in WWTPs is supervised by the General Department for Sewage Effluent Quality and Environmental Affairs, which is under the Quality Sector as indicated in the Figure 3. The H&S issues are managed through the General Department for Occupational Health and Safety under the Chairman as indicated in

Figure 4. HCWW also includes Quality Sector and General Department for Occupational Health and Safety that provides support to the peer departments at WSCs.

Figure 3: Organizational Chart for the Quality Sector including the Effluent Quality Department

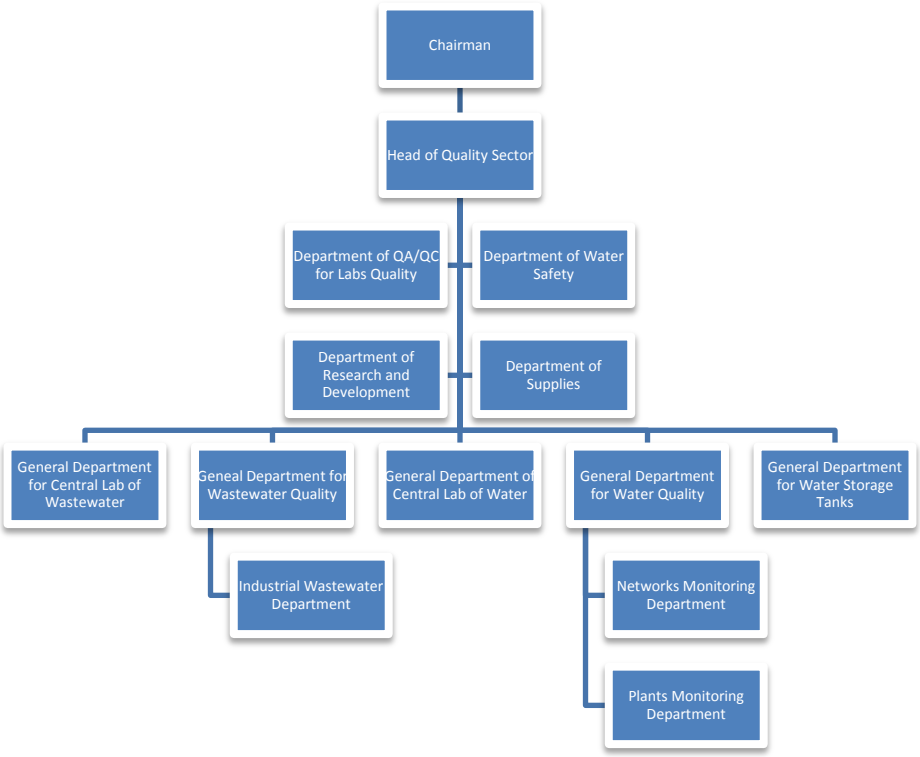
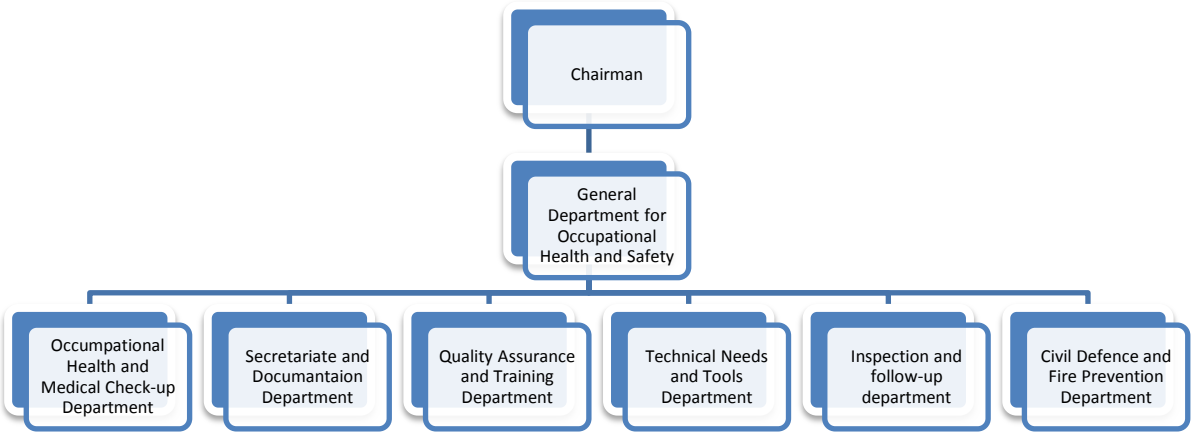


Figure 4: Organizational Chart for the General Department for Occupational Health and Safety



B) Social Issues

Social Issues related to the sanitation projects, more specifically, handling land, engaging with communities (e.g. consultations with communities and awareness raising) and handling grievance, are done through number of departments on the level of the HCWW and the WSCs.

1- Departments in charge of issues related to land acquisition:

The Properties Department within the WSCs is the key department in charge of assets and properties management and supervising the actions and procedures related to the WSC properties. This also includes taking actions and coordinating with the Legal Department to acquire land for various projects and ensuring that the acquired land is protected against any illegal occupancies or uses. The Properties Department reports in some cases to the General Department for Administrative Affairs under the Human Resources and Administrative Sector within the WSC (e.g. in Behaira Governorate). In other cases, it reports to the Legal Department of the WSC (e.g. Dakahlya Governorate).

Job description of the Properties Department

The Properties Department in the WSCs has number of mandates relate to defining, supervising and protecting the WSC's assets including buildings and other structures. The Department's responsibilities include the following main key relevant responsibilities to land acquisition:

- Follow up on the procedures for allocating new structures for the companies to establish new projects.
- Follow up on the WSC's land along with the authorized maps and take all administrative and legal actions to prevent violation against this land in coordination with the Legal Department.
- Coordinate with relevant department to update the WSC land property database regularly
- Maintain records and maps related to the WSC properties.
- Update the WSC property database

The job description of WSCs does not explicitly include the responsibility of land acquisition, although they have the legal mandate of land acquisition for the construction of WWTPs, pumping stations and sewage networks. As indicted in several sections, the WCSs role starts after the investment is completed by NOPWASD. This is the reason why the roles related to land acquisition and handling land is not of substantive weight for the Properties Department.

2- Department in charge of community engagement:

As currently taking place, the responsibility of engaging with communities is fragmented among number of departments within the WSCs. The General Department for Public Relations and Awareness [11] is one of the main departments in charge of engaging with the customers through surveys, awareness raising campaigns and other reaching out activities. Public relations work including arranging events and coordinating with media is still a core mandate for this department.
Apart from this institutionally formal mechanism as part of the WSCs, Rural Sanitation Units (RSUs) were created in Governorates where Bank-financed projects are operating, namely Sharkia and Behaira. RSUs members are usually seconded from their original departments (e.g. the Sanitation Department or the Public Relations and Awareness Department). Teams of the RSUs are mandated to ensure various measures are in place including mechanisms for consultations with local communities, designing grievance mechanisms…etc. The RSUs indicted that one key difference between the responsibilities of the RSU and the other concerned department (e.g. the Public Relations and Awareness Department) under the WSCs is that the RSUs mandates include engaging with local communities before the start of the sanitation projects.

Job description of the Public Relations and Awareness Department

The analysis of the mandates of the "Public Relations and Awareness Department" across the targeted WSCs revealed that the announced job description for the departments and its mapped staff is not consistent across the WSCs. While the orientation of the job description of certain departments was more on public relations aspects (e.g. Dakahlya WSC), other WSCs' job description involved more

[11] The name "General Department Public Relations and Awareness" is used in this report to refer to the department within the WSCs which is mandated with community engagement and awareness. The name of the department varies from one WSC to the other. The most common name for the department is the "General Department Public Relations and Awareness" which is being used here in this assessment.

awareness and community mobilization activities. However, this discrepancy between the formal job description is not actually reflected on the actual work plan of the WSCs. There is generally big consistency in the type of activities and the objectives of various Public Relations and Awareness Departments as will be elaborated below. According to the consulted staff within the WSCs, the Public Relations and Awareness Department used to focus on the functions of public relations tasks[12] until they received guidance from the HCWW requesting attention to be given to the awareness component. However, in practical terms, the public relations tasks are still given priority because they are handled as corporate image.

Box 1: Sample of the job description of the Public Relations and Awareness Departments (selected tasks related to water and sanitation from Behaira Governorate)

- Ongoing awareness to bring behavioral change
- Carry out customers satisfaction surveys
- Communicate with various stakeholders including religious institutions, schools, agricultural associations, youth centers, and clubs to raise the awareness about sanitation issues
- Highlight successful models for sanitation in villages and present it to citizens and societies for implementation.
- Conduct field visits in an attempt to change the environmental behaviors of citizens and clarify the impact of sanitation on general health
- Identify the sources of pollution, and spread awareness to limit their impact.
- Spread awareness through seminars, publications, audio and audio-visual media, and conduct visits to WWTP and pubbing stations.
- Conduct surveys inside the company to identify employees' needs, and the problems they face
- Run awareness sessions for the company staff to educate them about the Company's mission and policy.
- Develop a database showing the number of families and population, and prepare statistics related to the areas served with sanitation services by the Company, and those implemented through community contributions, as well as the areas without any sanitation services.

Reporting lines for the Public Relations and Awareness Department

The teams of the General Department for Public Relations and Awareness on the WSC level are working together to cover the dual nature of activities, namely public relations and awareness raising, that they are handling without clear division of responsibilities. The same teams report to two separate lines within the HCWW. For the public relations aspects, they report to the General Department for Public Relations and Media which in turn reports directly to the Chairman. Public relations aspects are also being reported on daily basis to the WSCs' Chairmen. In the meantime, the part related to awareness raising within the WSCs is being reported to the General Department of Public Awareness and Customers' Service of the HCWW which in turn reports to the Performance Upgrade Sector. In very

[12] Examples on these tasks include arranging workshops and various events, connecting with media …etc

practical terms, public relations responsibilities always overweight the awareness responsibilities due to the link to the corporate image and the fact that public relations issues are reported directly to the top managerial level within the WSCs and the HCWW.

3- Department in charge of grievance mechanism:

There is a number of channels for receiving complaints related to the water and wastewater services. **The Hotline "125"** was established in 2004 to be the key channel that is meant to streamline grievance from various sources. In practice, there are other operational channels including the Customers Service, laboratory staff, maintenance service staff, WSCs receptions, and commercial personnel who also received complaints and grievance without being strictly documented. Moreover, other channels like media, Governors' Offices, Prime Minister Office receive various types of complaints related to different sectors. Phased improvements are being introduced on the Hotline to enhance the service, allow for better monitoring and supervision, systemize and unify the hotline work across all WSCs. Because each of WSCs have been in charge of financing its own improvements (e.g. introducing database, connecting to the HCWW database, etc), the progress in the improvements is not moving on fast pace because it is largely dependent on the financial capabilities and the capacity of the WSCs which are not consistent.

There are also the **"Customers Service Centers"** which are located on the level of all branches (Markazes) in all the Governorates. A total of 400 centers operate across the country with over 5000 staff. Although the Hotline is reachable by all customers across the country, the "Customers Service Centers" are the only official mechanism on the Markaz level that allow direct interaction with the teams of the WSCs and the Branches. The Centers receive different types of complaints but their core operation objective is more oriented to issues related to billing and connecting new customers (subscription). The centers' operation mode is widely on manual basis and no automated service is functioning in the centers yet.

Reporting line for the Hotline (Key grievance mechanism)

The department in charge of receiving complaints formally on the level of the WSCs is the Citizens' Service and Hotline Department. A total of 600 staff who are employed in Call Centers across Egypt operating through 115 seats/lines across the 25 WSCs. The Department reports to the Department of Public Awareness and Customers' Service on the HCWW level where 9 staff at the HCWW Public Awareness and Customers' Service Department are dedicated to the monitoring of the Call Centers. On a daily basis, WSCs send reports to the HCWW documenting the number of grievances received, the actions taken to handle and progress in resolving the complaints. They also send sample of the recorded calls. There are 2 kind of monitoring checks that are carried out on daily basis by the Public Awareness and Customers Service Department at the HCWW:

- **Quality of Hotline service / Customer's quality of service survey:** 10% of the customers who called the hotline are called back to check with them the quality of service they received and if

their complaints was resolved. Water quality type complaints are usually given higher priority in the check process with 50% of the calls related to water quality are being checked on daily basis.

- **Quality of calls/ Calls review:** 10% of the recorded calls that are sent to the HCWW are checked for the quality of service offered by the hotline operator. Emails are sent to the operators with feedbacks from the HCWW copying the other WSCs to share lessons and feedbacks

The HCWW produces regular reports on the types of complaints received and this report is used to inform the decision makers.

The following is the main criteria that the HCWW General Department of Public Awareness and Customers' Service is using to monitor the performance of the Citizens' Service and Hotline Department within the WSCs:

- Feedback of the customers during the call
- Regularity in sending reports to the HCWW
- Quality of service through the recorded calls
- Modernizing the call center
- Receiving calls 24 hours
- Responsiveness to the complaints[13]
- Obtaining recognized certificate
- The records of the host company about the number of completed calls against the number of unanswered or busy calls.

Table 8: Key indictors from 2014 Evaluation Report (performance related to the hotline)

Key indictors related to the complaints system	Behaira	Sharkia	Dakahlya
Number of hotline staff	45	15	11
Number of received complaints through the hotline	16762	45923	11033
Water complaints[14]: Sanitation Complaints[15]	13266 to 179	23458 to 15182	3106 to 6816
Percentage performance of the WSCs' hotline teams	56.4 (graded 19 of 25)	66 (graded 11 of 25)	62.2 (graded 15 of 25)

Source: The General Department of Public Awareness and Customers' Service, 2014

The "Customers Service Centers" report to the "Commercial Sector" which is represented on the level of the Branch, the WSC level and the HCWW. However, the Public Awareness and Customers Service

[13] Evaluated through following up with the customers through random check

[14] Water complaints include water cut off, pipes breaks, water quality and they are classified in the tracked complaints

[15] Sanitation complaints were mentioned to include sewage overflow, uncovered inspection holes, blockages. The tracked complaints for sanitations are not classified in the HCWW.

Department on the HCWW level has key responsibilities/mandates towards the "Customers Service Centers. Those specifically include technical assistance, supporting in branding and in unifying the look of the centers and building database and automating their system.

4- EWRA (the key authority for monitoring the performance of the HCWW/WSCs)

The Egyptian water and Wastewater Regulatory Agency has been established pursuant to the presidential Decree No. 136/2004, it is considered as independent legal entity subordinate to the Minister of Housing, Utilities and Urban Development . According to the presidential Decree; some of EWRA responsibilities are as follows:

- Regulate, follow-up and audit everything related to drinking water and wastewater activities for all customers, either that performed by governmental projects or projects that commit to other authorities by the country in this field according to Laws or drinking water and wastewater units that established by the private projects in a manner enable and encourage these projects to a achieve the highest level of performance which ensure service sustainability in required quality and efficiency and provide the service to customers in satisfactory and affordable manner.
- Assuring that purification, desalination, transportation, distribution and sale activities of drinking water and activities of collecting, treating and safe discharging of wastewater and industrial discharge that performed by governmental authorities and the authorities that the country commit to privilege work in this field are according to law, and assuring that drinking water and wastewater units that established by private projects are performed according to laws and regulations applied in A.R.E, especially that concerning quality and environment protection.
- Auditing consumption, purification, desalination, transportation, distribution of drinking water plans and collecting, treating and safe discharging of wastewater and industrial discharge plans, periodically, including necessary investments to insure the availability of these plans to achieve the country's policy in this field.

Despite the critical importance of monitoring the the environmental and social impacts and risks related to the construction of new projects, currently EWRA does not have any mandates in this regard. Environmental and social impacts and risks related to the construction is not also within the mandates of EWRA. It is not also within their supervision scope of EWRA over the WSCs to monitor the performance of the WSCs in handling environmental and social impacts and risks.

3.2.2 Environmental Licensing and Follow-up Procedures

The preparation of EIAs for sanitation projects is currently being supervised by NOPWASD as it is responsible for the new investments. Under the ISSIP 1 and 2, the PIU and RSUs in the HCWW and WSCs

respectively took the lead for recruiting consultants to carry out the EIAs and follow up the licensing procedures of EEAA, however, the main supervision on those EIAs were done centrally by the HCWW with relatively limited contribution from WSCs.
The WSCs currently do not have institution set-up for initiating and following up ESIAs, except for the RSUs established under ISSIP 1 and 2 (in Behaira and Sharkia).

The approval process by EEAA is well integrated in the licensing system, and usually they grant the approval if the EIA is compatible with the requirements of the EIA Guidelines, and after securing the approval of other concerned ministries, such as the MoH approval after fulfilling the 500-meter buffer zone between residential areas and WWTPs, the approval Ministry of Agriculture, Civil Defense Department, Antiquities Authority and the Local Authority. EEAA approval will only be granted if the EIA demonstrated that the project facilities will comply with applicable laws and regulations, and if there are site specific issues EEAA grants a conditional approval on implementing adequate measures to manage those issues. The EEAA approval usually emphasizes on the importance of having an updated environmental register for the facility.

EEAA Regional Branch Offices carry out inspections to operating WWTPs to check their compliance with environmental legislation. Usually the inspection focuses on taking samples from the final effluent (which is being done by many other bodies as indicated later) and making observations regarding nuisance and noise. According to the visits carried out by the Bank's team during the preparation of this ESSA, each WWTP receives an inspection from EEAA every one year.

It was noticed by the Bank's team during the visits that many WWTPs are not keeping a consolidated environmental register, which is one of the gaps that would be addressed in the PAP.

3.2.3 Land Acquisition Procedures

A. **Land Acquisition Approaches**

Generally speaking, when a rural sanitation project is being planned and land is needed, and in order to avoid the implication of resettlement and the associated costs, avoidance strategy is followed through giving the option of obtaining state owned land a priority as a favorable option. In case of unavailability of state owned land, there are four other different approaches to obtain the land for pumping stations and WWTPs, including i) voluntary land donation, ii) community contribution which is a very common approach for pumping station; iii) willing buyer-willing seller; and iv) acquiring land by using eminent domain. The WSCs are not heavily involved in the process of finalizing land purchase (willing buyer willing seller approach) for pumping stations and waste water treatment plants (WWPTs) because the part relates to investment for sanitation project is officially mandated to National Organization for Potable Water and Sanitary Drainage (NOPWASD). Although there is no legal obstacles for the WSCs to complete the process of acquiring land through both purchase and donations, the lack of resources for the WSCs usually limit their chances in land acquisition, specifically the purchase part. Accepting

donated land or land obtained through community contribution for pumping station is a more common area for the involvement of the WSCs compared to the purchase for WWTP.

The Properties Department under the Legal Department within WSC is responsible for the land purchase (in the scarce cases of the WSCs' involvement in land purchase) and for accepting donated land or land obtained through community land contribution for pumping stations. If the land for pumping stations cannot be obtained through community contribution in a few cases, it will be obtained through willing buyer-willing seller approach. For WWTPs, the lands are obtained mainly through willing buyer-willing seller approach. WSCs are reluctant to use eminent domain to acquire land as it may take longer time.

B. **Land Acquisition Procedures**[16]

1) Voluntary Land Donation

In certain cases, land owners (specifically well-off owners) are willing to donate their own land for the various components of the projects. The following are generally the key steps that are normally taken for voluntary land donation:

Step 1. Identify land donor. When WSC decides to implement a sanitation scheme in a village, the WSC reach out to communities using various tools that may involve engaging CDAs, the LGUs, community leaders or putting advertisement on local newspaper to call for land owners to willingly donate their land for the project.

Step 2. Identify the site for pumping station based on technical criteria. When WSC receives a few offers from the willing sellers, they will assign technical consultant to identify the most technically feasible site for the pumping station based on the technical criteria. When the donation approach is used, the power of choice is, by definition, one key prerequisite. Several locations are usually identified and if the land of the person who is willing to donate proves to be compatible technically, the process of donation moves forward.

Step 3. Reach agreement with land donor. A person (or a group) come to offer to donate his/their land for the project with no monetary return. The only return for the donor in this case is to get connected to the project. The person who donates the land is normally a well off person and the amount of land he offers constitutes only small share of his land holding. The person who donates the land may also has a non-land based sources of income.

[16] The procedures listed on the ESSA are for the various land acquisition approaches are not based on official documentation but rather the discussion with the WSCs. There is a possibility that individual variances in the procedures exist between one WSC and the other. The illustration of this section is made to the best of the ESSA's team understanding.

Step 4. Sign an initial agreement with the land donor. Once the site of pumping station is identified by technical consultant, WSC will, through LGU, sign an initial agreement with land owner to use the land for the pumping station.

Step 5. Obtaining various approvals. When the pumping station land is obtained through voluntary land donation, as explained above, it is usually the responsibility of the Local Governorate Unit (LGU) to secure the approvals.

Step 6. Transfer the land title. The donor goes to the Notary Department to issue a waiver that state his donation for the land for the interest of the LGU. A "Donation Contract" is being signed between the landowner (who voluntarily donated his land) and the LGU. The LGU then transfers ownership of the land to the WSC by following the relevant legal procedures.

ii) Community Contribution

This is a very common approach for acquiring pumping stations. However, some cases were also introduced for WWTP. Few differences in the procedures for land donation exist among Governorates. However, the following are generally the key steps that are normally taken for community land donation.

Step 1. Identify land willing sellers[17]. When WSC decides to implement a sanitation scheme in a village, the WSC reach out to communities using various tools that may involve engaging CDAs, the LGUs, and community leaders or putting advertisement on local newspaper to call for land owners to willingly sell their land

Step 2. Identify the site for pumping station based on technical criteria. When WSC receives a few offers from the willing sellers, they will assign technical consultant to identify the most technically feasible site for the pumping station based on the technical criteria.

Step 3. Reach agreement with landowner on the land selling (called in the contract "donation") price. Led by one of the trustworthy delegated figures (Omda, religious leader…etc.), the project village will negotiate with the land owner on the land price. The price of the land is informally valuated according to the prevailing prices in the area and the requested value is communicated with local communities through a community trustworthy figure.

Step 3: Collecting the shares of households 'contribution: Through a community-led process, the average share of household is calculated along with any special arrangement to exempt poor

[17] The word "seller" is being used here under community contribution because the process actually involve selling land by an individual/few individuals to the village community at large. Community members here are the real donors (contributors) who provided cash to secure the land. In the contract (which is the official documentation of the process), the person (s) who sold the land is regarded as the "donor" and the community members are not mentioned formally.

households[18]. A trustworthy figure within the community is being charged as the key channel [19] for the collection of the donations from households. The whole process including money collection, following up and documentation is being managed through local communities and largely through the community channel that was identified and delegated to lead the process. The WSC is generally not involved in this process.

Step 4. Sign an initial agreement with the land owner. Once the site of pumping station is identified by technical consultant, WSC will, through LGU, sign an initial agreement with land owner to use the land for the pumping station.

Step 5. Obtaining various approvals. When the pumping station land is obtained through community contribution, as explained above, it is usually the responsibility of the Local Governorate Unit (LGU) to secure approvals.

Step 6. Transfer the land title. The donor (who is a seller to the community in this case) goes to the Notary Department to issue a waiver that state his donation for the land for the interest of the LGU. A "Donation Contract" is being signed between the landowner (who sold his land to local communities) and the LGU. The LGU then transfers ownership of the land to the WSC by following the relevant legal procedures.

iii) Willing buyer-willing seller approach[20]

Step 1. Identify WWTP sites. WSC assigns the design consultant to nominate appropriate sites for the WWTP based on the technical criteria and in coordination with the Governorate Local Unit (LGU) as representing government authority and other community representatives.

Step 2. Obtain initial interest from the landowners to sell the land for the project use. When the WWTP nominated sites are identified, WSC in collaboration with LGU communicate with the landowner(s) to get their initial interest in selling their land voluntarily for construction of the WWTP. This step helps in screening out the sites whose owners are not willing to sell. During this stage, land owners also state roughly the price they expect to obtain from selling their land. The received rough financial offers, along with the technical specifications of the land allow the WSC to prioritize their preferences among the various assigned plots.

[18] As part of villages social solidarity, exempting poor households from paying is a very common arrangement in most of the villages.

[19] This channel is very much dependent on the local context within the villages. While some of the examined cases depended fully on natural leaders like Omdas who manage the process through mutually trusted word of mouth, other villages have done the money collection through a CDA that opened a special bank account for this purpose and collect contributions against payment receipts.

[20] This approach is mainly used for WWTPs and it is largely done by NOPWASD as per their legal mandates. WSCs can still follow the same procedures to purchase land for WWTP but the case is that they now rarely do because of limitation in resources. The above describes the willing buyer willing seller general procedures.

Step 3. Signing a "Coordination Contract": A coordination contract is being signed between the land owners of the selected best offer and the WSC.

Step 4. Determine the purchase price of the land. A Committee is formed by the Chairman of the HCWW (or NOPWASD if it is the agency that will purchase). The committee is composed from various relevant authorities (surveying department, technical department in WSC, representative from the LGU, etc) to determine the price of the land. The purchase price is usually determined based on the prevailing market price of the land in the project area.

Step 5. Get approval from line ministries. While the Committee is determining the purchase price, the WSC (or NOPWASD if it is the agency that will purchase) starts getting all approvals from relevant line ministries for changing the land use. Normally, it needs to get approval from three ministries (Ministry of Agriculture, Ministry of Environment, and Ministry of Health). The WSC (or NOPWASD if it is the agency that will purchase) needs to send request to these three ministries. To provide approvals, these ministries will check the selected land in terms of their own criteria and in terms of the impacts of the selected site on their facilities and infrastructure within the site.

Step 6. Negotiate with the landowner(s). Once the price is determined by the Committee and the approvals are obtained from line ministries, the WSC (or NOPWASD if it is the agency that will purchase) informs the landowners the price determined by the Committee. If the landowner(s) agree with the price, it will proceed to next step. If not, another location will need to be identified starting from Step 1.

Step 7. Purchasing the land. Once the agreement is reached with the landowner(s) on the purchase price, the land price is being paid directly to the landowner.

Step 8. Transfer the land title. Land title is transferred to the WSC (or NOPWASD if it is the agency that will purchase) through following the legal steps. The payment is made to the landowners based on the agreed purchasing price, and process the legal procedures to transfer the land to the WSC. Payment could be made on installments depending on the agreement with the landowners.

iv) Acquiring land by using eminent domain

The process of acquiring land by using eminent domain is mainly based on the Law 10 regulating "the Expropriation of Real Estates for Public Interest" issued in 1990. According to the law, water and sanitation projects are classified among public interest projects.

Eminent domain will be used to acquire the land when mutual agreement cannot be reached with the landowner(s) on the purchasing price. In such case, the Governor will: a) issue a land expropriation decree based on the maps received from the Surveying Agency (affiliates to the Ministry of Water Resources and ; b) deposit the money to an escrow account based on the value determined by the High Committee (with the leadership of the land acquisition department under the Surveying Authority) ; c) issue a permit to WSC to have access to the land and to start the construction. This step is made after the Notary Department issue an official contract that replaces the name of the owner with the name of the WSC.

In such case, the landowner(s) can appeal through the court. Then WSC is obliged to pay the landowner(s) the value determined by the court even if the value is higher than what has been previously determined by the High Committee.

3.2.4 Procedures for Connecting Sewers

As indicted above, the households' connection is the responsibility of the beneficiary (household). The WSC carry out the "measurement" associated to the household's connection. WSC collects the fees of the measurements and provide the needed material to the beneficiary. WSC also provide direct supervision on the workers who install the household connection to ensure they are following the technical requirements.
The households' connection fees are normally paid directly to the WSCs in cash. In dealing with poor households who cannot afford to pay the full amount in cash, it was observed that each WSC is handling this aspect as seen appropriate. While Sharkia is offering installment scheme to all interested beneficiaries, Behaira WSC mentioned that they do not apply this and the only instalment mechanism they offer if through the Housing and Development Bank which top up some interest on the beneficiaries. Dakahlya WSCs indicated that they cooperate with CDAs and community leaders to identify the cases that need support and they offer them instalments. According to the meetings with the WSCs, the choice of offering installment to beneficiaries on the water bill is always available to the WSCs but it is their decision to choose to apply it.

Some villages which are not connected to a public sewer, construct, through local initiatives, a private sewerage networks that usually end at an agricultural drain. Such networks are not legally licensed and usually do not conform with adequate engineering specifications, therefore, WSCs do not usually favor connecting such private networks to their system as they are subject to many operational problems, such as blockage and leakages.

3.2.5 Procedures for O&M Affecting Water Quality

WSCs work to comply with effluent standards through two main strategies: 1) the control of discharges received in the network eliminating high loads and 2) the operation control of the WWTPs.
In terms protecting the network, the wastewater standards stipulated in Law 93/1962 (Table 7) are frequently monitored and inspected for industrial establishments, especially in industrial cities and for those industries which covey their wastewaters to the sewerage networks via tankers. This inspection is usually not carried out frequently for commercial establishments and rarely done for animal barns and farm slurry, which is most relevant to the rural areas covered by the program. The shock loads from animal barns are reported to be one of the reasons for reducing WWTPs efficiency in rural areas, this is usually managed through maneuvering the influent among parallel lines to distribute the load and to operate idle treatment capacities (in WWTPs with extra design capacity). The regulation of such shock loads through inspection on upstream waste generators is very difficult to accomplish, as such generators are typically households with annexed small barns.

Most of the WWTPs in the Program areas are complying with Law 48/1982 standards of effluent quality. This is usually verified at the WWTP level through taking daily samples from the influent, effluent and different points at the treatment stream, and when some water quality issues arise there would be direct coordination to improve the operation at the problem area to return to the standards. Usually such plants meet the effluent quality standards except for few exceptional cases where some operational problems arise.

On the other hand, there are some WWTPs that are known for being non-compliant with the effluent standards for different factors. The common reason for this is that those WWTPs require investments for major repairs or extensions to provide sufficient treatment. Table 9 illustrates the number of WWTPs in the above categories in WSCs and the Number of WWTPs that will be included in the NRSP. Annex 1, includes further details about the technologies, discharges, receiving drains and additional discharges through the Program interventions.

Table 9: Status of existing WWTPs in the Program areas

Status of existing WWTPs		**Dakahilia**	**Sharkia**	**Beheria**
No. of existing WWTP	Total	48	29	25
	Included in NRSP	23 [21]	19	1
	To be included in PforR	23 [22]	11	0

[21] In addition to the 23 WWTPs some villages in Dakahlia will be connected to Zarka WWTP in Damietta Governorate
[22] As above

Status of existing WWTPs		Dakahilia	Sharkia	Beheria
No. of existing WWTPs that are working with no common operational problems	Total	36	21	21
	Included in NRSP	18	15	0
	To be included in PforR	18	10	0
No. of existing WWTPs that are having common operational problems and need expansions/modifications to meet the standards	Total	11	8	4
	Included in NRSP	5	4	1
	To be included in PforR	5	1	0

Effluent quality is regularly monitored, in addition to the self-monitoring my WWTPs, by MoH as stipulated in Law 48/1982. Usually each WWTP receives inspection visit from MoH every three months. When identifying non-compliance, in some cases the MoH open dialogue with WSCs to overcome this, in other cases the MoH initiate litigations against the manager of the WWTPs who would face accusations and may end up paying fines or even face imprisonment. Furthermore, effluent quality is monitored by EWRA on an annual basis, and by EEAA also as indicated earlier.

Some of the overloaded WWTPs, which face operational problems, tend to bypass the discharges in excess to its effective capacity to the drain. This is not a documented procedure or a technical recommendation, but some WWTP managers tend to do that for keeping their effluent quality to the extent possible, especially that the bypass line, or the discharge outfall to the drain is not monitored, but inspection bodies usually take effluent samples from the effluent collection point after chlorination.

Furthermore, some WSCs connect villages to PSs which are not connected to WWTPs due to lack of funding for constructing force mains, so these PSs discharge untreated sewage to drains. This is defined as “negative discharge” and is one of the shortcomings that are expected to be addressed by the PAP.

In terms of monitoring ambient water quality, usually the National Water Research Center (NWRC) through its Drainage Research Institute (DRI) for monitoring drains’ water quality and the Nile Research Institute (NRI) for monitoring the Nile and freshwater canals.

It is worth noting that most of the agriculture drains, especially in the Delta Region, face significant environmental pressures from different sources, including discharge of septage, wastewaters from illegal private networks, industrial wastewaters, domestic solid wastes that usually accumulates on the banks of canals and drains due to lack of collection system in most rural areas, and agriculture drains loaded with remains agrochemicals. According to baseline surveys carried out under the ISSIP in the past two years, water quality in all monitored drains exceeds the ambient water quality standards for drains that could be mixed with freshwaters. For example the ambient BOD and COD standards are 10 and 15

ppm respectively, BOD and COD in some monitored drains under the ISSIP reached about 70 and 300 respectively.

3.2.6 Procedures for the Management of Septage

Usually the septage is removed from cesspits in unserved areas by local contractors using tankers, and then they discharge the septage in the nearest location in an agriculture drain or even in freshwater canals. Although such conduct is not allowed according to Law 48/1982 and Law 38/1967, the monitoring and enforcement on a large number of tankers is very difficult and sometimes impossible. Furthermore, most of the WSCs do not allow for receiving septage in their sewers and WWTPs, as there is no system in place to allow for regulating the receiving of septage. WSCs would usually be unwilling to accept septage with high organic loads that would add to the shock loads received in WWTPs and may affect their performance and the quality of the final effluent. However, some WSCs, such as Dakahlia, allow for receiving domestic and industrial wastewater from plants not covered by the sewerage services, against a certain fee (L.E. 70/m3 in Dakahlia).

The lack of an official system to handle septage, although helps in reducing shock loads at WWTPs level, risks attaining the objectives of sanitation projects on surface water quality, as the unregulated small scale septage discharges to surface water will continue to be one of the major pressures on water quality. Accordingly on site sanitation, including official septage management system that would serve remote and satellite villages, would be included in Result Areas of the Program, this system will be identified during the feasibility studies for each governorate.

3.2.7 Procedures for the Management of Sludge

The sludge is collected in drying beds of WWTPs, stays for 6 month for stabilization by drying and exposure to sun. Afterwards, the sludge is sold to organic fertilizers contractors who usually distributed in new reclaimed lands east and west of the Nile valley. The selling of sludge is carried out through tendering process by the WSCs, the winning contractor signs the contract with WSCs and pays the price, and then he arranges to collect the sludge from the WWTP identified by the WSC

The Quality Sector and laboratories, either in WSCs or in WWTPs, do not monitor the sludge quality as required by Law 93/1962 and Decree 44/2000, accordingly the WCSs do not check the adequacy of selling the sludge. The contracts with sludge contractors usually include a general requirement about the safe use of sludge indicating that it is the responsibility of the contractor to ensure this. The sludge handling in WWTPs is one of the gaps that are later addressed in the PAP.

3.2.8 Procedures for engaging with communities

Along the life cycle of a rural sanitation project, interaction with local communities takes place during different phases using different approaches. The following section briefly presents the existing procedures and mechanisms to engage with communities along various stages of the project. More details are presented under sections 5.1.3. and 5.2.3 on the procedures and capacity assessment.

- **Procedures for engaging with communities in the preparation and planning stage:**

Previously, HCWW was not heavily involved in planning and preparation of rural sanitation projects. The formal role of the HCWW and the WSCs is more about O&M. No structured mechanism is followed to carry out communities' needs assessment for sanitation projects. Decisions on implementing projects in certain villages largely depend on the severity of the problem in the village which is manifested either through high levels of pollutions, complaints and requests from the villagers communicated through various channels, most importantly media. There is no mechanism also to engage the communities in the planning of the projects and in deciding on the appropriate technology.

In the cases when private land for pumping stations or treatment plants need to be acquired, interaction with land owners (in cases of willing buyer-willing seller) or the land donors or land owners and a larger spectrum of local communities (in case of the community contribution or voluntary land donation) is done by the WSCs as explained above. However, the WSCs play a role of more technical and legal nature in this regard. The social aspects related to land are not very much taken into consideration. In the cases of community donation, the role of WSCs is minimal and the process is heavily delegated to communities with trivial supervision or follow up from the WSCs.

- **Procedures for engaging with communities during project construction**

During projects construction (specifically the construction of the networks), the WSCs play a supervisory role over the contractors. Through their teams and supervision consultants, the WSCs have the role of supervising of the work related to extending networks. The implementation of measures to address the environmental and social is the responsibility of the WSCs. Under the Bank financed projects, the implementation of the ESMP was the responsibility of the WSCs (specifically the RSUs). In Governorates without RSUs, it was strongly observed that the monitoring of the construction process has technical orientation nature. The social issue that may arise (e.g. damage in structures) is left for the contractor to handle. There is also a tendency to handle the social impacts related to construction through a reactive approach. The absence of local grievance system and systematic methods for consultations with local communities result in high probability for unresolved complaints. Although the departments of the Public Relations and Awareness Raising have a role to play with the water and wastewater customers, this role does not cover engaging with communities during the construction phase.

- **During project operation and maintenance**

As will be elaborated below in more details, the HCWW and the concerned departments within the WSCs have number of key mandates that involve community engagement in the project operations and maintenance. Awareness raising, measuring community satisfaction and handling grievance mechanisms are the key relevant fronts for community engagement during projects' operation. These functions are not limited to the sanitation projects. The water supply and the associated topics are actually over dominating the attention and the scope of work of the WSCs as will be elaborated in more details below.

- **Project monitoring**

Part of the activities that are conducted during project operation, some activities feed into the monitoring of the project. Most important of these activities are the community satisfaction survey and the awareness campaigns. The assessment of the procedures, however, showed that the process of monitoring of the performance of these activities is largely done on the basis of measuring the completion of the activities to assess the performance of the Public Relations and Awareness Raising Department teams of the WSCs. The impacts of these activities on the beneficiaries/customers (e.g. change in knowledge and level of awareness) or weather the findings of the activities have informed the decision making process are not measured systematically.

3.2.9 Procedures for Handling H&S Risks

WSCs have H&S Departments within its organizational charts, as indicated above. The human resources and equipment available for these departments, although varies between different WSCs, usually need to be improved for minimizing the risks.

Although the Engineering Codes for WWPTs and for fire protection include sufficient measures for safeguarding against chlorine leakage and fire risks, some of the facilities designs do not follow these safeguards and sometimes safety issues arise during operation such as: not complying with having disposal basin for chlorine bottles, not allowing for mechanical handling of those bottles, not having enough space for access of fire trucks … etc. Interviewed H&S personnel are aware of these shortcomings, but usually they are not intervening during the design phase, which is usually done by NOPWASD, and during the operation changing the design would be rather difficult. The PAP in Chapter 6 includes measures to overcome this issue through including H&S standards in the ToRs for the design works and allowing H&S staff to review and verify the designs.

On the procedural level, WWTPs seldom receives inspections from Ministry of Manpower and Employment, and this may negatively reflect on the degree of compliance with H&S standards of Law 12/2003. This is more magnified during construction phase, as the H&S culture among local contractors is usually poor with little legal monitoring and enforcement. These issues are addressed in the PAP.

3.2.10 Procedures for Grievances Redress

As explained above under section 3.2.1, the Hotline is one of the key formal grievance channels and the one which is meant, by design, to be the single official channel. The HCWW is working to strengthen the Hotline system including the call centers within the WSCs and is aiming, through this strengthening, to enable this channel to be the single official uptake modality. However, in practice, most complaints[23] are still being communicated through other informal channels including verbally to laboratory staff, maintenance service staff, security, commercial personnel or media. There is no strict documentation and record for the complaints received through these informal channels.

Box 2 below briefly presents the procedures followed as part of Hotline system:

[23] Estimated by the WSCs to be around 65%

Box 2: Summary of the Hotline procedures

- Through the Citizens' Service and Hotline Department within the WSCs, complaints are received using various modalities. The Hotline (phone calls) is the main and most common modalities. The department also receives complaints through fax, in writing, emails and verbal.
- Grievances are grouped into drinking water and wastewater. The drinking water is sub-categorized to 24 categories of complaints. The wastewater is sub-categorized into 16 types of complaints, most importantly, overflow, main force break, stealing sewers cover, requesting a vacuum tank, query related to sanitation, asphalt cracks, complain from a driver, leakage, illegal connection to the network, pollution and unserved areas. Each sub-category takes an identification code. Normally, water quality complaints.
- Complaints then are being diverted for the relevant department (e.g. maintenance, sanitation, water networks billing… etc.) to be technically handled.
- There is specified time interval for handling each type of complaints. The Hotline team is internally aware of it (e.g. 4 hours for breakages, 24 hours for pollution, 2 days for commercial complaints… etc.). However, the teams indicated that due to lots of technical challenges, these intervals are not fully adhered to. Accordingly, they do not share this information with the complainers and they only promise to resolve the case as soon as possible.
- All calls are being recorded for quality control
- For the tracking purpose, the complaints that are received through the phone calls, the complaints tracking number is the phone number and/or the complainer ID. For complaints that are received via other modalities, a tracking number for the complaint is shared with the complainer.
- Complainers are called back by the Citizens' Service and Hotline Department to ensure the complaint is resolved. Sample of the complainers are called back by the Awareness Raising and Customers' Service Department of the HCWW.
- Monitoring is done by the HCWW General Department of Public Awareness and Customers' Service as indicted above.

4 Program Environmental and Social Benefits, Risks and Impacts

This section presents the assessment of environmental and social benefits, risks and impacts of the Program. An assessment of the Program interventions has been carried out to exclude any Category "A" type interventions (according to the requirements of OP 9.00), a screening of the Program risks against the core principals of OP 9.00 is presented, and an identification of different environmental and social effects has been provided.

4.1 Screening of Category "A" - Type Interventions

The Program interventions include construction of sewerage networks for connecting unserved villages, PSs, force mains and few new wastewater treatment plants. The Program boundaries, as described earlier in Chapter 2, are limited to networks and relatively small scale WWTPs.

According to OP. 4.01 a proposed project is classified as Category A if it is likely to have "significant adverse environmental impacts that are sensitive, diverse, or unprecedented. These impacts may affect an area broader than the sites or facilities subject to physical works". This definition is believed to be inapplicable to Program interventions due to the following reasons:

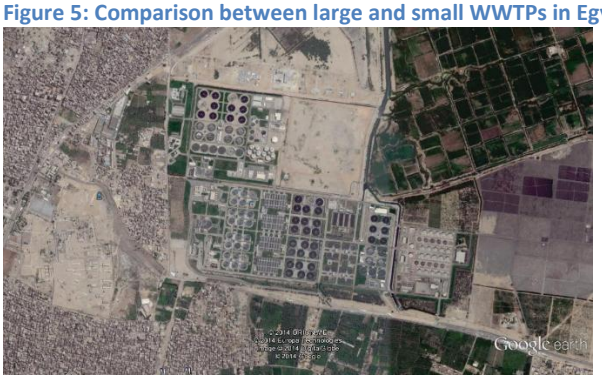
Significance of impacts:

The magnitude/consequence of impacts is proportional to the scale of the project and type of impacts. The impacts of sewerage networks and pump stations are usually small scale and site specific. Most of these impacts are only temporary during the construction phase and could be prevented through mitigation measures that are usually locally available. Although the Egyptian EIA Guidelines classify sewerage works among the projects with the highest significance, as indicated earlier in Chapter 3, the common practice of WBG projects is that construction of sewerage networks are not classified among the highly significant projects considering their limited type of impacts. This is illustrated in Table 10 showing examples of operating WBG sanitation projects, where all projects that only involve sewerage networks are classified as "B" indicating relatively low significance of impacts.

For WWTPs, the significance of their impacts is usually proportional to their size. Large WWTPs are usually associated with impacts that largely exceeds their footprint. For example if one of the large WWTPs faced operational problem that required bypassing the influent for a certain period, large stretch in the downstream direction of the receiving water will be affected, while in small WWTPs usually the affected stretch is rather short and the oxygen rebuilds in the watercourse within this stretch. Similarly if an operation problem occurred in a large WWTP and odor was generated, the affected area will be much larger compared to a small WWTP.

Within the context in Egypt, the capacity of the WWTPs under the Program is relatively small. The largest WWTP within the Program boundaries is 30,000 m3/day as further illustrated in Annexes 1 and 2. If compared to other large WWTPs in the country (such as El Gabal El Asfar more than 2 Mm3/day, Abo Rawash 400,000 m3/d, Zenien 330,000 m3/d, Alexandria West 550,000 m3/d, Alexandria East 690,000 m3/d … etc.) the scale of WWTPs under the Program is explicitly small. Figure 5 below illustrates this comparison.

Figure 5: Comparison between large and small WWTPs in Egypt



Large WWTP in Cairo – 2 Mm3/d

Typical WWTP in the Program area (less than 30,000 m3/d)

Table 10 below shows that, according to the procedures of the WBG, some projects involving construction/extension of WWTPs are considered as Category B, and some others are considered as Category A. The latter projects involve relatively large WWTPs (145,000 and 480,000 m3/d capacity), relatively large sludge digestion facility (150 t/d) or rehabilitation of a 30 ha lake. Other projects presented in the Table below involves construction of new WWTPs with capacities reaching 30,000 m3/d and 37,000 PE were classified, in terms of size and significance of impacts, as Category B.

Table 10: Classification of some operating WBG sanitation projects

Project	Country	Description	Category
Second Optimization of Lima Water and Sewerage	Peru	Rehabilitation of water supply and sewerage networks	B
Water Supply & Sewage Systems Improvement	Gaza	Improvement of water supply systems, upgrading, rehab and maintenance of wastewater networks and PSs, desludging of 6 anaerobic lagoons located 3 WWTPs and mechanical rehab and procurement of chemicals in WWTPs (capacity 8,400 m3/d)	B

Project	Country	Description	Category
Second Regional and Municipal Infrastructure Development Project	Georgia	Infrastructure development including rehabilitation of sewerage networks and WWTPs.	B
Guilin Integrated Environment Management	China	Water supply infrastructure, upgrading of 5 WWTPs (capacities ranging between 20,000-145,000 m3/d) including sludge digestion facility of 150 tons/d.	A
Second Ho Chi Minh City Environmental Sanitation Project	Vietnam	8-km long and 3-m diameter wastewater interceptor, and construction of a WWTP of 480,000 m3/d	A
North Gaza Emergency Sewage Treatment Project	Gaza	Complete a WWTP with capacity of 35,600 m3/day, decommissioning of another WWTP and remediation of a lake that used to receive wastewater (accumulated volume of water is 2 million m3 over 30 ha), and protect surroundings from flooding	A
Zhejiang Rural Water Supply and Sanitation Project	China	Improving water supply and sanitation services including for about 260 villages, including rehabilitation of WWTPs of different capacities reaching 30,000 m3/d	B
Water Supply and Sanitation Project	Belarus	Development and rehabilitation of water and wastewater infrastructure including construction of rural WWTPs with capacities serving up to 37,000 PE	B
Urban Water Supply and Sanitation Project	Ethiopia	Development of water supply and wastewater infrastructure in Addis Ababa and secondary cities including extending WWTP of Addis Ababa from 10,000 to 100,000 m3/d	B
ISSIP	Egypt	Construction of sewerage networks, PSs, WWTPs (ranging from 500-12,000 m3/d) and using existing WWTPs (with capacity reaching 90,000 m3/d)	B

It is worth noting that there are a number of WWTPs, such as Gharb El Mansoura WWTP currently under construction with capacity 135,000 m3/d (later the design modified to be 185,000 m3/d), is part of the NRSP but is not part of the PforR. There will be measures in the PAP to ensure that DLI1 and DLI2 are not measured against connections to this WWTP so that the boundaries of the PforR are clearly verified during implementation.

Sensitivity of impacts:

An impact is defined sensitive, according to OP 4.01, if it may be irreversible (e.g., lead to loss of a major natural habitat) or raise issues covered by OD 4.20, *Indigenous Peoples*; OP 4.04, *Natural Habitats*; OP 4.11*, Safeguarding Cultural Property in Bank-Financed Projects* or OP 4.12, *Involuntary Resettlement.* None of the expected impacts are considered irreversible, even though in the unlikely event that quantities of noncompliant effluent were discharged to a drain the impact would still be reversible and the drain will self-purify the organic load after the returning the effluent back to compliance.

None of the Program interventions are located in a natural habitat site, cause impacts to indigenous people or located near a known culturally valuable site[24] that would make impacts on any project classified as "sensitive".

The project will entail land acquisition for constructing the pumping stations and the WWTP. The examination of the current practices and procedures related to land acquisition revealed some gaps in consultation with land owners and users, the methods of information sharing, the monitoring and documentation practices and the approach of handling complaints related to land. If not handled carefully, land acquisition might result in serious impacts on individuals of land owners and land users. The PAP will include establishing a "diligent and inclusive system for land acquisition". The application of this system will ensure that affected individuals are meaningfully consulted and that the international policies and best practices are followed in acquiring land.

Diversity of impacts:

The impacts of sanitation projects, without additional components, are mainly on water quality in receiving bodies. Other impacts to air quality, noise, flora and fauna, health and safety, land and other environmental and social receptors are relatively minor. Therefore, the impacts could be regarded as non-diverse if the project is not associated with other activities.

Precedence of Impacts:

[24] Although Sharkia Governorate is rich of antiquity sites, and that locations of new WWTPs are not yet defined, Law 117/1983 stipulates that any antiquity site should have a sufficient buffer zone surrounding it and no development could take place at this zone. The Antiquity Authority is sufficiently empowered to implement the Law as indicated in Chapter 3

There are plenty of sanitation projects operating and under construction in the Program area, therefore none of the Program interventions would cause unprecedented impacts.

Impacts area of influence:

Usually the area of influence of small scale WWTPs are only limited to the footprint of the project. The area of influence could slightly cross the borders of the WWTP fence if some operational problems caused, such as:

- generation of odors affecting neighboring sites
- non-compliant effluent was discharged causing organic load in the receiving drain reducing dissolved oxygen for a limited distance downstream
- Accidental leakage of hazardous substances (such as chlorine or diesel) affecting limited neighboring areas

All the above are risks that, if materialized, will only cause temporary effect that could be mitigated and reversed after overcoming the subject operational problem.

According to the above assessment, the Program interventions are not considered as Category A-type projects, and accordingly the PforR instrument could be applied.

4.2 Risks Screening against OP.9.00 Core Principals

A preliminary risk assessment has been carried out using the Environmental and Social Risk Screening Format included in OP 9.0, the assessment is highlighted in the table below.

Table 11: Screening of the Program's environmental and social impacts

Risk	Environmental Risk Screening	Social Risk Screening
Associated or Likely Social and Environmental Effects	The overall impact of the Program is expected to be positive. The Program will allow for adequately discharging and treating considerable amount of sewage according to the standards of Law 4, which was, prior to the Program being inadequately collected and discharged to watercourses. The assessment indicates that no Category A-type interventions are included. There are some environmental risks and impacts, the main ones are: - Change of landuse at the footprints of PSs and WWTPs - Risks of improper handling of leading to impacts on public health and contamination of receiving lands (substantial risk according to existing practices) - Risks of improper handling of solid wastes of WWTPs leading to land contamination at receiving sites (medium risk) - Risk of discharging noncomplying effluent affecting receiving water (medium risk) - Risks to the safety of workers and neighbors of WWTPs from handling chlorine, diesel and lab chemicals (medium risk) - Risks on structural integrity of structures during dewatering operations (medium risk) - Risks of improper handling of chance find culturally valuable objects (low risk) - Temporary impacts during construction	The Program has a number of potential positive impacts that will help in improving the health and hygiene conditions of the targeted communities. The program will contribute to better quality of life in the targeted communities and will bring major benefits to the vulnerable groups of women and children. Number of potential negative impacts were identified. The most significant impacts are the one related to land acquisition and the implications on the livelihoods of the families. In the meantime, number of social risks were identified by the ESSA, most importantly, the risk related to the poor management of land issues, the potential conflict among villages in cases of excluding villages, the inability of poor families to afford the cost of the houses connection

Risk	Environmental Risk Screening	Social Risk Screening
	The risks of environmental effects are generally medium risks, except for the sludge handling risk which could be rated as substantial, taking the existing situation into consideration. According to the system assessment and gap identification a PAP has been proposed to mitigate the above risks and minimize them.	
Environmental and Social Context	The Program will be implemented in 3 governorates in the watersheds of El Salam Canal and Rosetta Branch. The Program area is characterized of being highly populated with urban areas encroaching on agriculture land. The PSs and new and extended WWTPs will most probably be constructed over agriculture land as the empty urban lands are scarce. Given that the footprint of project facilities is relatively small the risk is rated as medium. The PAP includes measures to employ treatment technologies that would minimize the footprint of WWTPs. Surface watercourses at the Program area suffer from high pollution pressures, accordingly the program will positively impact the reaches of canals and drains in the Program areas. No natural habitats exist in the Program area. The Program governorates (especially Sharkia) are known for being rich of culturally valuable sites, the risks of affecting such sites are low, as indicated above. However, measures need to be taken to adequately manage chance finds.	The Program will be targeting rural area in the Delta region in Egypt. The absence of appropriate sanitation systems in the targeting villages is putting tremendous health, economic and psychological pressure on the rural families. Poor households are more vulnerable to the implications of the poor sewage system. They encounter more significant costs to cope with the problem.

Risk	Environmental Risk Screening	Social Risk Screening
Program Strategy and Sustainability	The Program has been designed according to the National Sanitation Strategy and Master Plans. The Program is considered one of the urging development needs identified by the GoE in rural areas deprived from adequate sanitation services that falls in the downstream of the River Nile where most upstream pollution pressures accumulate leading to poor surface water quality and high groundwater levels leading to considerable environmental degradation. The Program explicitly will contribute to alleviating these environmental pressures. The Program will help in keeping the sustainability of watercourses and lands that suffer from rising groundwater table, which will contribute to preserving such resources for future generations. There are some challenges to ensure achieving highest environmental benefits of the Program which are mainly the unserved remote communities and the private networks that may not be connected to the sewerage system. Generally these sustainability risks are rated as medium risks, and the DLIs design and the PAP have taken these factors into account to minimize such risks.	The sustainability of the Program is highly dependent on the sense of ownership and communities commitments to support the new project. In particular in the areas where decentralized schemes will be implemented, the sustainability of the systems is highly dependents on communities' willingness to pay, affordability and capacity to operate and maintain the systems. Number of measures were identified under the PAP and the DLIs to ensure that communities are engaged in the process. Guidelines for community engagement and consultation will be developed and applied. This will set the standards to allow for an engaging and inclusive system for all stakeholders during various projects stages. It will also set the rules related to the various methods for engaging various groups (including the poor, women, elders …etc). A pro-poor strategy will be developed to ensure that poor households are well integrated within the Program and are having equitable access to the benefits. Gender mainstreaming and women engagement will be ensure across the measures. Efforts should be always made to ensure that the measures (including the GRM, the pro poor strategy) are designed in a manner that ensures that the there is no limitation for women to fully benefit from the Program benefits and are not more vulnerable to the negative impacts.

Risk	Environmental Risk Screening	Social Risk Screening
Institutional Complexity and Capacity	The institutional set-up for the management of environmental issues is already included in the organizational structure of the WSCs, through the Laboratories, QC and Environment Department (for environmental issues) and the HS Department (for HS issues). The HCWW Environmental Department is providing support to the WSCs, and the newly established PMU will also provide support to the PMU especially in the preparation of ESIAs. All these bodies are within the MoHUUC and the system used to operate without complexity, and adding the PMU is not expected to add a complexity layer, but rather a technical support through the environmental expert of the PMU. The institutional capacity of the WSCs is limited with regards to preparing ESIAs as it was usually prepared through NOPWASD (and the HCWW for ISSIP governorates). There are also some capacity limitations in available staff and equipment to monitor environmental performance of operation as indicated earlier in Chapter 3. The PAP includes measures to strengthen the capacity of the WSCs to bridge the gaps in the current system through support of PMU, HCWW, PMCF and ISC. The institutional risk, given the existing conditions, is substantial, but the PAP measures, detailed in Chapter 6, are designed to minimize those risks	The WSCs will play a lead role in the implementation of the project. WSCs have a good role to play in reaching out to communities and in managing complaints related to operation and maintenance. However, the current mandates of the WSCs are largely focusing on operation and maintenance. WSCs have limitations in capacity when it comes to issues related to land acquisition, consultation, grievance handling… etc.

Risk	Environmental Risk Screening	Social Risk Screening
Reputational and Political Risks Context	There are no governance or corruption risks associated with the environmental aspects of the Program. The rural sanitation is known to be a priority, and there is no known environmental controversy about the government program and setting its initial stage in the 3 governorates. The only political environmental risk is the possibility of modifying the effluent standards and make it more stringent, which might require review of the WWTPs under the Program and improve them to comply with more stringent legal requirements. The risk is considered medium, and the PAP includes measures to establish strong contacts with other ministries and regulatory authorities to have good preparation prior to any proposed legal requirements.	
Overall Assessment	The assessment indicates that the Program does not include Category A-type activities, accordingly the PforR instrument is suitable for financing the Program. The overall environmental risks for the Program is medium. The implementation of the recommended PAP would effectively minimize the risk.	The Program has substantial social risks and the ESSA set forth the measures needed to address and mitigate those risks.

4.3 Environmental Benefits, Risks and Impacts

4.3.1 Environmental Benefits

The Program will result in many environmental benefits, as the sanitation sector by-definition help in keeping healthy environment and improved living conditions. The government program is mainly meant to help in improving freshwater quality in two of the important watercourses in the Delta region, Rashid Branch and El Salam Canal, through alleviating one of the important environmental pressures on those water courses which is uncontrolled disposal of sewage. The program will provide sanitation services to about 900,000 capita in the three governorates. Wastewater generated by the Program beneficiaries is either collected in cesspits that leach to the ground with frequent collection by tankers that discharge to nearby canals and drains, collected by gravity networks that ends to pump stations that negatively discharge[25] to drains, or collected in private networks that also discharge to watercourses. More details about un-served villages in the Program areas are given in Annex 3.
The main environmental benefits of the Program include:

- Providing adequate wastewater treatment to about 90,000 m3/day[26] of wastewater that used to be uncontrollably discharged in freshwater canals, drains, lakes and open lands. This treatment is expected to remove 53 tons/day of BOD used to be discharged to the environment[27].
- Prevent the inappropriate process of "negative discharge" of untreated sewage directly from PSs to drains. The program is expected to connect villages which are currently negatively discharging directly to drains. Also the Program will help in solving the compliance issues with the effluent standards and the subsequent bypass of untreated sewage in overloaded WWTPs.
- Improving health conditions for the Program beneficiaries. The poor sanitation in these villages usually lead to many health risks such as waterborne diseases and vector transmitted diseases.
- Help in preventing the rising groundwater table caused by leaching of sewage from impervious cesspits. The rising water table leads to many problems in the rural environment such as affecting efficiency of agriculture drainage and soil fertility, affecting stability of shallow foundation buildings and causing unhealthy ponds of stagnant water in depressions and low elevation lands.
- The Program includes a component for septage management, which is a result indicator that is not a DLI, which will extend the environmental benefits to small remote hamlets that are unfeasible to be connected to WWTPs. In addition to the direct benefits of preventing

[25] Negative discharge refers to collection of sewage in a pump station that is not connected to a WWTP and discharge directly to drains. The negative discharge is reported to be mainly in Dakahlia Governorate.
[26] Assuming wastewater generation of 100 l/c/d as per the Egyptian Engineering Code for wastewater treatment
[27] Assuming BOD generation of 65 g/c/d (according to the Egyptian Code) and treatment efficiency of 91% to comply with Law 48/1982 standards

appreciable quantities of septage from being inadequately discharged to the environment, this system could serve as demonstration for large similar areas in the country.

- The PAP, described later in this ESSA, includes measures to improve the existing system in terms of sludge handling, handling of solid wastes, handling of hazardous substances, improving safety, monitoring and documentation. This improvements could also serve as demonstrations to be followed by other WSCs.

4.3.2 Environmental Risks

The following environmental risks have been identified:

- Risks on land resources receiving sludge and solid wastes separated at PSs and WWTPs screens and grit removal chambers. Currently there are no sludge analysis being carried out to check its suitability for use in agriculture, and also there are no current systems for adequate collection and disposal of solid waste. The PAP introduces measures to initiate the effective compliance with sludge handling standards, and the requirements for adequate solid waste management. Any leakage risks in violation of the PAP would be minimum if adequate monitoring and followed up system is in place.
- Risks of poor operation of PSs and WWTPs leading to inadequate effluent quality. The overall impact on surface water quality is expected to be positive as the non-compliance incidents, if happened, are not expected to have more discharges than the estimated 53 tons BOD/day that are currently being discharged to the environment. However, there are some risks that some individual WWTPs could have operational problems that affects the final effluent quality standards and reducing the program benefits in correspondent areas. The main factors for possible non-compliance are:
    - Overloading WWTPs above their design capacities and leading to either non-compliance or to bypassing excess influent to avoid non-compliance
    - Shock loads resulting from strong organic wastewater from animal slurries and septage received from remote areas
    - Inappropriate operation by WWTP staff due to lack of maintenance or lack of trained personnel

  The above issues have been taken into account in the PAP design.

- Hygiene and occupational health risks. Although the PAP includes measures to significantly improve the H&S performance in existing facilities and in construction sites, there are still risks of resistance to change among workers in construction and operation of difference facilities. The institutional strengthening and monitoring measures under the PAP are designed to minimize such risks.

- Risks on physical culture resources, especially in Sharkia Governorate that is rich of such sites, during the construction phase. As indicated earlier, the existing supervision system is effective which makes this risk quite minimal. The monitoring and follow up measures of the PAP will further reduce such risks.
- Risks on the stability of shallow foundation structures during the construction of sewers lines and PSs. The main risk would arise from dewatering operations that could cause differential settlements for those foundations. Also the dewatering operations could lead to inundating lands receiving the dewatering discharges. The designs and construction supervision of the ISC should make sure that such issues are adequately handled as indicated in the PAP.
- Risks of sewers blocking or leaking during operation. Such risks would be minimized if the design, construction and operation of such sewers are according to the engineering standards which would be enhanced through the support of the ISCs as indicated in the program design and emphasized in the PAP. The risk would be higher in case of connecting private networks that are usually not designed and constructed according to the engineering standards. Because the environmental risk of leaving these networks continue to discharge untreated sewage to drains is much higher than the correspondent risks of connecting them and suffer from blockages during operation (which will happen anyway) it is recommended in the PAP that the Program should consider connecting those private networks and carrying out, in case they are connected, technical assessment of their status by the ISC and identify measures to improve these networks and bring them to compliance with engineering standards.

Generally, the above risks are not significant, site specific and could be mitigated and reversed. Again the PAP discussed later in this ESSA includes measures to mitigate these risks during the Program implementation.

4.3.3 Environmental Impacts

The following are the main environmental impacts of the Program:

- Temporary impacts during construction including noise, emissions from machinery exhaust, dust generation during earthworks, access difficulties in villages' streets and handling/disposal of construction waste. Besides being temporary and minor impacts, usually the benefits expected by beneficiaries make them highly tolerant with such temporary impacts. The PAP includes requirements for the ISC to ensure that the contractors are complying with the requirements of the site-specific ESIAs developed for each cluster.
- Changing landuse over the footprint of the Program interventions. Most of the available lands in the Program areas are agriculture lands, putting PSs and WWTPs will affect the fertility of those lands and will reduce the green cover and its benefits of carbon uptake. The benefits of the Program are believed to overweigh the loss of this area, however, the PAP includes requirements for PS and WWTP designers to minimize landuse as feasibility could be attained.

- Impacts on disposal sites receiving wastes generated from the project facilities, such as screenings wastes, grit, other garbage generated during the construction and operation of these facilities. The impacts are expected to be minor as the contribution of such waste volume to the domestic solid wastes received at these sites is relatively low. The absence of engineered landfills in the Program areas is an environmental issue nationwide and the environmental problems at the existing disposal sites cannot be related to the Program interventions. The disposal of solid wastes at uncontrolled disposal sites that are licensed by Local Authorities is believed to be the most suitable option for the Program facilities. Also discharging effluents to existing drains will add, even if the effluent is compliant, to the pollution loads received at these drains, but this loads could be regarded as negligible considering the current status of drains in the Program areas, which suffer from significant pollution loads as indicated earlier.

The above impacts are minor and the Program benefits highly overweigh them. The PAP includes measures to mitigate such impacts.

4.4 Social Benefits, Risks and Impacts

4.4.1 Social benefits

Brief overview on the current situation and its implications

As part of preparing the ESSA, and as explained above under section 1.5, number of consultation activities were conducted to give more insight on the rural sanitation issues including communities benefits from being connected, the problems posed by the absence of appropriate sanitation system and the anticipated risks and impacts of the project.

In very general terms, there was very large consensus among the various stakeholders on the pressing need for the program and the large social, economic and health benefits anticipated from improving the sanitation system. Particularly in delta region, the absence of appropriate rural sanitation systems associated with the high underground water table are creating serious health and environment hazard on individuals and properties.

Currently the large segments of unserved local communities[28] are using number of survival strategies to try to cope with the implications of absence of sewage system. Those strategies include, but are not limited to, constructing community networks[29], connecting illegally to dispose sewage to agriculture drainage, raising the ground level of houses during construction, frequent emptying of septic tanks,

[28] 83 % of the rural population of Dakahlya is unserved, 80% in Sharkia and 70 % in Behaira

[29] Community networks are illegally constructed as an alternative sanitation model. This type of networks does not include any level of treatment and largely allows houses (specifically those adjacent to the drains) to get rid of their sewage directly in the drain. This type of network is usually of very poor quality and low technical standards. It generates a lot or problems to the communities including frequent blockages and overflow.

reducing the amount of water disposed of in the septic tank by using alternative methods for disposing certain types of waste water (e.g. throwing the washing and domestic activities water in the street), abandoning the ground floors in houses, and carrying out frequent maintenance and renovation activities to remedy the spillages and cracks occurring on the walls of structures.

Community members were highly vocal in spelling out the negative implications that they are currently encountering as a result of the poor sewage systems. The following are the main raised negative impacts of the current situation:

- **Financial load encountered by the household to cope with the problem**. This mainly includes:
  - ✓ **The frequent need for emptying septic tanks:** The amount that each household pays for emptying septic tanks largely depends on the size of the tank, the number of family members it serves and the level of the house in relation to the ground level. It was estimated that each household is paying an average of EGP 120: 150. [30] The amount paid also depends on the width of the street, distance of the house from the main street and the number of households that order the septic tank evacuation vehicle. [31]
  - ✓ **The frequent and escalated need for repairs and maintenance for the structures**: The unserved communities largely emphasized the negative impacts on the walls of their houses and the various social service institutions within the villages (e.g. schools, youth centers, health units). Repairs for the structures need to be done each year. It is estimated that each square meter of walls requires around EGP 30 – 40 to complete its repairs. This includes removing the external layers of the walls, drying the leakage through using chemicals and drying machines, and fixing new external layers to the walls. The floors of the ground level also need annual repairs.
  - ✓ **Costs associated to health problems**: Communities associated certain diseases like diarrhea for children to the inappropriate sanitation system. It was challenging for mothers to specify exact incidents and cash spend in such health treatment. Communities in served areas also indicted that the incidence of certain pollution-related diseases still occur because there are other problems like the poor solid waste collection and disposal services.
  - ✓ **Reducing the value and life time of the various structures**: reducing the value of land and structures was mentioned to be one key issue resulting from the lack of sanitation, high depreciation and safety threats on the structures.

- **Health and physical risks due to the frequent overflow on the streets, malodorous and the leakages inside houses:** Children and elderlies were mentioned to be more exposed to these risks.

[30] The average cost per load is EGP 25 – 30 and it was estimated that each septic tank needs to be emptied twice a month and each time requires around 2 loads.

[31] Normally, the vacuuming vehicle serves between 20 to 30 households in one transfer load. If the vacuuming vehicle is order by less number of households, the charge is usually higher than normal.

"Layers of the leaked wall fell on my kids while they were asleep"
A lady from Kafr El Noaman, Dakahlya

- **Clashes among neighbors and escalated social tensions in the villages:** The disposal of waste water on the street is perceived to be a key reason for accidents and clashes among neighbors particularly in winter.

"We used to fight every day with our neighbors before the sanitation project"
A man from El Zankalon village, Sharkia

- **Additional domestic load on women**: Managing the amounts of water that is disposed into the septic tanks and working to rationalize these amounts using other mechanisms (e.g. disposal on streets) add large work load on women as part of their domestic activities.

- **More serious implications on the poor households**. Well-off houses are managing the mentioned costs with difficulty. The wider majority of poorer households in the villages are much more vulnerable to the associated costs as well as the safety and health hazards because they cannot afford to pay for the different mentioned items.

- **Negative physiological and wellbeing implications resulting from the unhealthy and distressful living environment**: The absence of sanitation is contributing to unhealthy less appealing environment inside the villages that is affecting the daily life of villagers on different fronts including psychologically.

"In the village grave yard, we have a pump that sucks ground water and it is operating every day. Without that, we find water inside the burial slots. We had to build a second level to be alternatively used in burying. We know this is not right but what else can we do. ….. I asked my husband not to bury me here when I die…"

A lady from Kafr El Noaman, Dakahlya

Potential Benefits of the Program

The implementation of the Program will help in elevating the negative impacts through providing the sanitation service which is very highly demanded by the poor rural communities of the targeted Governorates. There are number of benefits and positive returns that the Program is expected to help local communities to attain. Most important benefits include:

6. **Economic saving on the household level:** As explained above, significant budget on the household level is being dedicated to emptying tanks, repairing structures and covering cost of health care treatment. The economic benefits of increasing property value (land and structures) and the savings on the households' expenditure are expected to far overweigh the households'

contributions to the project (e.g. contribution to land, the households connection fees and the surcharge on the water consumption).

7. **Health and safety benefits**: The Program will contribute to better environment and better living condition which will positively imply on the health of the family members particularly on the vulnerable groups like the children. Villages are suffering from unsafe and unhygienic conditions as a result of the absence of sanitary sewage disposal system As explained above, the safety of houses and structures is threatened so is the safety of individuals. Improving the sanitation system will eliminate this risk. Improved rural sanitation will also reduce the current threat of pollution for drains and waterways that is being encountered as a result of lack of control over the discharge of human waste. Improving the quality of water in drains will have positive impacts on health, quality of water and quality of crops[32].
8. **Creating an enabling environment for community development at village level:** The improved conditions within the villages will boost the sense of wellbeing of the villagers and will contribute to minimizing the cases of outmigration and stimulate other development activities in the village.
9. **Enhanced level of public hygiene awareness**: To attain reduction in health risk as a result of project, hygiene and awareness campaigns are essential to bring about the desired change in practices and to attain the positive impacts. The implementation of such campaigns will result in improving the level of local communities' knowledge and awareness related to the public hygiene, water and wastewater related issues
10. **Special return and benefits for women and children:** Women are among the key community groups to gain substantial benefits from the project. Key benefits for women include time saving, reduced domestic work and improved and more hygienic management for the household activities. Children, specifically below 5 years, are more vulnerable and exposed to the health of implication of the unsanitary conditions of the villages. They are more likely to suffer from diarrhea, skin diseases, eyes diseases and other water relation. This category will benefit from less exposure to these health risks.

[32] The various consultations conducted as part of the ESSA indicted that the quality of water in the agriculture drains is drastically deteriorating as a result of the random discharge of various pollutants including human waste. With seasonal water shortage in canals, and in order for farmers to rescue their crops, they are sometimes obliged to irrigate using water from the drains.

4.4.2 Social Risks

The project will entail land acquisition for constructing the pumping stations and the WWTP. If not handled carefully, land acquisition might result in serious impacts on individuals of land owners and land users. At this stage, since the technical design of the program is premature, it is difficult to know the exact amount of land that will be needed and consequently, it is also difficult to estimate the number of land owners and land users who would be affected from the land transaction process. It is usually the case that an average of around 16000 m2 is needed for establishing a WWTP and 450 m2 is needed for the pumping stations[33]. For the extension of existing WWTP, the amount of land needed will be determined on case by case basis. Some extensions will not require land and will only entail adding equipment. The severity of the impact of land taking depends on the percentage amount of the land to be taken compared to the total amount of land that the farmers own/use, whether the main source of income of the affected person is land-based and if the affected person will be able (through compensation and the other types of support that could be provided) to restore his income to the level before the Program. Land shares and land holdings in Egypt are generally characterized by unequal distributions. Share of less than 5 feddans represents 88% of the number of land holdings in Egypt and 40% of the total owned agriculture area in Egypt. Shares of more than 50 feddans do not exceed 1.5% of the total number of land holdings and two fifths of the total owned agriculture area in Egypt[34]. It should be noted that land holdings are generally fragmented and this is the case in the Delta. The case will be likely that each of the privately owned land for a pumping station will be owned by one farmer, while the privately owned land for WWTP could be owned by one farmer or more. Apart from the land owners, tenants might be using the land through different types of contractual arrangements with the owners[35]. Case by case analysis will need to be carried out by the WSCs before the Program implementation as will be elaborated on more details below.

- **Land related risks**

***Limited capacities of the WSCs to manage land issues*:** The WSCs do not have sufficient experience and capacity to manage land acquisition and the associated social impacts. Land acquisition, as explained above, is not a core responsibility for the Properties Department which is currently handling the land issues in the cases where the WSCs are charged with the land acquisition responsibility.

Potential delay in the time scheduled as a result of land acquisition: Securing land has proved to be a key bottleneck for the majority of the infrastructure projects. Sanitations projects are not exception from the challenge and risk of securing land. As indicted above, the process of land acquisition for the treatment plants and the pumping stations goes through lengthy steps that usually take longer than

[33] These estimates are drawing upon the experience in previous projects
[34] International center for agriculture studies, 2013
[35] According to the conducted consultations, the most dominant type of agriculture land lease contracts is for the duration of one year renewable.

expected. Project's timely implementation could be jeopardized in the cases if securing the land takes long time.

Lack of a consistent and transparent approach in managing land related issues: The process of land acquisition through willing buyer willing seller or community contribution approaches entails some practices that lack consistency and transparency. For instance, there is lack of meaningful consultation with people affected when the land is acquired through mandatory procedures by following relevant laws and regulations in Egypt. The process tended to be of unilateral nature and this weakens the sense of credibility to the individuals who are affected by land acquisition. When land is acquired through community contribution and despite the positive arrangement of the community led process for land donation and the fact that it reflects real demand for the project, the process is not transparently defined in the official contract for the land transaction. The individuals who are defined in the contract as "donors" are actually "sellers". The review of model contracts also showed some concerns on how the conditions within the contracts are phrased.

The poor documentation of the donation process under the community contribution approach is another risk on the project credibility. Even with the minimal role of the WSCs in the process because it is community-led, the project credibility could be easily questioned if the appropriate measures are not carefully taken to organize the donation process. There is also lack of clarity over the actual steps and procedures that are taken to acquire land. This could be attributed to limitation in the information sharing process.

Livelihoods risk related to lands: On the livelihoods dimension, there is also the risk that certain land owners and users might get impoverished as a result of the land taking process. Apart from the official owners of the land, there might be other groups that could be making a living out of the land both legally (formal tenants) or illegally (informal tenants or squatters). These categories are sometimes invisible in the land transaction process and their rights and the impacts on them are not counted for. Although the common practice of the WCSs is to tackle such cases through contractual article that imposes on all the responsibility on the official land seller, this practice is still risky and may result in leaving serious social and economic implications on the individuals and families without legal titles.

Potential emerging disputes over the land that has been acquired before the start of the Program:

Based on experience of past practice, pending disputes might exist for the land already acquired. In the cases where land acquisition was completed before the Program starts, some risks related to drawbacks in land transaction may emerge (e.g. problems in the valuation of land, multiples owners, illegal users, delay in paying payments, coercion….etc.).

Poor management to the temporary impacts related to land: Extending sanitation pipelines and networks, setting construction camps are potential activities that likely result in temporary disturbance to the use of land (e.g. occupying land temporarily) or damage to land-based assets (e.g. damaging

crops). The common practice of the WSCs is to assign the responsibility of handling such impacts to the contractors. In several cases, the poor quality of the contractors' performance along with weak supervision from the WSC side increase the potential risk of leaving affected persons from these impacts without fair compensation.

- **Risk of damages associated to the construction activities**

The operations of digging machinery in narrow streets of villages may result in substantial risk to the fragile houses and other structures. As the case for temporary impacts related to land, the process is heavily delegated to contractors to handle. In the cases where the measures are not explicitly indicted in the contract and in cases of weaknesses in the supervisory role over the contactor, the potential risk from such cases may escalate.

- **Non-land based livelihoods risks**

Currently the septic tanks vacuuming service is largely operated by the informal and civil sectors within the villages. This includes individuals working as freelance operators and/or CDAs that offer the service. It is expected that after the operation of the project, the need for the vacuuming service will become obsolete. The livelihoods of the current operators might be negatively affected as a result of decreased demand on the service. The previous experience with other villages that get connected suggests that those individuals did not encounter drastic negative impacts because the vacuum vehicles were being upgraded to be used for other purposes (e.g. for agriculture purposes).

- **Weak sense of demand for and/ acceptance and readiness for projects in certain communities**

As clearly indicted in the assessment above, having a hygienic sanitation system in the rural areas of the targeted Governorates seemed to be a high demand and a pressing priority for the villagers. Despite the fact that this is usually the case in most of the rural areas in the Delta Region, the previous experience showed that this should not be treated as a uniform generalized assumption over all the villages. The sense of demand for the improved system is largely dependent on how the villagers are currently managing the current status, what cost and other troubles does it entail for them. In certain cases, villagers are not sensing the severity of the problem because the price and problems encountered are limited. For instance, in the cases where the community networks are functioning well, villagers do not care too much about the pollution of the drains, specifically because they are not fined for polluting the drain. In such case, the immediate demand on the project and accordingly the sense of ownership might be weak for the following reasons:

1. The limited current expenditure of households is encountering to run their informal system,
2. The limited level of awareness about the health and environmental implications of discharging in the drains and absence of linkages between the pollution and the negative health impacts on the households' level,

3. Lack of law enforcement in fining violating households,
4. Potential high startup (including land cost in case of community donation and the cost of households connection) and/or operation cost (specifically in case of decentralized model) to convert to a legal proper sanitation system under the project.

In the meantime, the nature of the communities including their size and remoteness from the sanitation facilitates (e.g. the WWTP) are technically determining factors for which technology could be applied. In certain cases, small and unconventional decentralized schemes are the only feasible option to connect some remote communities. The scope of the communities' contributions and their role in the projects' management is determined based on the selected technology. In certain decentralized schemes, the role of the local communities and the local CDAs goes far beyond the convention model of being "service recipient" to more of operators to the service. The cost of operation and maintenance in the decentralized schemes is higher than the standard cost paid by customers for the conventional networks. In such cases, the role of early consultations and engagement with the communities is of critical importance to ensure that the proposed technology will work. There is a big risk that certain technologies might not be accepted by communities for multiple reasons. Local communities need to be aware of the details related to the rationale of selecting the technologies, the cost that they will bear, the benefits of the project compared to the current situation and their role in operating the system. Communities should have a say in the design and operation model of these schemes to avoid the risk of weak acceptance and low participation.

Moreover, for the communities that would be served through decentralized schemes, certain level of capacity is always needed to ensure the success and sustainability of these schemes. This capacity includes the existence of CDAs/NGOs with the technical and financial capabilities to operate and maintain the project as well as clarity in the specific roles and responsibilities of each local stakeholder, including communities (i.e., their obligation to pay, O&M, etc.). This kind of prerequisite is not available for every community. The risk of limited capacities to manage decentralized schemes may pose serious threat to the success and sustainability of these schemes.

Handling the project through a "one model fits all approach" may pose a real risk because the nature of the communities to be served, their current story without a sanitation system, their economic level, their demand and affordability are all changing factors from one community to the other. Top-down approach in planning and the lack of engagement with the villagers may lead to a weakened sense of ownership to the projects. One key lesson learned from pervious rural sanitation projects is that the absence of sense of buy-in and ownership normally results in serious challenges in implementation.

- **Risk of social tensions as a result of exclusion of certain villages**

For multiple technical and financial reasons, certain villages might be left behind without benefiting from the project. The risk emerges if the excluded villages are located nearby other villages that will be receiving the service. Leaving villages behind may create a sense of alienation, marginalization and

discrimination against the local residents of these villages. The previous experience demonstrated the risk of leaving communities behind and the how his risk might escalate to create social unrest and to affect the targeted villages (e.g. by preventing the contractors from work). Weak communication with those unserved communities, including communicating the selection criteria, contributes to a deeper sense of anger. The risk in such cases expanded to affect the time schedule of the contractors working on the ground in other villages and resulted in drastic delay in the project delivery.

- **Risk related to affordability of poor households**

Affordability of poor households to the connection fee, land and maintenance cost is one key potential challenge. In most of the villages, land for the pumping stations is acquired through community donation mechanisms as explained above. In villages with supportive community leaders and CDAs, it is largely the case that poor households' contribution to the land is cross subsidized by the rest of better off households. This is not a structured mechanism for contribution but rather a community initiated arrangement within the frame of social solidarity. In certain villages, poor households are not supported and they are not able to contribute to the project. The same inconsistency applies to the payment arrangement for the households' connection fees. The discussion with the WSCs revealed that some WSCs do not have any mechanism for handling the cases of households that cannot afford the households connection. Other WSCs cooperate with the CDAs and community leaders to get information about the poor cases and support them through zero interest installment mechanism. In the meantime, some WSCs are making the zero interest installment schemes available universally and they collect the installment for the connection fees on the water bill to all the interested households. The discrepancies between the level of attention given by various Governorates to the support of poor households is a risk that may lead to inability of poor households in certain areas to access the service.

It is worth here noting that the HCWW has previously imitated a pro poor mechanism to handle the same challenge of weak affordability to the connection fees for the water connection. An internal memorandum was issued by the HCWW and was sent to all WSC stipulating the reduced cost of installing the connection. The application of the system of the reduced fees included involvement from the CDAs who provide information on poor households through social surveys.

Another relevant initiative is the revolving loan program that UNICEF is carrying out in cooperating with WSCs in Upper Egypt to connect water to the poor households. As part of the initiative, a unit is being established inside the WSC to handle the revolving fund.

The HCWW and the WSCs strongly believe the pro poor mechanism to be established for the Program should benefit and build on the existing initiatives.

- **Potential escalation for unresolved community concerns/complaints**

In all the previously identified risks, one key threat that crosscuts in various issues is the absence of appropriate consultation system and local level grievance to handle any potential emerging impact or

risk that may emerge on the ground (e.g. damage to houses, complaints related to land issues) before they escalate. This is specifically true during the design and constructions phases. The current existing mechanisms for handling grievances and complaints, as elaborated under section 3.2.1 and 3.2.10 tend to be more oriented to the operational aspects of the running systems rather than the aspects related to planning, design and constructions of new projects.

4.4.3 Social impacts

Potential impacts during construction

The construction phase is expected to generate number of local job opportunities to the villagers who could be engaged with the contractors in various activities associated to the construction phase. This is specifically applicable to the low skills jobs related to construction. In the meantime, number of negative impacts might result from the construction phase of the project. This most importantly include:

- Temporary impacts on land including the temporary use of land for construction camps and materials' storage and the potential associated damage such as crops damage during pipelines expansion and. As explained earlier in this section, the exact magnitude of this impact and the number of potentially affected individuals is difficult to be determined at this stage.
- Permanent land acquisition and potential implication on livelihoods to number of rural individuals and families. As explained earlier in this section, the exact magnitude of this impact and the number of potentially affected individuals is difficult to be determined at this stage.
- Inconvenience to the local communities and potential implication on the local activities within the villages, including distracting local business
- Health and safety risks on workers and local residents within the project site
- Potential damage for fragile structures during construction works

Potential impacts during operation

As elaborated under section 4.2.1 above, numerous benefits and positive impacts are anticipated from the operation of rural sanitation projects. Returns entail benefits on health, economics of the households, enhanced level of awareness and special benefits to women and children.

In the meantime, number of social risks were identified above under section 4.2.2. A sound and inclusive design to the project, an accountable system to engage and consult with local communities and a diligent system for handling land related issues are key guarantee for successful project implementation. Those risks should be handled carefully through the actions and indictors as part of the Project Action Plan (PAP).

5 Program Capacity and Performance Assessment and Gap Identification

5.1 Performance of WSCs with regard to legal and regulatory framework

5.1.1 Performance of WSCs with regard to the legal and regulatory framework on environmental aspects

The environmental laws and standards are believed to sufficiently address the environmental risks and impacts of the sanitation sector in Egypt and they meet international standards and the WBG EHS Guidelines with few gaps as indicated earlier in Chapter 3. The main gaps could be summarized as follows:

- There are no clear guidelines that controls the management of septage. Although there is legal prohibition for the discharge to watercourses, the difficulty to enforce such prohibition and the absence of practically available other options make this legal requirement ineffective. The Program design includes a result indicator for Septage management that should provide incentives for septage tankers to evacuate the septage at the sewerage system, and also should allow for more effective inspection on illegal discharges to watercourses.
- Similar to the above issue, although there is legal prohibition to establish private sewers that discharge to watercourses, no enforcement mechanisms or alternative solutions to those networks. Those networks achieve important benefit for the villages where they serve, however, the legal framework and technical guidelines do not allow for a sound solution for those networks. The Program design would allow for connecting those networks with due diligence assessment of their conditions, through the ISC, and take feasible measures to improve their condition.
- There are no explicit standards for land contamination. Also no explicit requirements for ensuring secondary containment of hazardous substance storage tanks that covers 110% of the storage capacity, and for taking adequate measures during filling the tanks. This gap would be bridged through including such requirements in the ToRs of site-specific ESIAs which would be prepared/supervised by the WSCs.

In terms of implementation of and compliance with the laws/standards, there are some weaknesses and gaps in the system including:

- The strict punishment of non-compliant WWTPs operators sometimes gives opposite results, as they tend to bypass portion of the received influent for meeting the effluent standards.
- The “negative discharge” by PSs, although done as a last resort in absence of sufficient finance, there should be assessment to the advantages and disadvantages for starting the connections without having enough resources to discharge the collected wastewater in a WWTP

- Most of WWTPs do not keep a documented environmental register that is being frequently updated according to the requirements of Law 4/1994.
- Most of WWTPs do not handle sludge, solid waste removed by screens, or removed grit according to the law requirements. This need to be improved as indicated later in the PAP
- The Safety procedures need to be improved and integrated within the procedures for design, construction and operations of networks and WWTPs.

The above gaps have been considered in the design of the PAP to ensure consistency with the core principals of the PforR operational policy OP 9.00.

5.1.2 Performance of WSCs with regard to the legal and regulatory framework on land acquisition

The analysis of the current procedures and regulatory framework related to land revealed the existing laws and regulation have a number of positive sides in dealing with land acquisition. This most importantly include provisions related to compensation, sharing information with the affected persons, rights of affected persons to appeal and provisions related to the temporary damage and associated compensation.

In reviewing the legal and regulatory framework against the international best practices, a number of gaps were identified, most importantly:

- **Consultation with affected individuals:** The legal and regulatory framework applied does not stipulate clear provisions for the consultation with project affected persons and does not indicate any rights for the affected persons in selecting appropriate, technically and economically feasible resettlement alternatives and compensation alternatives. There is also no stipulation about the inclusivity of the consultation process (gender, disabled, youth…etc)
- **Identification of entitled categories:** In terms of entitled persons and the entitlements, some groups of those who could potentially be affected are not explicitly indicted. Those groups of squatters, formal and informal tenants are among the groups that could encounter some serious social and economic implications as a result of the land acquisition process without having legal entitlement to compensation. In the meantime, the Egyptian legal framework for handling land acquisition does not stipulate any special attention, consideration or special measure to be taken towards the vulnerable groups (e.g. individuals below poverty line, landless, femakle headed households, elderlies, handicapped…etc).
- **Absence of proactive local level mechanism for handling grievance:** As stipulated in the relevant laws, project affected persons have the right to object and appeal. However, the stated options for handling grievance are through the court. There is no mention for local modality to proactively handle complaints to minimize the cases that escalate to the court.

- **Land Valuation Process:** The relevant law to land acquisition stipulates the market price and the committees to be formed for the valuation process. However, the valuation process of land might entail some inconsistency because of absence of strong formal land market in Egypt.
- **Replacement Cost**: The legal framework does not indicate that the valuation of land and affected assets should consider the replacement cost

5.1.3 Performance of WSCs with regard to the legal and regulatory framework on community engagement

The Public Relations and Awareness Department in each of the WSC is operating against an annual work plan that they develop under the supervision and guidance of the General Department of Public Awareness and Customers' Service in the HCWW. The work plan is meant to include all the activities that the department will be doing during the year to tackle specifically the awareness raising part of their responsibilities. The annual plan that is discussed among the teams of the same department in all the WSCs and the HCWW. The plan is approved by the HCWW chairman before the WSC takes the responsibility of implementing it. The work plans of various WSCs are almost uniform. Boxes 5.1 and 5.2 present an overview on the work plans.

Box 5.1.: Work Plan Objectives

Objectives

- Raise the awareness of citizens
- Enhance the concept of water rationalization
- Enhance community participation to develop the communities
- Contribute to higher level of efficiency in the collection of fees and revenues
- Internal awareness raising for the crew inside the WSCs

Box 5.2.: Examples of the activities within a Work Plan

Key activities

1. Preparing, finalizing the plan and obtain the approval of HCWW Chairman
2. Forming the civil society committee
3. Carrying out a "Water Campaign"
4. Implement activities for people with special needs
5. Implement activities for schools children
6. Cooperation with universities and youth camps
7. Engagement with youth, culture and media centers to publish the awareness messages
8. Cooperation with the National Council for Women
9. Community participation and civil society organization mobilization
10. Cooperation with Youth Union/groups
11. Cooperation with Donors
12. Awareness through religious institutes

13. Carry out awareness campaigns
14. Fees collection campaigns
15. Illegal connections[36] (stolen connection) campaigns
16. Feedback surveys
17. Meetings and experience exchange
18. Awareness raising for the government offices
19. Participate in the official national occasion
20. Annual exhibition for the awareness products
21. Prepare awareness messages and awareness martials for the hotline and the Customer service centers
22. Internal awareness raising for the WSCs crew

The reviewed work plans showed that number of key sub-activities have strong linkage to the sanitation projects, most importantly:

- Raising the awareness (with special learning and experience sharing activities directed to schools)
- Providing septic tank vacuuming service to the households
- Contribution to the removal of the illegal (stolen) connections
- Carrying out community surveys for monitoring the water and sanitation service
- Cooperate with CDAs/NGOs in serving communities with untraditional sanitation service
- Cooperate with wide range of governmental offices (e.g. irrigation authority, health, education, agriculture…etc) and CSOs (e.g. women representatives,
- Carry out surveys related the Customers Service center and follow up on the complaints from the hotline
- Prepare awareness material
- Carry out cross learning among the WSCs

The annual work plans are being revisited and discussed with the General Department of Public Awareness and Customers' Service at the HCWW on a semiannual meeting. Some modifications may take place and get clearance from the HCWW as per the actual need.

[36] Illegal connections (stolen connections) entail the informal water and wastewater connections that some community members install to the governmental network. Through these connections, the installed household get the service without being officially charged.

Monitoring system for annual work plan

According to the discussion with the HCWW General Department of Public Awareness and Customers' Service, the performance of Public Relations and Awareness Department is assessed based on the successful completion of the annual work plans. This is evaluated based on the following performance criteria. These criteria involve the following:

- The ratio of completed activities against the planned
- Regularity in sending monthly reports to the HCWW
- The geographic range and spread of the activities
- Number of participants from the public service members against the number of water subscribers
- Ration of completed community survey questionnaires against the number of water subscribers
- Ration of completed company staff survey questionnaires against the targeted number
- The feedback of the focal point form the targeted entities (e.g. youth centers, CDAs…etc)[37]

Table 12: Key indictors from 2014 Evaluation Report (performance related awareness)

Key indictors	Behaira	Sharkia	Dakahlya
Number of awareness members in the WSC	17	3	6
Number of completed field surveys	3012	1557	436
Percentage performance of the WSCs' awareness teams	70 (graded 7 of 25)	68 (graded 9 of 25)	60 (graded 11 of 25)

Source: The General Department of Public Awareness and Customers' Service, 2014

The analysis if the work plans, the monitoring process along with the consultations with the WSCs revealed a number of gaps in both the procedures as well as the institutional arrangements. This will be analyzed in more details under section 5.2.3 below.

5.1.4 Performance of WSCs with regard to the legal and regulatory framework on grievance mechanism:

As elaborated in details above under section 3.2.9, the official grievance handling mechanisms are mainly the Hotline for the various types of complaints related to the operation and maintenance for the water and wastewater projects and the Customer Service Centers for the issues related to billing and subscriptions.

[37] This criterion has been recently introduced as one of the verification monitoring tool. The WSC is now being asked to collect the contacts information of focal points for each of the awareness activities. As part of measuring the performance, the HCWW is using a verification method to ensure that the activities were successfully and efficiently completed. HCWW connect to the sessions' beneficiaries and external focal points (e.g. CDAs) to assess the quality of the completion of the activities.

With regard to the up and running mechanisms, more specifically the Hotline, the following are the main identified gaps:

- Because the system is not fully automated and technology is not being utilized to the maximum, there are still deficiencies in the mode of operation in the Hotline with around 50% of the calls made in 2014 receiving a busy line signal.
- Despite the very large popularity of the Hotline service across the country, the informal channels including the direct complaints to technicians are still more largely used than the Hotline. This could be attributed to the following reasons: 1) some cultural and perceptional issues that makes customers believe that the face to face communication might be more efficient than the call, 2) the lack of efficiency of the hotline due to operational challenges (e.g. busy line, unanswered calls..etc) as mentioned above, 3) The face to face complaints, particularly those which are communicated to the maintenance teams are quicker responded to.
- The weakness in the system functionality is leading to problem in the monitoring system. The monitoring is done only on selected cases because the HCWW does not have full access to all the calls due to database shortfalls.
- Time interval for resolving the complaints is not clearly communicated with the complainers. By design, the system has specific time duration to resolve each type of the problems/complaints. However, this duration of time is usually exceeded and it is never clearly communicated with the complainers.
- A key shortfall related to the existing mechanism is the dominant orientation to the operation and maintenance. Grievance related to projects planning, design and construction are not handled through the existing mechanism (e.g. issue related to potential construction impacts like damage on land or houses and issue related to land acquisition).

5.2 Adequacy of institutional arrangements and capacity

5.2.1 Adequacy of institutional arrangements and capacity on environmental aspects

The environmental planning for the rural sanitation sector, including preparing ESIAs, is mainly the responsibility of NOPWASD as it is mandated for the capital investments. Therefore, the capacity within the WSCs for carrying out or administering the preparation of ESIAs by consultants is limited. In the governorates where ISSIP and ISSIP2 are implemented, the preparation of ESIAs was leaded by the HCWW and the environmental personnel in its Project Implementation Unit, and the involvement of the WSCs was mainly during the implementation and follow-up of the ESMP measures.

On the operational side, the existing institutional arrangements at the WSCs level comprise within the organizational structure the Sector of Quality Control, Labs and Environment ,mainly responsible for effluent quality and labs) and the General Department for Occupational Health and Safety, which is

responsible for H&S issues. None of the two departments have on their mandate environmental management of sanitation facilities[38]. The institutional weaknesses of the existing system in WSCs could be summarized as follows:

- There are no mandates or capacities at the WSCs level for preparing ESIAs, whether directly for small project or through administering recruitment of consultants for larger projects, and follow up their environmental requirements. This has been addressed in the Program design through having an environmental specialist at each of the Program Implementation Units at the WSCs level, supported by an Environmental Specialist at the PMU level and the already existing Environmental Specialists of the HCWW. The ISCs will also support the WSCs in implementing ESMP measures and ensure including them in construction and operation of the Program facilities.
- The Quality Sector focus on effluent quality and does not have sufficient equipment and trained personnel for collecting and analyzing samples of mature sludge. This is one of the main recommendations of the PAP, which includes providing sufficient investments and creating a new Department for Sludge Quality.
- The Occupational Health and Safety Department does not have mandate to review PS and WWTPs designs to ensure implementation of the H&S design measures. The Department also does not have sufficient manpower to follow-up H&S measures at all sanitary facilities within its domain. The above weaknesses are addressed through the PAP by including H&S review of the designs prepared by the ISC along with providing necessary modifications to existing WWTPs to improve its H&S condition. Also providing sufficient staff to frequently inspect H&S conditions at PSs and WWTPs is one of the PAP measures.
- The operation of WWTPs is not carried out according to standard procedures that take environmental aspects of the operation into consideration. The operation is carried out under the supervision of the Operation Sector, and currently the main focus, as mentioned earlier, is meeting the effluent standards. However, the handling of hazardous substances, handling of wastes, monitoring of bypass and documenting safety incidents are not included in the standard procedures. The PAP requires inclusion of such measures in a standard documented O&M manual for each WWTP.

It is worth noting that currently the HCWW has started with WSCs, with support from the German International Cooperation GIZ, certification system for WWTPs according to the Technical Sustainable Management (TSM) which is a Quality Management System that aims at the development of Water and Wastewater to reach conformity to the Egyptian regulations, codes, laws and management requirements in fields of human resources, occupational health and safety, operation, maintenance and quality assurance. Improvement of WWTPs to comply with TSM would improve its general performance

[38] It is worth noting that environmental management of ISSIP and ISSIP2 was done through a special institutional arrangement in the Project Implementation Unit and the Rural Sanitation Units in the WSCs, and not through the existing structure of the WSCs

against certain KPIs, and adding the environmental management dimension to this would be required under the PAP as further indicated in Chapter 6.

5.2.2 Adequacy of institutional arrangements and capacity on land acquisition

The analysis of the existing institutional arrangement and capacity for handling land acquisition issues showed a number of shortfalls and gaps that need to be addressed to allow for an enhanced and transparent system in dealing with land acquisition. The following are the main identified gaps:

- Land issues are being largely managed through **a technical and legal orientation**. The Properties Department which is currently mandated with the land issue is one of the legal offices within the WSC. The department which is interacting with the local communities and have mandates for handling social aspects does not have a role to play in the process of land acquisition (including consultations with affected individuals).
- There is **substantial lack of capacity in dealing with the social impacts** related to land acquisition. This includes, but is not limited to, lack of experience dealing with complaints related to land; do not have any knowledge of the potential adverse impacts of land acquisition on people's income and livelihood; do not have any skills to carry out consultation with land owners.
- Absence of the **inter-agencies coordination role** to facilitate the process of obtaining approvals.
- **Shortage in human resources** to handle land acquisition issues in a more diligent and transparent manner
- **Absence of institutional responsibilities and mandates for local level grievance** to handle land related complaints and concerns.

5.2.3 Adequacy of institutional arrangements and capacity on community engagement

The conducted institutional assessment for handling community engagement showed that existing resources and mechanisms for managing community engagement has a number of strengths that could be summarized as follows:

- **Availability of teams** to handle the issues related to community awareness and communication on the Governorate level.
- The activities of the Public Relations and Awareness Department on the WSCs level is conducted based on an **agreed upon annual work plan**.
- There is a **monitoring and evaluation system for the performance of the WSCs**. HCWW evaluates the performance against the work plan in annual basis and rank the WCSs.
- There is a number of **community based monitoring techniques** for measuring the satisfaction with the service, the problems encountered by customers and the efficiently of the awareness and grievance systems (e.g. surveys).

- **Availability of awareness and communication** guidelines and good quality materials that are used by the staff.

In the meantime, a number of institutional gaps were identified. These gaps concern with the mandates, accountability, the amount and capacities of exiting manpower and the resources available for them. The following section presents the main identified and analyzed gaps.

- **Limitations in the mandates of the WSCs scope and the WSCs capacity**

The HCWW and the affiliate WSCs are specifically mandated with the operation and maintenance. Currently the role of the WSCs in the needs assessment, design, planning and construction of the rural sanitation projects is very limited. Apart from the cases where land is donated for the pumping stations and the WSCs get engaged in the process, no actual interface with local village residents starts until the project is up and running on the ground. Even in the cases of land donation, the Department of Public Relations and Awareness Raising does not involve in issues related to land.

- Community engagement tends to be defined by WSCs as raising the awareness of the communities rather than engaging with them in the process of decision making. In the meantime, water supply and water rationalization are priority scope areas to the WSCs that far overweight sanitation. No structured uniform mechanism is in place for the WSCs to engage with poor households to facilitate their access to households' connections or to get communities views on the design and planning of certain sanitation project. **Shortage in human resources and lack of staff representation on the Markaz and village level**
- In addition to the lack of comprehensiveness for the scope of work of the Public Relations and Awareness Department, the conducted assessment revealed a significant shortage in the available human resources on the WSCs level. While the number of staff in Dakahlya is 6 team members, only 2 staff members are in charge in Sharkia. In the meantime, the interviewed WSCs members expressed concern about the fact that no support teams are available on the Markaz (where the WSCs branches exist) or the village level. This shortage in human resources is affecting the capacity and scope of outreach to rural areas. **High staff turnover rate**

Because the awareness raising and the tasks related to community engagement are perceived to be of lower profile, the department generally witnesses high turnover rate with more interest from the staff to join other departments closer to management.

- **Lack of monitoring system to measure the impacts and the efficiency of the implemented community based activities including the awareness**

The current monitoring system that the HCWW is applying is very much oriented to monitoring the completion of activities rather than measuring their impacts on the communities. For instance, the current method for monitoring the awareness raising is through completing the planned activities and not measuring their impacts on the targeted communities.

- **Lack of resources for logistical support**

The lack of resources for the needed logistical and administrative support is one of the key common challenges among all the WSCs, with some slight exception in the case of Behaira WSC. Members of the WSCs mentioned the challenges they face due to the lack of supportive equipment like laptops and cameras and how this is implying on their ability to work.

- **Inconsistency in the capacities of the assigned teams**

There is inconsistency between the level of capacities among the three Governorates. While number of the assigned staff has good technical and communication capacity, other staff members are not equality qualified. In very general terms, the capacities needed to carry out community engagement in its large terms seemed to be absent. There is significant limitation in knowledge related to community consultation, handling and mitigating social impacts, handling grievance and handling land acquisition issues.

5.2.4 Adequacy of institutional arrangements and capacity on grievance redress mechanism

This is elaborated in details under section 5.1.4 above

6 Recommended Actions to Address Identified Risks and Gaps

6.1 Actions to address identified Environmental Risks and Gaps

The measures and actions recommended in this Chapter have been identified according to risks, impacts of the Program and the gaps identified in the existing system.

6.1.1 Implementation support for environmental aspects

The institutional support for managing the environmental aspects of the PAP will be as follows:

- The main implementation responsibility of the PAP will be on the Program Implementation Unit (PIU) who should recruit an environmental specialist on full-time basis. The PIU environmental specialist in each WSC will be responsible for the environmental assessment of the interventions at each Program cluster, for following up the implementation of ESMPs, for ensuring the actions taken by other departments are done on timely manner, and for preparing Environmental Registers, progress reports and implementing monitoring measures. The 3 environmental specialists at the PIUs will be supported by:
    - An Environmental Specialist at the PMU level, who is expected to be recruited with sufficient environmental assessment and management experience (10+ years of experience) to support and build the capacity of the PIUs. It is expected that during the first stages of the Program the PMU environmental specialist will have major role in the ESIA process through providing PIUs with ToRs, templates, helping in contracting ESIA consultants, following-up the approvals of EEAA, responding to different comments so as the quality of the ESIAs would adequately address the site specific environmental risks. The role of the PMU environmental specialist is expected be more towards a supervisory role with the advancing of the Program as the PIUs would have gained the experience to handle ESIAs towards the end of the Program.
    - The Environmental Specialist of the HCWW, who will also provide support in reviewing the ESIAs and giving insight about the bottlenecks usually confronted in other projects and how to overcome them. The Environmental Specialist of HCWW is already onboard and worked with long list of similar projects implemented through the HCWW.
- The ISC would support the environmental specialists of the PIUs on implementation and supervision of site-specific ESMPs. The WSCs would take advantage for the ISC role in construction supervision to overlook the environmental management of construction contractors.
- The Quality Sectors in the 3 WSCs should either introduce a new Department for Sludge Quality or add the sludge quality to the mandate of the Effluent Quality Department. The WSCs should

procure sufficient laboratory equipment in the labs of WWTPs and the central labs at each WSC to analyze sludge. Sludge analysis should be done once the sludge maturation period is completed (6 months) at each WWTP with the report sent to the central lab to identify the suitability for sludge sale, and the selling of sludge will be done at the WSCs accordingly. It should be noted that the contracts for sludge selling, if analysis proven its suitability, should include the restrictions for sludge application as indicated in Decree 44/2000.

- The Occupational Health and Safety Department should add the following responsibilities to its mandate:
    - Reviewing designs of new WWTPs and PS and ensure that sufficient H&S measures are taken
    - Following up the adherence of WWTP and PSs staff to the H&S site specific measures. An inspection report should be prepared for each facility on a quarterly basis. In order to sufficiently implement this it is expected that more H&S staff would be recruited to comply with this.
- The Operation Sector should prepare a documented O&M manual specific for each WWTP including the environmental measures included as recommended by the environmental specialists and should ensure that WWTP managers adhere to such manuals

6.1.2 Exclusion of high risk activities (Category A-Type Investments)

The Program interventions are limited to sewerage networks and small scale WWTPs, maximum of 30,000 m3/d, as indicated earlier. No Category A-type interventions are included within the Program. However, the NRSP interventions in the 3 governorates include construction or extension of 3 relatively large WWTP, which could be regarded as Category A-type intervention due to their size as follows:

- Gharb El Mansoura WWTP, which is currently under construction, with design capacity of 135,000 m3/d. The WWTP will serve at its first stage 5 villages in Dakahlia Cluster 41 with total current population of about 60,000.
- Kafr Abo Naser WWTP, also under construction, with design capacity of 88,000 m3/d. The WWTP will serve at its first stage 10 villages in Dakahlia Cluster 32 with total current population of about 70,000.
- Aslougy WWTP, which is currently operating with capacity 80,000 m3 and NRSP would introduce expansions additional 50,000 m3/d. The expansion will serve at its first stage 2 villages in Sharkia Cluster 36 with total current population of about 40,000.

These WWTPs are not included in the PforR Program, and their completion is not required to achieve the Program PDO nor the DLIs. It would be required to maintain the borders between the government program (NRSP) and the PforR Program through:

- The PMU and PIUs in Dakahlia and Sharkia WSCs should make sure that the interventions of networks, PSs and WWTPs in the 3 above clusters are not included in the aggregation of results for DLI1
- The IVA should include in its verification criteria ensuring that interventions in the above clusters should not be counted in the measurements of the DLIs

6.1.3 Program Action Plan for environmental aspects

The following measures are proposed for minimizing environmental risks and mitigating environmental impacts:

- The PIUs, with support from the PMU and HCWW, should initiate the ESIA process for new clusters through preparing ToRs for the ESIAs putting sufficient weight to the covering the issues identified in this ESSA and the site specific issues[39]. The ESIAs should be approved by EEAA prior to initiating any civil works at the project level. The site specific ESMP measures should be included in the construction contracts and WWTP manuals. The ISC should supervise the implementation of such measures and prepare progress reports.
- Sludge analysis should be included in the regular operations of the Quality Sector in WSCs. The analysis should be carried out for each batch of matured sludge against the standards of Decree 44/2000. In case the sludge is complying with the standards it could be sold to contractors on condition that the contractor would be responsible for making farmers aware of the application rate of sludge, this responsibility should be reflected as an article in the contract. In case the sludge is not complying with the standards, it should be transferred to an adequate disposal site.
- The Operation Sector for each WWTP should prepare and O&M manual specific to each WWTPs that includes standard procedures on normal conditions as well as on emergency conditions. The manuals should include the following measures. PIU environmental specialist, should frequently monitor the adherence to this manual:
    - Bypass discharges should be measured and recorded in the Environmental Register of the WWTPs. The PIU should make sure to supervise this through observing the bypass line during site visits and compare records of discharges of PSs against received discharges measured at WWTPs
    - Solid waste separated from screens and grit chamber should be collected at a certain location of the WWTPs and transferred on daily basis to disposal sites identified by the Local Authority. The PIU should follow up through site visits the implementation of this measure
- The new Code of rural sanitation should have measures for putting rural shock loads into consideration when designing the WWTPs. The Code should address common shock loads from

[39] The ToRs of Site specific ESIAs should address risks on land quality and requirements for secondary containment of hazardous substances tanks as these were identified gaps in the legal system

septage and animal slurry in rural areas. The Code should also provide technologies for minimizing land requirements for PS and WWTPs in the Delta area. The Code shall be developed by the NHBRC with close coordination from the PMU. The ISC should consider those factors in designing new PSs and WWTPs.

- The ISCs should provide sufficient site supervision on contractors during excavation works to report on any chance finds of culturally valuable objects.
- The Occupational Health and Safety Department should provide needs assessment for existing PSs and WWTPs to improve the health and safety standards. The Department should review designs of new facilities and provide comments as needed. The Department should conduct quarterly inspection for each WWTP and PS to ensure compliance with H&S standards.
- The ISC should review the compliance of construction contractors with health and safety requirements and include in site supervision progress reports any observations. Also the adherence of contractors to the ESMP measures for minimizing temporary construction impacts should be included.
- The ISC should ensure that dewatering operations do not affect the structures in neighboring areas and that it is not discharged in land. Site supervision progress reports should include any relevant observations.
- Connecting PSs that are negatively discharging to drains and private networks should be calculated among the results of DLI1, which will promote the environmental benefits of the Program. In caste of connecting private networks the ISC should assess their conditions and identify necessary measures to improve its quality to prevent/minimize clogging and leakage.

The PMU and HCWW should establish dialogue with MWRI and MoH regarding the possible modifications of Law 48/1982. This would help in making the PMU technically and financially prepared for any future modifications of the Law.

6.2 Actions to address identified Social risks and gaps

To address the previously identified social risks, the design of the program will need to take into consideration the number of measures indicted below. The enhancement of the institutional capacities should involve assigning the needed human resources, training them and equip them with the tools needed for them to implement a monitor these measures. As per the design of the DLIs and the PAP, the capacity enhancement will adopt and incremental approach that allows the teams in charge to move with the identified measures and actions into actual implementation. The action to address the identified risks will entail both procedural and executive dimension and institutional dimension. They will largely revolve around two main dimensions: i) land acquisition and 2) community engagement.

One key crosscutting dimension to the proposed actions is **women inclusion**. As indicted in the analysis of the ESSA above, women are critical player who are specifically encountering harsh implications from

the absence of appropriate rural sanitation system. Women inclusion and engagement are key prerequisite for the success and sustainability of the Program. Measures should be designed in a manner to ensure that women (as well as other marginalized groups) are getting equitable access to the project benefits and are not specifically encountering negative impacts. This will be highlighted in respective section below.

The key proposed measures could be summarized in the following:

6.2.1 Develop a standardized, approach for land acquisition

1) **<u>Establish an inclusive Standards Operational Procedures (SOP)</u>**

- Prepare an inclusive Standards Operational Procedures (SOP) for the different approaches and procedures for acquiring land. The SOP should be prepared within the framework of the key principles of the international policies and best practices.

Box 6.1: Basic content for the "Standards Operational Procedures"[40]

Key contents for the Standards Operational Procedures:

i. Regulating laws
ii. Approaches for land acquisition
iii. Proposed Improved Procedures
iv. Principles:
   - ✓ Entitlements
   - ✓ Valuation of compensation
   - ✓ Consultation with affected individuals
   - ✓ Information disclosure
   - ✓ Grievance mechanism
   - ✓ Inclusion of vulnerable groups (including women, elders, landless…etc)
v. Planning the resettlement process
vi. Documentation process
vii. Monitoring the impacts related to land acquisition
   - ✓ Tools
   - ✓ Reporting
viii. ToRs and performance indicators for the "Land Acquisition Officer"
ix. Key Executive steps for finalizing land acquisition process (including the checklists and forms to be used, steps to be followed…etc)

As indicted under the consultation discussion and the various sections of the ESSA, there is a strong recognition among the teams of the WSCs for land as a bottleneck and clear openness

[40] The content is not inclusive and will be developed further as part more comprehensive ToRs to be developed for the Guidelines preparation with guidance from the Bank.

for adopting a streamlined and strengthened approach in acquiring land. Commitment to the WSCs application for the SOP should be ensured. This could be attained through the following:

- Ongoing consultation during the preparation of the SOP will strengthen the sense of ownership and ensure that the proposed procedures are technically doable.
- Wide dissemination to the SOP and building the capacity on the tools for its application should be assured.
- The SOP should be clearly reflected in the responsibilities (ToRs) of the assigned teams to ensure that the stipulated procedures are actually followed.
- Linkages between the application of to the SOP and the performance of the WSCs teams.

2) <u>Streamline the process of land acquisition approvals among various ministries</u>

- Develop **Memorandum of Understanding (MoU)** between the Ministry and different entities in charge of provision of the land approvals. These entities include the line-ministries as well as the concerned Governorate and LGUs. This MoU should work as an umbrella agreement to set forth the cooperation among the various entities to ensure securing approvals on fast track basis and work to prevent any potential delay in the process of land acquisition. The MoU should stipulate any needed measures to be taken (e.g. establishing higher committee or Governorate level committee) to ensure close coordination for timely delivery.

3) <u>Handling potential risk related to the land that was acquired before the start of the Program:</u>

- Post verification/review to be conducted by the WSCs for the land acquisition cases that were completed before the Program starts to ensure that the process of land transaction was completed satisfactorily (e.g. documentation, compensation value, entitled groups, full payment paid…etc)

4) <u>Strengthen the capacity of WSCs to manage land acquisition</u>

- Assign staff to work in each of the Governorates to fill in the function of "Land Acquisition Officer"[41]. The role of those assigned members should not be of pure legal nature but rather a combination of social and legal background to ensure sufficient consideration for the social impacts related to land acquisition. A Senior Land Acquisition Officer should be also assigned within the PMU on the central level to ensure close coordination with the assigned Governorates staff. If the Social Officer assigned has good knowledge and experience about land acquisition, he/she might be assigned the land responsibilities in cooperation with the legal/properties department. The land acquisition team should be coordinating closely with the Legal and Properties Departments team with the objective of addressing the social implication related to land and ensuring the various principles as per the SOP are addressed. Training and capacity building should be provided to this team as indicted below.

Box 6.2: Preliminary responsibilities for the Land Acquisition Officers[42]

On the level of the PMU

The Senior Land Acquisition Officer on the PMU level should be in charge of the land file on the program level. He/She should work in designing a progressive work plan that carefully harmonize between the project implementation schedule and the land acquisition requirements in a timely manner. Based on the MoU, he/she should play a key role in flagging issues to the central committee to avoid any potential delay in the project implementation as a result of land acquisition. The Senior Land Acquisition Officer should work closely with the Land Acquisition Officers on the WSC level to ensure the diligent implementation for the land acquisition process as per the SOP. The Senior Land Acquisition Officer should report to the Head of the PMU

On the WSC level

The Land Acquisition Officer on the WSC should be charged with the daily responsibility of consultation and commination with the affected groups as a result of land acquisition. The Land Acquisition Officer should work to fulfill all the resettlement principles that will be stipulated in the Guidelines. He should coordinate and harmonize activities closely with the Community Engagement teams. He/She should

[41] Assigning a team on the PMU and the WSCs to be fully in charge of "land acquisition" (to work with the legal team) is an optimal scenario. If human resources for this purpose are not available, these mandates should be handled by the community engagement teams.

[42] Those are not inclusive ToRs for the land acquisition officer. Comprehensive ToRs will need to be prepared with guidance from the Bank. It is also possible to revise the existing ToRs of the Properties Department to ensure that the proposed responsibilities are included.

report to the Senior Land Acquisition Officer on the PMU level.

6.2.2 Strengthening the system of community engagement

6.2.2.1 Strengthening the institutional setup and the procedures to address community engagement and social risks

As examined on Chapter 5 above, the process of community engagement currently entail large number of shortfalls that could majorly attributed to the limitation in scope, mandates and human capacities. As the case with the land acquisition, a number of measures will need to be taken to strengthen the system of community engagement.

1) Developing comprehensive "Procedural Guidelines for Community Engagement"

The "Procedural Guidelines for Community Engagement" should be setting the foundation for the teams who will be assigned to carry out the community engagement in an inclusive and comprehensive manner. The Guidelines should cover the various stages of the project starting from the assessment and preparation, passing through design and construction until project implementation, operation and evaluation. The Guidelines should include full set of guiding tools, sheets and checklists that the community engagement teams should be using. They should provide clear guidance to the teams working in community engagement on how to address the vulnerability issues, including how to engage women and how to strengthen communities' ownership to the projects as a prerequisite for project success and sustainability. The Guidelines will also work as a protocol manual that give guidance on how to design and implement field work in a culturally sensitive manner.

Box 6.3: Basic content for the "Procedural Guidelines for Community Engagement"[43]

i. The process of social risk identification and mitigation

ii. **Project preparation**

- ✓ Participatory needs assessment
- ✓ Willingness to pay and affordability surveys
- ✓ Willingness to contribute (e.g. land and cash)
- ✓ Designing and implementing a pro-poor strategy
- ✓ Consultation with land owners and land users
- ✓ Preparation of the relevant ToRs for ESIA
- ✓ Support the preparation of baseline surveys

iii. Project design

- ✓ Community mobilization for participatory design
- ✓ Review and provide input to the ESIAs

[43] The content is not inclusive and will be developed further as part more comprehensive ToRs to be developed for the Guidelines preparation under guidance from the Bank.

iv. Project Construction

- ✓ Implementation of the social management plan including:
  - Consultation with various stakeholders including affected individuals
  - Monitoring the mitigation measures
  - Establish and operate local level grievance mechanism
  - Maintain records of the construction process, impacts and complaints handling.
  - Carry out awareness raising

v. Project operation

- ✓ Implementation of the social management plan
  - Communities satisfaction survey
  - Carry out awareness raising
- ✓ Regular reporting

vi. Project monitoring and evaluation

- ✓ Identification of key monitoring indictors
- ✓ Key principles and tools for participatory monitoring
- ✓ Preparing monitoring reports
- ✓ Evaluation of sanitation projects

vii. Protocols for designing and carrying out field work

viii. ToRs and competencies for the Community Engagement teams

- ✓ ToRs for the Senior Community Engagement Officer on the PMU level
- ✓ ToRs for the Community Engagement Officer on the WSCs level
- ✓ ToRs for the Community Engagement Focal Point at the branch-level

ix. Performance Based Evaluation for the Community Engagement teams

Annexes: This should include all the templates, checklists, guiding documents

2) <u>Assign the appropriate human resources for community engagement:</u>

Currently the department with closest relevance to the responsibilities related to community engagement is the Public Relations and Awareness Raising Department and the Hotline Department within the WSCs. However, the scope of responsibilities of these departments is currently narrower than their anticipated role in the Program. As shown in Table 6.1 below, there are certain mandates that are not within the current scope of the WSCs and other mandates that will need to be strengthened as part of the new program.

Table 13: WSCs new mandates and the existing mandates that need strengthening

Areas that are outside the current mandates (need to be added)	**Areas that are within the current mandates but will need strengthening**
• Communities need assessment • Willingness to pay and contribute • Participatory planning and design • Identification and handling social risks • Construction phase (consultation, assessing and mitigating the impacts related to construction) • Grievance redress mechanism to cover the construction and land related issues • Monitoring project benefits on local communities • Monitoring the impacts of awareness raising activities (e.g. change in knowledge, behaviors and attitudes)	• Assessing community satisfaction • Awareness raising • Designing and implementing action plans • Grievance redress mechanism • Performance monitoring

It is recommended that the human resources within both the PMU and the WSCs are strengthened to ensure diligent consideration for the various community engagement aspects and to work proactively to address the social risks along the various stages of the project. As the case for the teams to manage land acquisition, it is recommended to assign a Senior Community Engagement Officer on the level of the PMU on the central level to ensure close coordination with the assigned Governorates staff. On the WSCs level, teams of Community Engagement Officers should be assigned. Due to the relevance of the scope of this position and the exiting teams under the department of Public Relations and Awareness Raising, it is recommended that nomination of the Community Engagement Officers consider the existing human resources within the WSCs. However, a review for the previous performance along with the relevance of the existing staff qualifications and experience to carry out the new mandates should be carried out to make decisions on the members to be selected.

One of the key gaps that the new institutional setup should seek to bridge is the absence of staff to manage community related issues on the level of the Markazes/WSCs branches. It is recommended that branch-level Community Engagement Focal Point are assigned to take case of the day to day consultation and commination with local communities as well as the affected persons from the land acquisition.

The Scope of work and TORs of the teams to be assigned for the community engagement should be developed as part of the preparation of the Procedural Guidelines for Community Engagement. The assigned teams should be capable and competent to carry out all the tasks related to community

engagement and mitigating social risks on different levels and along different stages of the project. Most importantly, the teams should be working proactively to address the risks identified through this social assessment by adopting the measures that are stated in this Chapter of the ESSA. The teams should be also working to identify any other potential social risks that might emerge along the project life cycle. It is worth mentioning that for all the measures stated under section 6.2.2.2 to section 6.2.2.7 below, the community engagement teams should play a key leading role to implement.

Box 6.4 below presents a very preliminary idea about the key responsibilities of the community engagement teams on the level of the PMU, WSC and branches.

Box 6.4: Preliminary responsibilities for the community engagement teams [44]

On the PMU level

The Senior Community Engagement Officer on the PMU level should be responsible for the overall performance of the Program in terms of community related activities and managing social risks associated with the Program. With the WSCs team, he/she should design the overall community engagement and the risks mitigation strategy and follow up closely in its implementation. He/she should monitor and evaluate the performance of the community engagement teams on the WSCs level. The Senior Community Engagement Officer should work closely with the Senior Land Acquisition Officer to develop joint plans that incorporate the land related impacts along with diligent and proactive measures to handle.

The Senior Community Engagement Officer should report to the Head of the PMU.

On the WSC level

The Community Engagement Officer should be assigned on the WSCs level. They should be working together as a team and with their respective officers on the branch level to execute the strategy related to community engagement and mitigation of social risks. Their work is field based with majority of time expected to be spent in the targeted villages to carry out the various activities. They should be providing direct day to day support to the focal points in the Braches. The Community Engagement Officer reports to the Senior Community Engagement Officer on the PMU level.

On Branch level

Community Engagement Focal Point is based on the WSC Branch (Markaz) level. He/She works under the direct supervision of the Community Engagement Officer of the WSC. The Focal Point should be following up on the actual issues with villagers on daily basis. He/She should be working against monthly work plan that is developed with the WSC. In the meantime, the Focal Points should alert against any

[44] Those are not inclusive ToRs for the land acquisition officer. Comprehensive ToRs will need to be prepared with guidance from the Bank

potential emerging social risks and contribute to setting strategies to address them. The Focal Point reports to the Community Engagement Officer on the WSC level.

6.2.2.2 Addressing the risk of damages associated to the construction activities

This potential risk could be addressed through the following proactive measures:

- Early consultation with various community groups including the potentially vulnerable households.
- Ensure the ToRs of the ESIA are stipulating this type of potential social risk and ensure that the ESIA gives the due attention to it in the analysis.
- Design environmental and social management plan (ESMP) that set forth measures that obliges the contractor to take precautionary measure to avoid this risk
- Maintain consultation during the project construction
- Close monitoring to the work of the contractors
- Design and operate a local level grievance mechanism to handle potential complaints

6.2.2.3 Addressing the risk of weak sense of demand for and ownership towards the projects in certain communities

This potential risk could be addressed through the following proactive measures:

- Early consultation with targeted community to assess the need for the project.
- Work to demonstrate to the local communities the anticipated returns from the project including health benefits.
- Engage strongly with rural women to raised their awareness and build their sense of ownership.
- Highlight other issues related to pollution and the unsustainability and unreliability of the current illegal services.
- Initiate coordination with other relevant stakeholders including the Ministry of water and irrigation and NGOs to mobilize for the illegal sewage dumping.

6.2.2.4 Addressing the risk of low acceptance and readiness for the proposed technology

This potential risk could be addressed through the following proactive measures:

- Close collaboration with the design consultant to enable the community engagement officers to deliver clear and comprehensive idea to the community members on the project technical details, households connection cost and the role that will be played by communities and the CDAs in operation and maintenance
- Early consultation with targeted community to assess the need for the project, willingness to pay, affordability and their capacity to manage a decentralized system.
- Enhance the level of ownership to the project through community mobilization and implementing participatory assessment
- Facilitate the delivery of the needed capacity building to enable the local communities and/or CDAs to operate and maintain the project in sustainable terms.

6.2.2.5 Addressing the risk of social tensions as a result of exclusion of certain villages

This potential risk could be addressed through the following proactive measures:

- Avoiding this potential risk during the clustering of the villages in the design of the project.
- In case where the exclusion of certain villages is inevitable, it is recommended to facilitate the access of these communities to any alternative sanitation model (on site models).
- In all cases, consultation activities should be also targeting and inclusive to these communities.
- Transparent sharing of information should be ensured

- Design and operate a local level grievance mechanism to handle potential complaints

6.2.2.6 Addressing the risk related to affordability of poor households

This potential risk could be addressed through the following proactive measures:

- A pro-poor strategy for supporting the poor households will be prepared. This will include a comprehensive analysis for the potential locally appropriate forms of assistance to poor households should be developed based on actual assessment on the level of each Governorate.
- The analysis should engage with key stakeholders on the Governorate and villages level including but not limited to, CDAs, Directorate of Social Solidarity, natural leaders, the targeted beneficiaries form poor households …etc.
- The different options should be examined along with the pros and cons of each in the specific villages context.
- A set of Alternatives should be reached in consultation with stakeholders and should be announced transparently.
- The criteria for the selection of the households to receive special assistance should be announced clearly and transparently on the village level
- Design and operate a local level grievance mechanism to handle potential complaints

The following presents a basic analysis for the scenarios that could be considered along with their pros and cons:

Table 14: Analysis for the possible scenarios for supporting the poor households in connecting to the project

Assistance scenario	Pros	Cons
1. Universal exemption from the households fees: The Government to offer the households connection cost to all subscribers	• Minimize the amount of work needed and the associated cost • Easy to apply • Will minimize any chances for social tensions among communities.	• Big waste for the Government resources because of large leakage to well off cases • Threaten the sense of ownership to the project • Create unfavorable sense of dependence of the Government • Potential fear of claims of unfair and unequitable treatment since other households outside the project are paying for the connection
2. Universal installment system with low/no interest to be made	• Limited amount of work needed to apply the system (no targeting work is involved)	• Potential leakage to cases that can afford to pay in cash • Potential waste of Governorate

available for all	• It entails kind of self-targeting because whoever cannot afford will likely benefit from this type of assistance and well off people may likely prefer to pay in cash	resources
3. Full exemption from the connection fee to poor households (based on targeting through various mechanisms – e.g. submitting papers, social surveys to be conducted…etc)	• Significant support to the poor households • If done efficiently, it will mean limited room for leakages.	• Large amount of work associated • Potential escalating claims of unfair treatment or claims of being excluded • Possibility of social tension
4. Targeted installment system with low/no interest to be made available only for poor households (based on targeting through various mechanisms – e.g. submitting papers, social surveys to be conducted…etc)	• If done efficiently, it will mean limited space for leakages. • Limited/no waste for the Government resources • The sense of ownership will be maintained because all households will stay pay for the service.	• There is a possibility that some illegible households will not benefit while the benefit might leak to ineligible cases. This heavily depends on the targeting mechanism to be applied.

The above scenarios should be elaborated and examined against the local conditions to make sure the selected scenario suits the conditions in each Governorate. In the meantime, the method for targeting the poor households (in the scenarios where this is needed) should be carefully designed to combine between simplicity and efficiency. It is unfavorable to put additional pressure on the poor households to complete and submit large amount of documents to prove that they are entitled to assistance. The associated administrative costs related to applying the targeting mechanism as well as the needed human resources should be taken into consideration in designing the targeting mechanism. It is strongly recommended to resort to community-based mechanisms (e.g. village level committees, community leaders, CDAs, .etc) to participate in the targeting process and to help in verifying the information and confirm illegibility. It is critical to ensure that the community-based mechanism is representative for the various sub groups within the village to avoid any exclusion. The designed strategy should be built on existing mechanisms (e.g. UNICEF mechanism) and the lessons learnt from them.

Transparent sharing of information should be ensured through:

1) Transparent announcement for the whole process including a) the support scenario that will be applied, b) the criteria for selecting the poor households, c) the required documents (if any) and d) the community-based mechanism that will be supporting.
2) A grievance mechanism should be operating efficiently to receive various complaints. People should be given the right to claim and prove eligibility and timely transparent response should be provided to them.

6.2.2.7 Strengthened grievance mechanism to accommodate various issues

As elaborated in details on Chapter 5, the current Hotline system has its own limitations, including but not limited to, the lack of automation and limitation in applying technology, lack of standardized process and procedures, absence of clarity on the time interval need for handling different types of complaints and preference of informal intake channels versus formal ones. In the meantime, the ESSA identified the limitation in the scope of the Hotline and the focus on the operation and maintenance as a key gap. Currently, the types of social risks identified above are not being handled through the Hotline, neither do they have another grievance channel to resort to. As shown under sections 6.2.2 and all the sub section above, designing and operating a local level grievance mechanism to handle potential complaints was introduced as one key crosscutting measure to address multiple social risks.
The Hotline system should be improved through better use for technology, strengthening the registry and tracking system and enabling complainants to appeal if their complaints are not satisfactorily resolved. In the meantime, for handling the social risks related to land, poor households' connection fees and the impacts of the construction work as elaborated above in this chapter, a local level mechanism will need to be designed on the village level to handle these issues. The merit of having a local mechanism versus having these complaints channeled through the Hotline is the fact that these issues are largely generated on the grassroots level and it is better to ensure they are handled promptly on the local level instead of leaving them to get through a universal inefficient system which is already overloaded with large complaints influx related to operation and maintenance. It is recommended that diversion protocol is being established between the Hotline and the local grievance mechanism to ensure that a) complaints received through the local mechanisms are also reported inside the Hotline system and b) in case complaints related to the Program are received through the Hotline, they should be promptly diverted to the local level grievance mechanism. It is also strongly recommended to ensure that women are having smooth and equitable access to the designed grievance system and that their complaints are fairly handled.

In the design of the local level grievance, the following are key principles that should be taken into consideration:

- Multiple uptake location with clear organizational structure for grievances handling
- Clear system for sorting, processing, prioritization and referral
- Acknowledgement through provision of receipts and tracking numbers

- Timely provision of progress updates to complainants and feedback
- Timely and efficient verification, investigation and Action
- Monitoring and evaluation trough operating good tracking system, analysis for the complaints including status and develop regular reports.

The following section wraps up the actions related to social aspects that should be included in the PAP:

For developing a standardized, approach for land acquisition

- Develop ToRs for the "Standards Operational Procedures"
- Develop "Standards Operational Procedures"
- Develop Memorandum of Understanding (MoU) along with any other associated requirements (e.g Higher committee, decress…etc)

Enhancing the system for engaging with communities and addressing social risks

- Develop ToRs for the Procedural Guidelines for Community Engagement
- Develop the "Procedural Guidelines for Community Engagement"

Addressing poverty and affordability issues:

- Set and apply a strategy for assistance scenarios (including targeting techniques) to be provided to the poor households

Crosscutting measures

- Strengthened grievance mechanism to accommodate various issues
- Establish a strategy for ongoing consultation with stakeholders across various stages
- Establish transparent system for sharing and disclosing information

Institutional Issues

- Assign the appropriate human resources for handling land acquisition
  - ✓ Develop ToRs for the Senior land acquisition officer on the central level and the land acquisition officer on the level of the WSC and obtain the Bank approval
  - ✓ Assign the land acquisition teams
- Assign the appropriate human resources for community engagement and handling social risk

- ✓ Develop ToRs for the Senior Community Engagement officer on the central level, the Community Engagement officer on the level of the WSC and the Focal Points on the Markaz/branch level.
- ✓ Assign the community engagement teams

Enhance the performance evaluation system

- Establish performance based monitoring system to evaluate the teams that will be assigned.
- Establish strong reporting mechanism that allow for bottom up flow of information and allow decisions to be made accordingly

6.2.3 Implementation support for social aspects

Training and capacity building will be key prerequisites to enable the assigned teams to carry out their responsibilities as stipulated in their ToRs. The following are the main areas of support for the Program Implementation:

For land Acquisition

The "Standards Operational Procedures" should be the applications related to land acquisition. The implementation support in this regard will entail:

- Providing guidance and support to the PMU and the WSCs in the preparation of the ToRs for the responsibilities of the team and the preparation of the ToRs for the SOP and the Procedural Guidelines for Community Engagement.
- Provide training to the WSCs teams working in land acquisition[45].

Initially proposed topics of training for the teams working in land acquisition:

- International policies and best practices related to resettlement
- Legal and social aspects associated to resettlement
- Preparing of resettlement assessments and action plans
- Monitoring the land acquisition and resettlement impacts

For community engagement

The "Procedural Guidelines for Community Engagement" will set the core for the work of the community engagement team. The implementation support in this regard will entail:

[45] Training should be initiated once the teams are assigned in order to enable them to carry out their tasks in a sound diligent and socially sensitive manner

- Provide assistance in development of the "Procedural Guidelines for Community Engagement"
- Support the WSCs in strengthening the GRM system
- Provide assistance to WSCs to strengthen their monitoring and evaluation system in terms of the service feedbacks
- Provide training to the teams of the WSCs and relevant stakeholders on community engagement related aspects

Initially proposed topics of training for the teams working in community engagement:

- Social assessments
- Social risk assessment
- Participatory planning approaches
- Monitoring consultants and contractors

Crosscutting modules to all the teams:

- Consultation and engagement with affected persons
- Information sharing and Disclosure
- Grievance redress mechanisms
- Monitoring and evaluation
- Report Writing

In the meantime, it is essential as part of the capacity building process of the assigned staff and the implementation support to provide the needed logistical support to enable them to carry out their mandated and perform the tasks that will be requested from them. Logistical support will involve office-based facilities as well as the needed facilities for frequent field visits to carry out consultation and interact directly with the various affected groups and individuals.

Table 15: PAP measures according to the Core Principals of OP 9/00

Core principal	Assessment	Proposed measure	Responsibility	Monitoring indicators	Time of implementation and frequency of monitoring	Corrective action in case of deficiency
Environmental and social management procedures and processes are designed to promote environmental and social sustainability in the Program design; avoid, minimize, or mitigate adverse impacts, and promote informed decision-making relating to the Program's environmental and social impacts	The existing system allows for early screening of environmental impacts and mitigating those impacts through the ESIA process. There are risks related to the lack of experience of the implementing agency (substantial)	PIUs to recruit environmental specialists that will lead the ESIA process. The PMU and HCWW will include experienced environmental specialist to support the PIUs and the ISC will support the implementation of site specific mitigation measures	PIUs, PMU, HCWW and ISC	Environmental specialists recruited at each PIU and PMU ESIAs timely prepared and approved by EEAA ESMP measures included in construction contracts and WWTPs manuals ISCs submits frequent progress reports on contractors environmental and social performance Environmental Register prepared for each WWTP	Recruitment of PIUs and PMU specialists to start during the first quarter of Program start-up. Clearance of ESIAs is a pre-condition for signing construction contracts. Monitoring indicators would be quarterly during the first year then annually	In case of un-captured risk/impact the ESIA process should be reviewed by the PMU to fill the gap accordingly and learn from the experience. In case of non-compliance with ESMPs the responsible contractor/operator should be accountable for corrective measures

Core principal	Assessment	Proposed measure	Responsibility	Monitoring indicators	Time of implementation and frequency of monitoring	Corrective action in case of deficiency
	Risk of sludge handling (substantial)	Introduce sludge quality control measures as an integrated part of the process	PIUs and Quality Sectors in WSCs (under PMU supervision)	Sludge analysis attached to each batch of sold or disposed sludge Application rates included in selling contracts	Human and financial resources for analyzing sludge should be available during first quarter from Program start-up. Monitoring indicators would be quarterly during the first year then annually	Identify the deficiency, analyze the reason for deficiency and take corrective measures accordingly

Core principal	Assessment	Proposed measure	Responsibility	Monitoring indicators	Time of implementation and frequency of monitoring	Corrective action in case of deficiency
	Risk of non-compliant effluents (medium)	O&M manuals to be produced for each WWTP. Bypasses to be reported New Code to allow for common shock loads in rural areas	Manuals to be developed by Operation Sector and reviewed by PIU/PMU Bypasses to be included in the Manual and Environmental Register and to be followed up by the PIU New Code to be prepared by NHBRC with PMU contribution	Manuals prepared for each WWTP Bypasses included in Environmental Registers and confirmed by PIU New Code produced including measures for considering shock loads in design	Manuals to be prepared by the fourth quarter from Program start-up. Environmental registers to be maintained during the second quarter of the Program Monitoring indicators would be annual	Manuals to be reviewed if not sufficiently prepared WWTPs should be accountable for bypass documentation ISCs to consider adequate shock loads in designing each WWTP

Core principal	Assessment	Proposed measure	Responsibility	Monitoring indicators	Time of implementation and frequency of monitoring	Corrective action in case of deficiency
	Risk of improper handling of solid waste (medium)	O&M manuals to include adequate disposal methods	Operation Sectors to include in manuals and PIU to supervise	Solid waste practices included in each WWTPs PIU prepares progress reports about its supervision visits	Manuals to be prepared by the fourth quarter from Program start-up. Monitoring indicators would be annual	Documentation of SWM practices to be reviewed. In case of inadequate disposal, WWTP managers should be accountable for corrective actions
	Risk of networks clogging especially when connecting private networks	Upgrade private networks as necessary	ISC	Reports showing needs for upgrading private networks and necessary measures to be taken	Upgrade of private networks to be done before connection to the system Monitoring would be annual	Review condition of network and provide required repairs/maintenance

Core principal	Assessment	Proposed measure	Responsibility	Monitoring indicators	Time of implementation and frequency of monitoring	Corrective action in case of deficiency
	Temporary impacts during construction	Supervise construction contractors on the field. Include this in the GRM system	ISCs	Monthly progress reports of ISCs include section on dewatering even if it reads “no violations”	ISCs to be briefed about their supervision role of environmental and social aspects once required (roles to be included in their ToRs) Monitoring would be annual	Take timely correction action according to the type of noncompliance.
	Maximize Program benefits on water quality	Include –ve discharges and private networks to the calculation of program results	PIU IVA	Number of households connected through PSs or private networks that were discharging to drains	Already included in Program design. Monitoring would be according to verification frequency	Included within DLI1

Core principal	Assessment	Proposed measure	Responsibility	Monitoring indicators	Time of implementation and frequency of monitoring	Corrective action in case of deficiency
Environmental and social management procedures and processes are designed to avoid, minimize and mitigate against adverse impacts on natural habitats and physical cultural resources resulting from the program	Risk of improper handling of chance finds cultural objects (low)	Inform Antiquity Authority about construction plan Provide site supervision on contractors during excavations	PIU for timely informing Antiquity Authority ISC with close follow-up from PIUs especially in Sharkia	Correspondence with Antiquity Authority once plans are approved Progress reports of ISCs include section on chance finds even if it reads "inapplicable"	Informing Antiquity Authority to be once plans are ready. Supervision would be once works started Monitoring would be annual	Any chance finds should be reported to the Supreme Council of Antiquities
Environmental and social management procedures and processes are designed to protect public and worker safety against the potential risks associated with: (i) construction and/or operations of facilities or other operational practices under the Program; (ii) exposure to toxic chemicals, hazardous	Risk of handling chlorine and diesel (medium)	Review designs of new PSs and WWTPs against H&S requirements, identify the needs of existing ones and inspect their compliance	Occupational Health and Safety Department	H&S report for each existing and designed WWTP and PS H&S quarter reports for each WWTP and PS	Review of new designs to be done once designs are ready. Resources for H&S to be provided during the first year. Monitoring would be annual	Take timely correction action according to the type of noncompliance with H&S measures

Core principal	Assessment	Proposed measure	Responsibility	Monitoring indicators	Time of implementation and frequency of monitoring	Corrective action in case of deficiency
wastes, and other dangerous materials under the Program; and (iii) reconstruction or rehabilitation of infrastructure located in areas prone to natural hazards	Safety and hygiene risks of labor during construction and operation (medium)	Supervise construction contractors on the field. Inspect on WWTPs and PSs on quarterly basis	ISCs Occupational Health and Safety Department	Monthly progress reports of ISCs include section on H&S even if it reads "no violations" Monthly progress reports of H&S of WWTPs include section on H&S even if it reads "no violations"	Site supervision to be provided once construction starts. Maintain quarter inspection to PSs and WWTPs to be regular from the second year. Monitoring would be annual	Take timely correction action according to the type of noncompliance with H&S measures. Contractors to be accountable for non-compliance during construction
	Risks of affecting structures and land inundation by dewatering (medium)	Supervise construction contractors on the field. Include this in the GRM system	ISCs	Monthly progress reports of ISCs include section on dewatering even if it reads "no violations"	Site supervision to be provided once construction starts Monitoring would be annual	Take timely correction action according to the type of noncompliance.

Core principal	Assessment	Proposed measure	Responsibility	Monitoring indicators	Time of implementation and frequency of monitoring	Corrective action in case of deficiency
Land acquisition and loss of access to natural resources are managed in a way that avoids or minimizes displacement, and affected people are assisted in improving, or at least restoring, their livelihoods and living standards	Risks related to acquiring land for the WWTP and the pumping stations (Substantial)	Develop a standardized, approach for land acquisition. This will be achieved through developing a Standard Operating Procedures (SOP), issuing a MoU among relevant line ministers to mainstream the land acquisition process, assign the relevant teams and building their capacity.	PMU and WSCs	Compliance to the developed SOP A functioning, efficient and timely land acquisition process is in place	Annual Annual	Take timely correction action according to the type of noncompliance.

Core principal	Assessment	Proposed measure	Responsibility	Monitoring indicators	Time of implementation and frequency of monitoring	Corrective action in case of deficiency
	Impacts on land use (low)	New Engineering code to include technologies for minimizing land use Designs of new WWTPs and PSs take minimizing land use as one of its priorities	NHBRC ISC	New Code takes land as one of design criteria Designs of new WWTPs and PSs includes options for different footprints	Annual	

Core principal	Assessment	Proposed measure	Responsibility	Monitoring indicators	Time of implementation and frequency of monitoring	Corrective action in case of deficiency
Give due consideration to the cultural appropriateness of, and equitable access to, Program benefits, giving special attention to the rights and interests of the Indigenous Peoples and to the needs or concerns of vulnerable groups	Certain social risks (non-land) might affect the program if not taken into consideration (moderate)	Comprehensive citizen engagement system will be designed and applied	PMU and WSCs	Guidelines for community engagement developed and applied Transparent information sharing strategy is developed and used Pro-poor strategy is developed and applied Consultation strategy is developed and applied Strengthened grievance mechanism is developed and used	Annual	Take timely correction action according to the type of noncompliance.

Annex 1: Performance of the Existing WWTPs in the Program areas

1. WWTPs in Dakahlia Governorate (Bahr Hadous Drain Watershed)

Current Status						**Plan for NRSP**			**Notes**
WWTP	**Design Capacity (m3/d)**	**Received Discharge (m3/d)**	**Biological treatment**	**Final effluent quality**	**Receiving drain**	**No. of villages to be connected**	**Population (1,000 capita)**	**Additional discharge of extension (m3/d)**	
Manzala	20,000	7,780	CAS	Compliant	Safra	26	104.7	25,000	
Aga	10,000	6,976	EA	Low efficiency	El Mansoura	4	16.3	11,000	
Aoleila	10,000	1,266	EA	Compliant	El Hawaber	9	60.1	20,000	
Barq El Ezz	2,000	0	EA	Not working	Barq El Ezz	2	6.6	4,000	
Brembal El Gedida (ends at Serw)	To Serw	To Serw	EA	Compliant	Brembal	3	24.6	18,000	Part of villages located in Hadous Drain watershed
Bani Ebied	10,000	2,232	EA	Compliant	Bani Ebeid	4	23.4	6,000	
Telbana	8,000	No data	RBC	No data	El Mansoura	4	26.9	9,000	
Tami El Amdid	2,000	888	EA	Compliant	Shahin	3	14.7	7,000	
Dekernis	20,000	15,840	CAS	Compliant	Tal Bala	3	9	14,000	

Current Status						**Plan for NRSP**			**Notes**
WWTP	**Design Capacity (m3/d)**	**Received Discharge (m3/d)**	**Biological treatment**	**Final effluent quality**	**Receiving drain**	**No. of villages to be connected**	**Population (1,000 capita)**	**Additional discharge of extension (m3/d)**	
Damas	14,000	2,283	EA	Compliant	Om Salem	7	42.1	19,000	
Salamon	2,000	2,100	CAS	Compliant	Badin	3	23.7	4,000	
Samaha	1,000	697	Wetlands	Compliant	El Dalal	3	11.9	7,000	
Mahalet El Damna	2,000	2,248	EA	Compliant	Omoumy El Behira	1	1.8	8,000	
Mit Damsis	2,000	1,450	OP	Low efficiency	El Gharaka	6	35.2	14,000	
El Senbelwaen	20,000	5,992	CAS	Compliant	El Senbelwaen	8	62.2	15,000	
El Moqataa	2,000	1,515	EA	Low efficiency	Om Ghanem	4	16.2	8,000	
El Maasara	20,000	No data	No data	No data	No data	1	1.5	Current capacity is sufficient	
El Kordi (ends at Serw)	To Serw	To Serw	EA	Low efficiency	Kafr El Kordi	1	2.8	3,000	Part of villages located in Hadous Drain watershed
Sahragt El Soghra	5,000	No data	EA	No data	No Data	1	1.3	5,000	

Current Status						Plan for NRSP			Notes
WWTP	**Design Capacity (m3/d)**	**Received Discharge (m3/d)**	**Biological treatment**	**Final effluent quality**	**Receiving drain**	**No. of villages to be connected**	**Population (1,000 capita)**	**Additional discharge of extension (m3/d)**	
Shaha	2,000	1,682	CAS	Compliant	El Nezam	1	6.8	6,000	
Total	**152,000**	**52,949**				**94**	**491.8**	**203,000**	

2. WWTPs in Dakahlia Governorate (Serw Drain Watershed)

Current Status						Plan for NRSP			Notes
WWTP	**Design Capacity (m3/d)**	**Received Discharge (m3/d)**	**Biological treatment**	**Final effluent quality**	**Receiving drain**	**No. of villages to be connected**	**Population (1,000 capita) in 2012**	**Additional discharge of extension (m3/d)**	
El Kordi	7,000	3,960	EA	Low efficiency	Kafr El Kordi	1	2.8	3,000	
Zarka (Damietta)	20,000	No data	No data	No data	El Serw	1	11.1	Current capacity is sufficient	WWTP located in Damietta Governorate
Shaha (Ends at Hadous)	To Hadous	To Hadous	CAS	Compliant	El Nezam	4	27.1	6,000	Part of villages located in Serw Drain

Current Status						**Plan for NRSP**			**Notes**
WWTP	**Design Capacity (m3/d)**	**Received Discharge (m3/d)**	**Biological treatment**	**Final effluent quality**	**Receiving drain**	**No. of villages to be connected**	**Population (1,000 capita) in 2012**	**Additional discharge of extension (m3/d)**	
									watershed
Badawy	4,500	2,333	CAS	Compliant	El Serw El Omoumi	1	2.3	6,500	
El Baramon	2,000	1,897	EA	Compliant	El Serw El Omoumi	2	13.8	7,000	
Berembal El Gedida	2,000	1,755	EA	Compliant	Brembal	4	43.7	18,000	
El Gamalia	20,000	12,258	CAS	Compliant	El Serw Omoumi	2	9.9	10,000	
Total	**55,500**	**22,203**				**15**	**111**	**50,500**	

3. WWTPs in Sharkia Governorate (Bahr Hadous Drain Watershed)

Current Status					**Plan for NRSP**			**Notes**
WWTP	**Design Capacity (m3/d)**	**Biological treatment**	**Final effluent quality**	**Receiving drain**	**No. of villages to be connected**	**Population (1,000 capita)**	**Additional discharge of extension (m3/d)**	
Awlad Saqr	10,000	EA	Complying	Hadous	5	47.2	17,000	
Kafr Saqr	10,000	Surface aeration	Low efficiency	Om El Rish	8	35.6	28,000	
Diarb Negm	10,000	EA	Complying	Ekwa	6	36.7	5,000	
Shalshamon	20,000	Surface aeration	Complying	El Qalyoubi	1	4.1	10,000	
Abo Metna	10,000	EA	Complying	Behnia	9	81.1	14,000	NOPWASD operation
Faqous	20,000	Surface aeration	Complying	Bahr El Bakar	3	63.7	30,000	
Abo Kbeir	20,000	EA	Complying	Awqaf El helmia	4	58.6	20,000	
El Hosainia	10,000	EA	Complying	Bahr El Bakar	1	15.3	15,000	
El Kenayat	20,000	Tricking filters	Complying	Ekwa	4	49.4	30,000	
El Teiba	7,000	Anaerobic	Complying	Bardin	5	34	Current capacity is sufficient	NOPWASD operation
San El Hagar El Keblia	10,000	Surface aeration	Complying	El Fanan	1	15.9	25,000	NOPWASD operation

Current Status					**Plan for NRSP**			**Notes**
WWTP	**Design Capacity (m3/d)**	**Biological treatment**	**Final effluent quality**	**Receiving drain**	**No. of villages to be connected**	**Population (1,000 capita)**	**Additional discharge of extension (m3/d)**	
Total	**147,000**				**47**	**441.6**	**206,000**	

Annex 2: New treatment Plants that will be constructed under the Program

1. **Dakahlia Governorate (Hadous)**

WWTP	Design Capacity (m3/d)	No. of villages to be connected	Population (1,000 capita)
El Nasimia	10,000	7	44.1
Berqeen	17,000	13	60.2
Shobrahour	12,000	8	41.2
Shobrawish	9,000	6	31.3
Tanbol El Kobra	8,000	4	20.7
Monshaat AbdelRahman	7,000	3	23.3
Meniet Sandoub	15,000	8	62.6
Mit Zoqr	15,000	1	7.4
Mit Ali	9,000	4	30.2
Mit Ghrita	17,000	7	58.1
Mit Fares	16,000	8	56.3
Nosa El Gheit	13,000	4	45.2
El Balamon	10,000	7	35.1
El Robae	6,000	4	19.3
El Rabeya	7,000	1	21.3
El Beida	10,000	6	47.9
El Khaleig	10,000	6	40.7
Abo El Akhdar	2,000	1	4
El Mahmoudia	7,000	2	22.3
Totals	**200,000**	**100**	**671.2**

2. **Dakahlia (Serw)**

WWTP	Design Capacity (m3/d)	No. of villages to be connected	Population (1,000 capita)
Eskandria El Gedida	4,000	1	13.3
Totals	**4,000**	**1**	**13.3**

3. Sharkia Governorate

WWTP	Design Capacity (m3/d)	No. of villages to be connected	Population (1,000 capita)
Karmot Sahbara	17,000	7	50.3
Shinbara El Maimona	12,000	6	40.8
Beisha Kayed	7,000	4	18.9
Seneit El Refayeen	25,000	5	74.4
Kafr Ibrahim Bishara	17,000	10	51.4
San El Hagar El Bahria	14,000	2	51.6
Monshaat Abo Omar	15,000	1	38.1
Samakin El Gharb	10,000	3	41.1
Mit Rabia El Dalala	5,000	1	2
El Mohamadia	7,000	6	19.3
Kafr El Faraiha	3,000	5	35.5
Bani Hassan	12,000	4	42.9
El Manshia El Gedida	17,000	7	57
El Hagarsa	6,000	3	18.6
Nazlet El Aarin	18,000	7	65.8
Totals	**185,000**	**71**	**607.7**

4. Beheira Governorate

WWTP	Design Capacity (m3/d)	No. of villages to be connected	Population (1,000 capita)
No. 9	30,000	9	65.2
Totals	**30,000**	**9**	**65.2**

Annex 3: Registration forms for the Consultations

Photos Log for the consultation, field visits and verification sessions

Consultation with WSCs and HCWW for preparing the ESSA, Cairo

Consultation with WSCs and HCWW for preparing the ESSA, Cairo

Verification Session with PMU, HCWW and WSC to review ESSA results, Cairo

Verification Session with PMU, HCWW and WSC to review ESSA results, Cairo

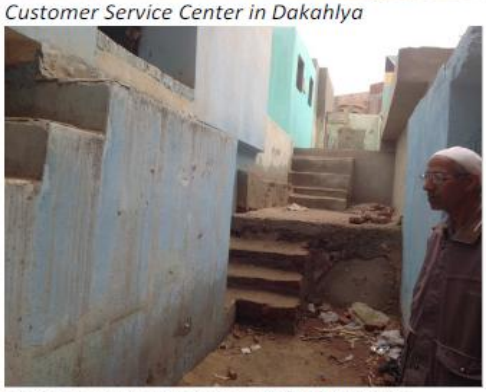
Community Consultation, Kafr El Noaman village, Dakahlya

Consultaiton with Dakahlya WSC as part of preparing the ESSA, Mansoura City

Customer Service Center in Dakahlya

Customer Service Center in Dakahlya

Community Consultation, Santimay, Dakahlya



Leakage in grave yards in Kafr El Noaman, Dakahlya

Community consultaion, El Ghonemy Kom Hellen, Sharkia

Problem of sewage leakage and septic tanks overflow, El Ghonemy Kom Hellen, Sharkia

Problem of sewage leakage on houses wall, Kafr El Noama village, Dakahlya

Community consultation, Kom El Nasr,Behira

The unoperations pumping station in El Ghonemy Kom Hellen, Sharkia

Problem of sewage leakage on houses wall, Kafr El Noama village, Dakahlya

Problem of sewage leakage on houses walls, El Ghonemy Kom Hellen, Sharkia

Meeting at one of the pumping stations, El Zankalon village, Sharkia

Public consulation on the ESSA draft findings in Zakazik, Sharkia

Public consulation on the ESSA draft findings in Zakazik, Sharkia

Public consulation on the ESSA draft findings in Damanhour,Behaira

Public consulation on the ESSA draft findings in Manoura, Dakahlia

Annex 5: Comments of the Public Consultations

Summary of key comments from the Public Consultations on the ESSA Draft Findings

April 21:23, 2015

Summary of key comments from Sharkia consultation on the draft ESSA- Tuesday April 21, 2015:

Magdy El Hossary – EEAA RBO:

- Bahr El Bakar Drain is also a priority area as it discharges to Lake Manzala, I recommend expanding the Program coverage
- There are pilot project in Borg El Arab that used innovative technologies in wastewater treatment, I recommend benefiting from this experience.

Hamdy Masoud – Central Labs Sharkia WSC

- Installing units to separate oil and grease is an important factor for meeting the effluent standards.
- Designing the networks is an important factor in receiving a better quality influent

Eng. Shaker – Deputy Chairman of WSC

- The private networks cause many operational problems. Rehabilitation of such networks could be an option to connect these communities
- Receiving septage should be accounted for in the design of the projects

Abas Farouk- Antiquities Department

- Antiquities issues and the sites of cultural heritage value is critical here in Sharkia. We strongly advice that The Directorate of Antiquities in informed early on with the project locations and the areas of work. We will ensure that an Antiquities Inspector is available on site in all sensitive areas. We have the resources for that.

Eman Hassan – Head of the Environmental Health Department

- Law enforcement is critical to minimize the risk for the major violations of the illegal dumping on agricultural drains. Although we have laws, the actual enforcement and the tools to enforce are not in place.

Eng. Zakaria - Head of ISSIP 2 RSU

- Will ESIA be prepared for the projects under the new program?
- To avoid getting into the challenge of resources limitations to finance land through willing buyer willing seller approach, it would be highly beneficial if the Program allowed resources for the purpose of purchasing land. We are anticipating the capital cost

needed for land for WWTP to range between 5:7% of the capital investment *(Eng. Zakaria was also quoting Eng. Ezzat- Dakahlia Chairman during previous event).*

Zyad- Social Officer of ISSIP 2 RSU

- We need the design of the program to carefully note that the RSU has been going through a lengthy and demanding process to build trust with local communities under ISSIP 2. As a result of a constructive process for community mobilization, we managed to secure land for treatment plants and pumping stations for 9 villages under ISSIP 2 Phase 2, mostly through community contributions. As part of restructuring ISSIP 2 phase 2, these villages will not be served. 4 of them went to the sanitation program (PforR) while 5 are now left behind. We have concerns on the implications of this on our credibility in front of the communities. We are also concerned that this may create a sense of mistrust that may imply on the whole program. The PforR should consider ways to serve these villages, specifically since they are located geographically close to targeted on.

Dr. Ekhlas El Desouki – Head of the Health Care waste in the Directorate of Health

- The Program is excellent and highly needed but we believe we can do better in terms of raising the awareness of local communities to mobilize local resources to contribute/finance rural sanitation projects.

Dr. Samia Asal - National Council for Women

- The problem of drains pollution (through the disposal of the septic tanks vacuuming) should be immediately tackled even through intermediate solutions like collective large septic tanks or disposal to existing WWTP.

Moamen- IWSP PIU

- Land is a critical challenge that we are also facing in the IWSP. The idea of signing MoU among ministries is very good but it will need follow up actions like a “one stop shop” or a “Higher Committee” to be in charge of coordinating all the approvals on fast track.

Nevine Abdel Rahman – The Head of the Awareness Raising Department HCWW

- Community participation is a critical part of the program. If not done probably, the implications will not be on the DLI 4 but rather on all the other DLIs including those related to the service delivery and the review of the tariff structure.
- We do not have currently a role in handling the impacts related to construction and land but the teams of the awareness raising are the closest to carry out these jobs under the Program
- We have a serious challenge related to the limitations in human resources working in community mobilization and awareness raising. We acknowledge the gaps identified by the ESSA.

- It would be greatly beneficial to set KPI related to community engagement, quality of community services and complaints systems (e.g. ISO for the customers service centers and the Hotline) and we can incorporate it within our annual work plan and set target related to the capacity building in the this regard. We have good annual budget for training and will be highly beneficial if we included in the awareness raising training more topics related to handling land issues and addressing other social risks.
- The institutional setup within the WSC to handle the program is also a key prerequisite for the program success and delivery.

Summary of key comments from Dakahlya consultation on the draft ESSA- Wednesday April 22, 2015:

Eng. Ezzat El Sayyad – Chairman of Dakahlia WSC:

- There should be dialogue between the WSC, Directories of Health, Irrigation and Health to give WWTPs that are overloaded grace periods for compliance.
- The exclusion of Gharb El Mansoura WWTP (originally was 135,000 and now 185,000 m3/d after reviewing the plans) should be only for the WWTP, while the networks ending at this WWTP should not be excluded as the networks are separate from the relatively large WWTP. Including these villages, which are located near the Nile, will maximize the benefits of the Program.
- The WSC has conducted gap analysis study for the H&S requirements, the study concluded that the H&S tools needed to comply with main H&S requirements is L.E. 8 millions. The WSC is ready to take measures for complying with H&S requirements but there are no financial resources available to take these measures, and it would be a good opportunity if the Program could support financing these requirements.
- Some PSs in Dakahlia are already receiving septage and this could be expanded. This could not be offered for free for private contractors as some of them are getting a fee of L.E. 70/truck load.
- The land prices are not included in existing cost estimate of projects, this land prices would be 5-7% from the total project cost and including it within the Program cost would mitigate potential future risk (if it is left to our resources) .
- Large part of the land challenge is about coordination with the concerned authorities. Governors should be included in the MoU.
- We had a good experience in Sohag Governorate for making connections fees affordable to poor households, through making a revolving fund available with long term repayment conditions in cooperation with UNICEF. I worked closely in this successful program. We can adapt a similar model and the Program may consider dedicating a portion from the loan to start a revolving loan for this purpose.

Ms. Rasha – Social Specialist HCWW:

- Raising the labor awareness is a key requirement for improving the H&S performance. The equipment are also not available
- More critical role for the media should be played on the national level particularly since the Program is a priority for the Government.

Eng. Mohammad Ragab – Dakahlia WSC:

- We need to rationalize the use of the Program finance and improve the financial efficiency of the construction and operation of projects. There should be emphasis on the improvement of WSCs operation efficiency and the WSCs should target minimum unit cost per each household connection.
- There are a number of technologies that could be employed in WWTPs that have less operation costs, and the existing technologies that are usually employed are usually associated with high operation costs

Dr. Hisham – EEAA Regional Branch Office

- WWTPs which are located in or near residential settlements should be given priority to improve their performance

Mr. Atef El Kanany – Head of Environmental Management Unit (EMU) in Dakahlia Governorate

- Noncompliant sludge should be disposed in hazardous waste landfill, but there are no such landfill in the Governorate. It might be beneficial to have such site in the Governorate
- The handling of hazardous materials and hazardous waste (include used containers of chlorine) should be included in the Register of WWTPs
- There should be capacity building for the environmental staff in the EMU (along with WSCs staff) among the Program activities

Dr. Hisham – Mansoura University

- I recommend raising the risk on structural stability during dewatering operations (especially for PSs) from low to medium as we, in the University, receive many cases of differential settlement incidents
- Control on industrial discharges to the network (through monitoring for Law 93) is very important in controlling the quality of the sludge and the quality of final effluent
- Using existing capacities of WWTPs should consider the increase of population from existing served communities

Representatives of Antiquities Authorities

- There are a number of hills that are identified to include antiquity sites in the Governorate. The site licensing is not granted except after approval of Antiquity Authority.
- In wastewater projects that are located in sites likely to include antiquities the Authority provides supervision on construction sites by their Staff and they have done so near a hill in Tema El Amdid

Dr. Magdy Aasar – Environmental and Social Specialist HCWW

- Industrial wastewater could be an important source of revenue to WSCs
- Including networks of large WWTPs (such as Gharb El Mansoura) will maximize the environmental benefits of the Program
- There is difference between the scope of the awareness as carried out now by the WSCs and the level of community engagement and community participation that the program is aiming for. We had experience in ISSIP project and we observed that the more we invested in community engagement, the smoother the projects moved ahead with strengthened level of ownership that was reflected in various aspects including acquiring land.
- To launch a revolving loan for targeting poor households, we may need to seek grants from different donors.

Mr. Amr – Awareness Department HCWW

- There should be consideration for establishing fertilizers plant from WWTPs sludge.

Mr Sameh and Wael – Awkaf Directorate

- The role of worship establishments is very important in awareness raising due to the credibility and closeness to local communities.

Mr. Adel – Sandoub CDA

- The role of NGOs and Youth centers are very important in awareness raising

Ms. Nevine, Public Relation and Awareness Raising, Dakahlya WSC

- In preparing the guidelines related to the community participation, we need to take into consideration the manuals that we prepared for engaging with NGOs.

Summary of key comments from Behaira consultation on the draft ESSA- Thursday April 23, 2015:

Eng. Khaled- Behaira WSC Chairman

- We should have more and more of these collective and consultative events as the Program evolves.

- We have models (under ISSIP) where the resistance and objections are converted to large and strong acceptance and support to the project.

Ms. Samia Soliman- The Secretary of the Women National Council

- The supervision of the actual construction work should be greatly improved than the case now. The WSC should play better role in supervising the contractors.
- If the community networks/sewers are to be incorporated in the Program, the quality of the networks of these sewers should be carefully examined because in many cases they are not compatible technically.
- As a community member, I have observation on 125 Hotline. The line is always busy.

Samir Mohammad – Kafr El Dawar LGU

- Implementation should be done on fast track basis and the changes in the senior level of managers and leaders should be dealt with as a potential threat.

Omaima El Garhy – Public Relations Department

- Engagement and close coordination with LGUs greatly help in addressing problems in a proactive manner
- In private networks, sometimes the level of water supply pipes are lower than sewerage gravity networks, which elevates the risk of drinking water contamination

Khaled Mohammad – Resident in Kafr El Dawar and employee in the LGU

- The existing WWTP are overloaded and under maintained and in many cases need urgent renovation.

Dr. Amal Fouda- Directorate of health

The technical criteria for the land selection is always a critical factor that narrows down the land options. In many cases, communities think they have land available but the land is not technically compatible.