THE WORLD BANK

ARAB REPUBLIC OF EGYPT

TRANSFORMING EGYPT'S

HEALTHCARE SYSTEM PROJECT

Environmental and Social Management Framework (ESMF)

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List of Abreviations and Acronyms

BMI	Body Mass Index
CAPMAS	Central Agency for Public Mobilization and Statistics
CERC	Contingency Emergency and Response Component
CPF	Country Partnership Framework
CHW	Community Health Worker
DDA	Direct-Acting Antiviral Agent
DHO	District Health Offices
DHS	Demographic and Health Survey
DLI	Disbursement Linked Indicator
DP	Development Partners
DPF	Development Policy Financing
EMP	Environmental Management Plan
ESMF	Environmental and Social Management Framework
EVA	External Verification Agency
FM	Financial Management
GBD	Global Burden of Disease
GDP	Gross Domestic Product
GoE	Government of Egypt
GDP	Gross Domestic Product
GHDC	Governorate Health Directorates Committees
GRM	Grievance Redress Mechanism
HCU	Healthcare Unit
Hep C	Hepatitis C Virus
HQIP	Healthcare Quality Improvement Project
HISDP	Health Insurance Systems Development Project
HNP	Health, Nutrition and Population
HSRP	Health Sector Reform Program
IBRD	International Bank for Reconstruction and Development
IDF	International Diabetes Federation
IFR	Interim Financial Reports
IPF	Investment Project Financing
IMF	International Monetary Fund
IRR	Internal Rate of Return
ISQUA	International Society for Quality in Healthcare
IUD	Intra Uterine Device
MCH	Maternal and Child Health
M&E	Monitoring and Evaluation
MENA	Middle East and North Africa
MOF	Ministry of Finance
MOHP	Ministry of Health and Population
MOIC	Ministry of International Cooperation
NAT	Nucleic Acid Test
NCD	Non-Communicable Disease
OOP	Out-of-Pocket
PCU	Primary Care Unit
PDO	Project Development Objective
PFS	Project Financial Statements

PHC	Primary Health Care
PMU	Project Management Unit
POM	Project Operations Manual
PPSD	Project Procurement Strategy for Development
RF	Results Framework
SC	Steering Committee
SDG	Sustainable Development Goals
SHC	Secondary Health Care
CHI	Comprehensive Health Insurance
TOR	Terms of Reference
TEHS	Transforming Egypt's Healthcare System
UHC	Universal Health Coverage
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
VAT	Value-added Tax
WBG	World Bank Group
WHO	World Health Organization

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CHAPTER ONE: INTRODUCTION

1.1 Introduction

The Egyptian government is making concentrated efforts in achieving on of Egypt's goals, which emphasizes on the improvements in health outcomes, which will contribute significantly to Egypt's social transformation over the coming 12 years. Promoting human development is one of three priorities under Egypt Vision 2030 developed in 2015 as a national participatory effort coordinated by the Ministry of Planning and Administrative Reform.

Despite long-term improvements, the rate of progress on health outcomes in Egypt is slowing, and demographic pressures are rising (World Bank, 2015). Despite Egypt's significant improvements in key health indicators, for instance the decrease of maternal and infant mortality achieved since 1990, significant regional disparities persist, and recent data suggest the rate of progress on these indicators is slowing (DHS 2014). Egypt's health sector is being challenged by disease-specific problems, particularly Hepatitis C. Egypt has the highest prevalence chronic Hepatitis C Virus in the world; nearly 4.4%of Egypt's adult population (some 4.5 million people) is infected[1]. Many infections occurred decades ago, the result of poorly sterilized needles used as a part of national schistosomiasis treatment campaign, and are now leading to significant complications and deaths. Over the past decade, evidence suggests unsafe blood transfusions and improper infection control measures within healthcare facilities as the major route of the spread of infection. About 40,000 Egyptians die of Hep C every year, making it the country's third leading cause of death after heart disease and cerebrovascular disease. Moreover, roughly 150,000 new infections occur annually, mostly due to poor medical safety and hygiene. The prevalence is significantly higher among adults above the age of 40, the poor, and those living in rural areas. Hep C costs Egypt more than US$400 million annually in direct costs, and total spending is projected to reach US$4 billion by 2030 (World Bank 2017).

Moreover, Egypt is also facing a mounting burden of non-communicable diseases, driven by poorly controlled risk factors. NCDs account for an estimated 82% of all deaths and 67% of premature deaths in Egypt[2]. Since 2005, deaths from ischemic heart disease and cerebrovascular disease, the leading two causes of death in the country, have increased substantially, with nearly half of those deaths attributable to high blood pressure, based upon global estimates[3]. According to the National Blood Transfusion Center (NBTC), around 1.8 million units of blood are dispensed all over Egypt per year, where it is the responsibility of the NBTC to ensure adequate supply of safe and effective blood and related products across the country. Due to financial constraints, checking all the donated blood units for Viral Hepatitis using the Nucleic Acid Testing (NAT) is still a challenge. Most blood supply is only tested using the ELISA technique, which is a major gap in ensuring blood safety, as it doesn't detect most infections, especially Hep C virus (HCV) infection during their window phases, resulting in a high risk of transfusion-transmitted Hepatitis C infections.

1 Egypt Demographic and Health Survey (2015)
2 IHME, (2016).
3 World Health Organization. 'Global health risks', The World Health Report 2004. WHO, Geneva, Switzerland. 2004.

In addition, the lack of patient education and awareness, poor integration of care, and lack of alignment of donor programming further limit the delivery of high-quality services. Addressing Egypt's most pressing health priorities requires quality primary and secondary health care that is responsive to population needs. Meanwhile, although many large donors are active in Egypt's health sector, their efforts are often poorly coordinated at the point of care, leading to isolated vertical programming rather than a comprehensive, consistent package of services. The delivery of quality PHC (primary healthcare) services is further limited by lack of community outreach for chronic conditions as community outreach has been shown to play a vital role in connecting patients to healthcare, educating them on healthy behaviors, and improving health outcomes in many countries. Although Egypt's Community Health Workers (CHW) program (Raedat refiyat) supports more than 14,000 personnel under the MOHP and has achieved relatively good geographic coverage (although more CHWs are needed), the role of CHWs, particularly for connecting patients to routine care, is not clearly defined. In addition, household surveys in Egypt have shown high community rates of uncontrolled or undiagnosed chronic conditions, as well as poor awareness of the risk of complications. Hep C is a particularly dramatic example, as several million Egyptians are chronically infected but have yet to develop symptoms that would prompt them to seek care. NCDs show similar patterns: Spending on diabetes in Egypt is among the lowest in the MENA region, suggesting that patients forego medications and consultations (IDF Atlas, 2013). Referral networks to ensure diagnosis, follow-up, efficient infrastructure (communication networks, medical records, etc.) and appropriate management are also lacking[4].

Although the government has developed strong quality accreditation standards for PHCs and hospitals based on international guidelines, adoption has been patchy and only project-dependent, owing to the lack of financing and hitherto unclear need for accreditation. In addition, hospitals in Egypt are ill-equipped to respond to the real needs of the population in their catchments areas. Moreover, concerns about poor quality lead almost half of patients to seek outpatient care in private clinics and hospitals, where they incur higher out-of-pocket costs (OOP) (World Bank 2015). Indeed, since 2006, OOP payments as a percentage of total health spending in Egypt have remained fixed at 61% (World Bank 2016), with the poorest households spending nearly 21% of their income on healthcare.[5] A 2013 study showed that only 6% of Egyptians in need of outpatient care go to public PHC facilities; most go intermittently to private clinics, or else seek care directly at the hospital level. Nearly 7% are pushed into poverty each year due to catastrophic health expenditures[6].

The Government of Egypt (GoE) has identified universal health coverage and specific disease burdens as national priorities and has formally requested the World Bank's support to the health sector in October 23, 2017. In December 2017, the GOE passed a landmark Comprehensive Health Insurance (CHI) to accelerate progress towards UHC. The Bank's recently completed Egypt health project (Healthcare Quality Improvement Project- HQIP), which provides a roadmap for the scale up of healthcare quality improvement. The HQIP also supported the GoE in launching its Hep C elimination program, which has achieved remarkable progress thus far and helped position Egypt as a global leader on Hep C elimination. However, significant challenges remain: the GoE has determined it still needs to screen an estimated 43 million people and treat an estimated 4 million

4 Elaziz, K et al (2015). Screening for Hypertension among adults: community outreach in Cairo, Egypt. J Pub Health, 4(1): 701-706.
5 Egypt Household Health Expenditure and Utilization Survey (2011)
6 The World Bank, WHO PAYS? Out-of-Pocket Health Spending and Equity Implications in the Middle East and North Africa. (2010)

infected patients to reach its elimination goal. The World Bank Team is proactively engaging Development Partners (DPs) to ensure consistency and harmonization in responding to the financial and technical needs of the MOHP. Furthermore, the Bank is engaged in providing technical advice to strengthen the National Healthcare Strategy given the constitutional mandate, the Vision 2030 plan and the newly passed Comprehensive Social Health Insurance Law. The project design has utilized the main goals under the health pillar of the Vision 2030 towards conceiving a set of transformational interventions to the Egyptian healthcare system (Figure 1).

Figure 1-1: Vision 2030 health goals as a driver to project design

To address the poor quality of healthcare services at MoHP facilities, the Transforming Egypt's Healthcare System (TEHS) Project intends to assist GoE in improving quality of healthcare services at primary and secondary care level, as well as, supporting the Government of Egypt in the prevention and control of Hepatitis C. As such, financial support to the accreditation of healthcare facilities would be the first step, to be provided through result-based financing contingent upon meeting a set of service quality indicators.

The Egypt Country Partnership Framework (CPF) for FY15-19 approved on November 5, 2015, supports transformational changes to the economic and social space in Egypt. The CPF is organized under three closely interconnected focus areas, which are also the fundamental areas under Egypt Vision 2030: improving governance; private sector job creation; and social inclusion. Specifically, the proposed project supports Focus Area 3 on Social Inclusion, Objective 3.2 which calls for a support towards the outer years of the CPF to: (i) expand equitable access to family health services; (ii) improve health system response to neonatal and obstetric cases; and, (iii) improve patient and blood safety. Further, the CPF calls for Bank's support to the GoE on its responsiveness to prevent, diagnose, treat, and assess the fiscal impact of Hep C.

By strengthening integrated public health service delivery, the proposed project will contribute to the objective of UHC, including the HNP Global Practice goals of ensuring access to health services and financial protection for everyone by 2030 and ensuring that, by the same year, no one is pushed into or kept in poverty by paying for healthcare. Furthermore, the proposed project is consistent with the strategic principles in the WBG MENA health sector of creating fair and accountable health systems in a sustainable manner. The proposed project will mainstream the

Bank's Twin Goals through Egypt's health system on its path to UHC and will feed into the "Renewal of the Social Contract" pillar of the MENA strategy through supporting the socially demanded interventions in the health sector.

Moreover, improving health has a broad positive effect on the social and economic wellbeing of the country. The effects could be observed through higher labor productivity, demographic changes and educational attainment. Furthermore, poor health generates economic complications for Egyptian families, where an illness in a family with no savings can force its members into hardship or even extreme poverty. In addition, better health status is linked to better education with lower absenteeism and improved cognitive performance.

1.2 Objectives of ESMF

The TEHS project is likely to result in a number of positive environmental and socio-economic impacts, including infrastructure, community services, and environmental activities. In fact, as social risks are rated as moderate, the TEHS project is expected to deliver substantial positive social outcomes for more than 40 million people through accreditation of primary health care units, screening of 35 million citizens for Hep C, administering treatment for estimated 1.5 million people, as well as screening of 20 million citizens for NCDs.

The TEHS project is classified as category "B" and World Bank OP 4.01 is triggered, as the project will include minor infrastructure refurbishment, at first level of care. Other potential negative impacts are expected to be relatively site-specific including but not limited to safety issues associated with the handling of waste by health unit staff, waste management staff, potential environmental impacts associated with improper waste treatment and disposal, and possible associated risks with the program are concerns regarding cost and satisfaction of service. All of the above mentioned can be effectively mitigated by implementing an ESMF followed by project-specific Environmental & Social Management Plans (ESMPs) in compliance with Egypt's National Legislation and World Bank OP. 4.01.

The Environmental & Social Management Framework (ESMF) includes, inter alia, a mitigation plan for managing any potential environmental and social risks and impacts that might result from different project operations, a summary of environmental and social impacts related to the proposed accreditation standards for health facilities and measures suggested in the accreditation guidelines to mitigate these impacts.

The TEHS project is designed, to support multiple sub-projects whose detailed designs and exact locations are not known at present. Hence, the ESMF provides high-level guidance for selection/design of sub-projects and mitigation as well as monitoring measures to minimize potential negative ES impacts. Moreover, the ESMF provides guidance for the development of sub-project or site-specific ESMPs which will serve as a clear environmental management guidelines and training for MOHP staff on the grievance redress manual (GRM), and as deemed necessary, for contractors hired for rehabilitation and outfitting of health care facilities with precise attention to medial waste, waste generated at the construction site and health and safety aspects of public as well as health care providers.

In the event any of the subprojects financed through the TEHS project should require the services of contractors, bidders must be requested to include a complete ESMP within their bidding documents. The ESMP would be treated as a legally binding document, which is to be, enforced in compliance with the social and environmental safeguards operational policies of the World Bank.

1.3 Project's Objectives and Institutional Arrangements

The THEP will support the MOHP healthcare sector reform agenda 2030. Over a 5-year period, and operating within the framework of the vision 2030 and the newly enacted Comprehensive Health Insurance law, the project will:

a) Support quality improvement of services in selected primary care units (PCUs) and Hospitals in 9 target governorates falling under phases I & II of the new Comprehensive Health Insurance System (CHIS);
b) Support the mass screening and treatment of the adult population for Hep C towards elimination of disease, as well as screening for NCDs (e.g. diabetes and hypertension);
c) Support the provision of safe blood supply at all public hospitals (national blood bank system);
d) Strengthen the CHW program; and
e) Support the capacity, accountability and autonomy of the decentralized management level. The project will also strengthen the horizontal integration of the different programs at each respective level of care and the vertical integration between the different levels through strengthening the referral mechanisms.

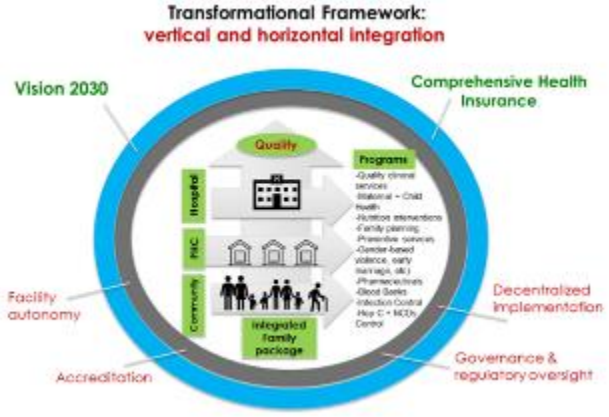


Figure 1-2. Transformation Framework for the project design

The MOHP will be the main implementing agency for the project and will house the Project Management Unit (PMU) that will be in charge of all day-to-day operations and coordination with all relevant agencies, governorates and districts. A Ministerial Decree no. 142 (dated March 24,2018) was issued to create the project specific PMU for project preparation and implementation period. As part of its responsibilities, the PMU will preparing and submitting semi-annual progress reports to the Bank that, inter alia, provide detailed reporting on project progress by components,

procurement, financial management, verification reports received from independent verification and environmental and social issues. In addition, an annual external audit, combining both technical and financial audit components, will be conducted to ensure the appropriate use of funds and to monitor physical progress in the targeted activities and governorates. The detailed roles and responsibilities of the PMU staff will be detailed in the Project Operations Manual (POM).

In addition, a Steering Committee (SC) will be responsible for overall project stewardship and oversight as well as a Governorate Health Directorates Committees (GHDCs) will be formed at the level of the respective Governorate Health Directorates targeted under the project. Moreover, the District Health Offices (DHOs) will be responsible for direct control of implementation for its affiliated PHCs and related community-based activities.

1.4 Project Components

The growing body of working around quality improvement in middle-income health systems, the proposed project focuses strongly on improving the provision of quality care as a means of supporting the GoE in its efforts to achieve effective UHC in the long term. The TEHS project activities are aligned with government priorities (e.g. accreditation is now required under Egypt's recently passed CHI Law) and will be explicitly measured through quality-focused metrics, including a Quality Service Index, that assess facility functionality and service delivery, provider behavior, and overall user experience—all key elements of delivering quality care.

The proposed project includes the following four components:

1. **Component 1: Strengthen community and primary health care services (US$245.4 million total estimated cost).** This component will mainly finance results using Disbursement-Linked Indicators (DLIs) achieved and verified by an independent verification agency (IVA). This component will support the following:

> **Subcomponent 1.1: Providing for quality services at PHCs**. This sub-component will strengthen improvements in selected 600 PCUs in 9 governorates (Ismailia, Suez, North Sinai, South Sinai, Qena, Luxor, Aswan, Alexandria and Matrouh). The goal would be to: (a) update and modernize the quality framework for MOHP through updating the accreditation guidelines, conduct a mapping of PHC services, conduct a needs assessment exercise, and ensure GRM mechanisms and district level management are both enabled; (b) support quality of services provided through ensuring that a selected output and intermediate level results are being achieved (quality index); (c) ensuring a demonstrable improvement in direct clinical level services offered to patients as evidenced through independent direct monitoring scorecards; and (d) accredit the same facilities using quality accreditation standards as outlined in the updated National Egyptian Accreditation Guideline which will provide them with contractual eligibility with the new CHIS. This will lead to enhanced quality of services, including clinical consultations, nutrition services, family planning, routine public health programs, mental health, infection control, strengthening district level management procedures, referral services, and patient education.
>
> This subcomponent will be financed using DLIs as follows:

DLI 1 - Development of Quality tools and mechanisms (US $4 million) will ensure that the needed foundational studies and systems required for improving further quality services at the PHC level are achieved.

DLI 2 - Grievances addressed in project target facilities in accordance with the revised GRM Manual issued in 2017 (US$3 million). This will include the dissemination of the GRM manual in the 9 governorates and training of staff at the PHC and district level and gradually improving the citizen feedback system, increasing the number of grievances addressed in project target governorates.

DLI 3 - Strengthening decentralized management (US$2.5 million) will incentivize the training of district level management in project target districts on fiduciary practices that would strengthen their capacity towards better management of local resources.

DLI 4 - Improvement of PHC quality of services (US$60 million) will support targeted PHCs to attain incremental levels of higher quality services in terms of process, patient perspective and system perspective.

Subcomponent 1.2: Strengthen community health worker (CHW) program. This subcomponent will finance results linked to strengthening the CHW program to improve health promotion and health education and thereby increasing overall awareness of the public about key health risks and prevention measures. CHWs will provide services using digital tools to deliver real time advice including referrals to higher levels of care. Intervention areas include maternal and child health (MCH), nutrition, family planning, gender-based violence, awareness about NCDs and Hepatitis C, as well as early childhood development at the household level. The regular IPF modality under this component will be used to: (a) contract an additional 300 CHWs in project target governorates to supplement the gaps for all project duration; (b) training for approximately 2,500 CHWs as per the new guidelines developed per the new CHW strategy (2017); (c) procure and use of 2,500 mobile tablet devices that would enable the CHWs to automate the messages, communicate with leadership, capture real time performance data, and provide instant feedback to queries raised by the community.

DLI 5: Increased public awareness on key health risks and prevention measures as a result of CHW consultations (US$3 million). This will support improvements achieved through a strengthened CHW program focusing on better health promotion and health education messaging (i.e topics related to Family Planning, Nutrition, Gender-Based Violence and Hepatitis C).

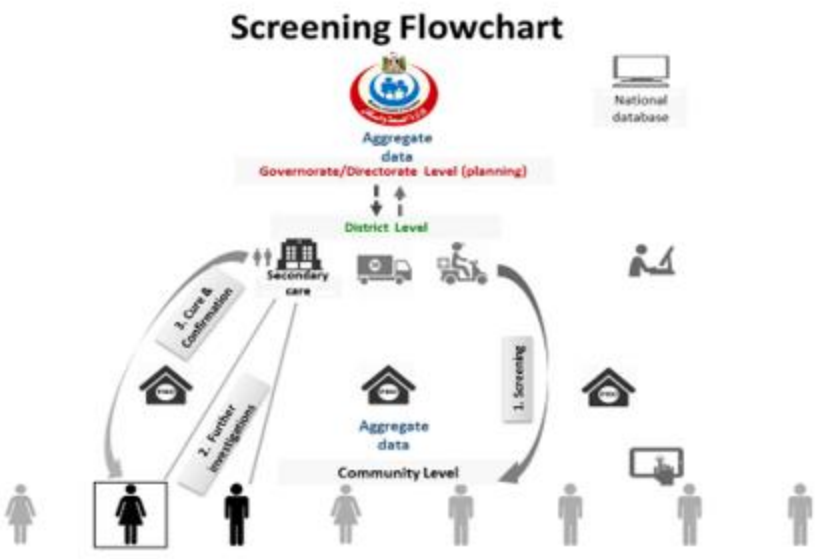
Sub-component 1.3: Supporting family planning activities. This sub-component will be financed using the DLI modality as well as a traditional IPF approach building on the successful lessons to promote family planning under the previous project which supported the 9 Governorates in Upper Egypt. This sub-component will expand the scope of those interventions on a national scale to bridge the unmet needs for family planning in Egypt as discussed in the Context section above, with a focus on addressing demand-side issues. These interventions will include contracting 500 family planning doctors to fill gaps in the

provision of culturally appropriate care; supporting yearly national communication campaigns to deliver family planning messages and strengthening media messaging in public spaces; strengthening the "Al-Wesam Initiative" by providing one-time performance payments to health facilities offering planning family services in accordance with WHO criteria; as well as support for government supervisory visits to facilities, and procurement of select family planning methods and medical equipment. These activities will focus on PHCs in targeted areas with increasing total fertility, especially in rural areas. There will be close coordination with the ongoing multi-year family planning programming by UNFPA and USAID focusing on procurement, training, and community outreach by community health workers, nurses, and providers. DLI 6 will be used to finance results under this sub-component.

DLI 6: Increased contraceptive prevalence rate (US$3.2 million). This will incentivize improvements in the contraceptive prevalence rate on a national scale through greater focus on family planning at the PCH level and through the active engagement of family planning centers to promote long-term contraceptive use.

Subcomponent 1.4: Screening for Hep C and risk factors for high burden diseases. The subcomponent will support nation-wide mass screenings for an estimated 40 million people for Hep C and further 20 million people for blood sugar level, blood pressure level, and Body Mass Index (BMI) as calibrated by age groups and geographic disease burden areas. The screenings will use the following modalities: (a) Community screening where more than 900 mobile teams will be deployed according to a pre-specified plan set at the district and governorate levels for the various rural villages and urban neighborhoods. Each team consists of smaller sub-teams that would spread in a manner to manner to obtain optimal coverage of the intended geographic target; (b) PHC and hospital levels where continuous screening services will be provided for all visitors and inpatients; and (c) Categorical screenings that would cater for either specific geographic concentrations e.g. factories, offices, etc. or events e.g.) festivals, sports events, etc. A community mobilization campaign will typically precede the screening target area to generate demand on the screening activities. This subcomponent will be supported by both a DLI approach and a small regular IPF component that will support the procurement and use of 2000 mobile tablet devices for the mobile screening teams that would enable them to instantaneously capture, transmit and interact with the national MOHP screening system.

DLI 7: NCD screening (US$4 million) will support screening for blood pressure, random blood glucose level and Body Mass index activities.



DLI 8: Hepatitis C screening (US$139 million) will support for screening of hepatitis C virus. For those testing positive at the initial rapid screening, a confirmatory Polymerase Chain Reaction (PCR) test will be administered to provide for a higher degree of certainty in their infection status and subsequent eligibility for treatment.

2. **Component 2: Strengthen secondary level care (US$274.6 million total estimated cost).** This component will strengthen the integration of services through enhancing procedures, logistics and operations that would empower hospitals to provide comprehensive quality services to the population residing in their catchment areas. Further, the component will finance the costs associated with accreditation activities as per the national accreditation guidelines for hospitals. The component will also enhance activities aiming at maintaining safe blood supply to the population to cut back on one of the highest sources of viral infection for Hep C. Lastly, the component will finance the costs associated with medical treatment of Hepatitis C patients. This component will support the following subcomponents:

Subcomponent 2.1: Providing for quality services at hospitals. The goal will be to improve the quality of services in 24 referral hospitals (2ry level general and district hospitals) in the same target 9 governorates. This will strengthen the continuity of quality care for patients treated at PHCs. The accreditation will be carried out in accordance with the national 2013 Egyptian Accreditation Guidelines for hospitals, which puts a substantial emphasis on measuring functionality in terms of process and outputs, as well as, measuring patient satisfaction with the provided services.

Subcomponent 2.2: Improve the blood bank network. This will finance selected investments needed to ensure safe blood supply at all public hospitals and facilities, which comes as a major pillar in the national strategy for the elimination of Hepatitis C. The aim is to ensure nearly 1 million units of blood (60% of the national capacity overall) are, with a high degree of certainty, safe of most well-known infection agents (Hepatitis C, Hepatitis

B, HIV and Syphilis). The MOHP affiliated National Blood Transfusion Services (NBTS) system will be supported in terms of:

a) Supplementing and replacing the current fleet of specially adapted blood donation and transportation mobile vehicles. 30 new blood donations and 15 blood transportation vehicles will be procured to support the ailing existing fleet.
b) Extending the automated national blood banks networks into the last remaining 11 regional blood transfusion centers through supporting IT infrastructure and operability.
c) Boosting the Nucleic Acid Testing (NAT) testing of all dispensed blood units. Further supplying the regional and central NBTS centers with 23 NAT machines and their respective testing kits will strengthen the NAT testing capacity. Testing kits will be enough to process 1 million units of blood per year during project duration.

Subcomponent 2.3: Treatment of Hepatitis C. This subcomponent will support the provision of treatment of an estimated 1.5 million patients, of an estimated 3-4 million total patients (depending on the number identified through screening). Operational support (consumables, kits and administrative expenses) will also be provided to nearly 200 Hepatitis C centers spread all over the country.
Hepatitis Centers, in collaboration with their respective GHDCs, will be directly responsible for procurement of the needed medicines or in. Procurement will be done according to World Bank procurement guidelines.

This subcomponent will also support all public hospitals at the national level (700) by providing Hepatitis B immuno-globulin which helps to protect the at high risk groups from infection risks with Hepatitis B following a hazardous post-exposure incident for health personnel or to prevent vertical transmission of disease (mother to child) in pregnant mothers.

DLI 9: Increased confirmation-testing post Hep C treatment (US$2 million). This DLI will track the percentage of patients taking the confirmation test following treatment for Hep C, of the total number treated under the project. This is critical to ensure that patients are confirmed as fully cured.

3. **Component 3: Institutional Capacity Building and Project Management (US$10 million total estimated cost):** This component will support the following:

i. Project Management and Monitoring and Evaluation. This will include support for the Project Management Unit (PMU), training for MOHP staff, contracting External Verification Agency (EVA) and Financial auditors. The support to the PMU will involve supervision activities, contracting of additional required staff to the PMU and costs of holding supplemental working groups.

ii. Institutional Strengthening. To strengthen the institutional capacity of key relevant public-sector agencies, this component will provide selected technical assistance as well as research work on the roll-out of the Comprehensive Health Insurance System and various project activities. Specifically, the component will:

a) Provide technical support activities through contracting specialized technical consultancies that will aim to strengthen the institutional capacity and support quantitative and qualitative analysis which will inform the three newly created organizations responsible for implementing the new CHIS, namely: (i) Payer organization; (ii) Public Provider organization; and (iii) Accreditation/Regulator organization.
b) Provide institutional capacity strengthening for the National Population Council to better manage population growth.
c) Conduct three household surveys (year 3, year 4, and year 5) to assess the impact of the CHWs program on various health awareness programs e.g. Family Planning, Nutrition issues, Gender-Based Violence and Hepatitis C infection and control, etc.)
d) Conduct five implementation research studies to evaluate different aspects of the national screening program for Hepatitis C and NCDs.
e) Conduct a yearly average quality of clinical care assessment for both PHCs and referral hospitals through an independent direct observational methodology.
f) Conduct 2 population surveys to measure improvement in the use of family planning methods.
g) Conduct a yearly patient satisfaction survey to measure the progress of patient satisfaction in project target governorates as a result of project implementation activities.

iii. An International Advisory Committee (IAC) on Hep C and NCDs, to be established, will also receive support under project. Given the significance of Egypt's role as a global leader in the fight against Hep C and size of the NCD risk factors screening, the project will support the work of leading experts and development partners who will be part of the IAC. The IAC will act as an advisory board which provides strategic and technical advice to inform other countries on lessons learned from Egypt's experience.

4. **Component 4: Contingency Emergency and Response Component (CERC)- (US$0 million):** This component, with a provisional zero allocation, would allow for a quick reallocation of resources within the total project financing envelope to boost the country's response in the event of a national health emergency.

1.5 Project Location and Beneficiaries

The proposed project will benefit, directly and indirectly, the entire population of Egypt as a result of a national campaign to eliminate Hep C, screening for NCDs nation-wide (e.g. diabetes and hypertension), and the effort under the project to improve the operation of the national blood bank system. The project will support nearly 800 mobile teams plus hospital-based screening to: (i) screen 40 million people (above 18 years of age), among which, 1.5 million people screened positive for viral RNA will be treated under the project; (ii) screen 20 million people (above 35 years of age) for blood pressure, blood sugar and Body Mass Index (BMI) where treatment would be only financed for the diagnosed residents of 9 governorates at the hospital & PCU level (15% of nation-wide diagnosed patients); 22,000 diagnosed with Moderate/severe hypertension and 37,000 diagnosed with T2 diabetes are estimated to be yearly treated. Furthermore, the project is

making substantial investments in disease prevention by improving the blood bank network which will reduce the risk of transmission of various diseases for the whole population and serving nearly 3 million blood-recipients during project duration (blood recipient often utilizing an average of 1.6 units).

Also, the proposed project will target an estimated 14 million population in the 9 target Governorates, of which 54% and 46% are females and males respectively, through improvements in primary, secondary and CHW health services, paving the way for the smooth implementation of the CHI law during phase I and phase II of the roll-out plan. Lastly, the project is expected to benefit all levels of Government administration and health facilities: national, governorate, district, village (PHCs) as well as the CHWs who serve a number of villages. The project will support system development activities at all these levels, but particularly strengthening the referral capacity from the PHC and district level to the secondary level care, as mandated under the new CHI law.

Project interventions will also benefit the health sector staff at all levels (central, governorate, district and village) by strengthening their capacity and making additional resources available to achieve the goals of the Government strategy. The staff at PHCs and hospitals (doctors, nurses and other health facility staff) will also benefit from training, improved working conditions and additional resources to allow them to operate at a higher level and provide better quality care.

CHAPTER TWO: POLICY, REGULATORY AND INSTITUTIONAL FRAMEWORK

This section highlights the key National requirements likely to be relevant to WYEP sub-projects. Applicability of the various World Bank and national requirements to specific sub-project activities should be assessed upon detailing designs of sub-projects and their activities. Furthermore, the Egyptian Government has signed and ratified a number of international conventions on the environment. These conventions are, therefore, considered an integral part of the environmental legislative framework of Egypt.

2.1 World Bank Operational Policies

The ESMF was prepared guided by the following World Bank Operational Policies:

- Given the nature of the proposed sub-projects, World Bank Operational Policy 4.01 (Environmental Assessment) is triggered
- The project is classified as category "B" as per the World Bank OP 4.01 classifications.

2.2 National Legal Framework

National legislation and guidelines sufficiently address the potential environmental and social issues associated with the envisaged sub-projects. An analysis of relevant national legal framework and identification of possible gaps with WB Operational Policies is discussed below.

2.2.1 Environmental Assessment

Environmental assessment for projects is included in the environmental legislation in Republic of Egypt: Law 4/1994 modified by Law 9/2009 and by Law 105/2015. The Ministry of State enforces the law for Environmental Affairs (MSEA) and the Egyptian Environmental Affairs Agency (EEAA), its executive agency. A number of decrees to the Law have been issued over the past 20 years including the latest decrees in 2016, concerning the placement of specific review fees based on the environmental category of the project. According to Law 4/1994 the Environmental Impact Assessment (EIA) is a licensing requirement for development projects that are likely to cause ES impacts.

The projects are categorized into four main categories (each supplemented by a pre-defined list of projects/activities). These are listed below in the order of impact significance:

- Class C; which includes high-impact projects (equivalent to WB Category A) requiring full-fledged EIA.

- Scoped EIA projects; requiring Form B EIA, intended for projects with impacts higher than typical Form B projects whilst lower than Class C projects
- Form B projects; requiring Form B EIA (less-detailed than Class C EIA).
- Form A projects; requiring Form A EIA (fewer requirements as compared with Form B projects).
- Special condition projects; do not require the EIA but will be licensed given that the project developer will comply with certain standard requirements.
- Projects that are not subject to environmental licensing system.

The 2009 Egyptian EIA Guidelines include EIA requirements, including social assessment and consultation, and is highly compatible with environmental assessment requirements of the WB. A few gaps have been identified, mainly in the procedural and compliance side:

- A large number of governmental projects do not prepare EIAs (unless required by an International Finance Institution).
- ESMPs are not usually implemented and if implemented, they are not sufficiently monitored and followed up, in particular during the construction phase.
- In the majority of the projects, contractors are not aware of their basic environmental and social roles and responsibilities (occupational health & safety, community safety, impacts due to temporary labour influx, etc) and tender documents do not usually contain such clauses (i.e. ESMPs).
- Although the Law clearly indicates that social impacts should be assessed as part of the EIA process, the social impact assessment and social management plan are not thoroughly reviewed during the environmental approval process by EEAA.
- There is no requirement for stakeholder consultation, public participation and disclosure for Categories A & B projects according to national classification. Stakeholder engagement and public consultation are a requirement for category C projects (national classification) only.

2.2.2 General hazardous substances and wastes

Law 4/1994 includes procedures for handling hazardous substances and wastes, which are to a great extent conforming to international standards and best practices. The identified gaps are mainly attributed with the implementation, and include:

- Law 4/1994 does not include requirements for an impervious secondary containment.
- The only licensed facility is located in Nasreya , Borg El Arab, Alexandria Governorate. This makes it more difficult for the industries to comply with the legislation.

2.2.3 Healthcare waste

Law 4/1994 and its executive regulations (ER) include a number of relevant articles to healthcare waste, summarized below:

- Article 19: states the environmental impact assessment requirements
- Article 22: states the environmental register requirements
- Article 29: prohibits the handling of hazardous materials and wastes without a license
- Article 31: states the license requirements for establishing waste treatment facilities
- Article 33: states the requirements related to the hazardous waste register and minimizing the environmental impacts for all hazardous waste generators

- Articles 85, 88 & 95 of the Law : state the penalties for non-compliance with the law requirements
- Article 102 & 104 of the Law: related to inspection authorities

2.2.4 Air quality

Ambient air quality and emission standards of Law 4/1994 generally meet the interim targets of the WHO ambient air guidelines, with few exceptions that have little significance in the program's context. The main gaps identified with relevance to the current program are:

- Engines, burners and furnaces are rarely checked for efficiency.
- Ambient air quality monitoring stations are limited in number. Monitoring data is not disclosed to the public and is not used in the EIA and licensing procedures
- Selected air emission limits are different from WBG limits. A brief comparison is presented in the table below

Table 2-1: Ambient air quality emission limits (µg/m3)

	NO	***NO_2***	***NOx***	***SO_2***	***CO***	***PM_{10}***	***T.S.P***
National (24 hrs)	150	150	150	150	10 (mg/m^3, 8 hrs)	150	230
WB (24 hrs)	-	-	200 (1 hr)	125	N/A	150	230

2.2.5 Water Quality

Law 40/1982 regulates the quality of freshwater resources. It includes standards for ambient water quality as well as limits for discharging wastewaters in different water bodies. Industrial facilities and workshops discharging to sewers are required to comply with Law 93/1962 and its modified executive regulations (Decree 44/2000). The identified gaps are presented below:

- Selected national water quality and discharge limits are different from WBG limits.

However, these are not presented here in details, as they are not expected to be a major impact of the project.

2.2.6 Noise

Law 4/1994 includes standards for ambient and occupational noise with correspondent exposure periods. The main gaps identified are:

- The ambient noise standards generally conform to international standards, but do not place a limit on the potential increase in ambient noise caused by new activities (usually an increase less than 3 dB is considered acceptable).
- Ambient noise monitoring is not consistently conducted, and monitoring data is not available to the public.
- There is no tracking of compliance with occupational noise exposure during the majority of construction activities.
- Selected Noise limits are different from WBG limits. A brief comparison is presented in the table below.

Table 2-2: Comparison of National and WBG Noise limits

	Egyptian Law 4 Requirements				WB Requirements		
Noise		Permissible noise intensity decibel			Receptor	One hour L_{Aeq} (dBA)	
	TYPE OF AREA	DAY 7 a.m. to 10 p.m.	NIGHT 10 p.m. to 7 a.m.			Day 07:00–22:00	Night 22:00 - 07:00
	Sensitive Areas (Schools-hospitals- rural areas)	50	40		Residential; Institutional; educational	55	45
	Residential with limited traffic	55	45		Industrial; commercial	70	70
	Urban residential areas with commercial activities	60	50				
	Residential adjacent to roads less than 12m wide	65	55				
	Residential adjacent to roads 12m wide or more, or light industrial areas.	70	60				
	Industrial areas (heavy industries)	70	70				

The maximum occupational noise allowed by Law 4/1994 for establishments that have been licensed before 2011 is 90 dBA for eight hours. The thresholds, although relatively high, would provide good protection to workers if complied with. However, the main gaps are in compliance with such requirements.

2.2.7 Solid Waste Management

General cleanliness and solid waste management, are regulated by Law 38/1967. Solid waste collection and disposal services are usually performed by the Local Authority on a governmental level, and they lack sufficient financial resources to deliver the desired quality service. The main gaps identified are:

- The service covers cities only, in most of the areas.
- Insufficient manpower and equipment.
- The service providers are not and sometimes cannot be accountable to ineffective services or random disposals.
- Besides the use of engineered landfills, disposal is still being done in open dumpsites with low environmental and health standards, sometimes close to urban settlements.

2.2.8 Occupational Health and Safety

The Labor Law 12/2003 is the main legislation for health and safety issues. The main gaps identified are (mainly during implementation):

- Lack of awareness to adhere to safe working measures among employers and workers.
- Contractors do not implement proper and complete occupational health and safety measures in order to reduce construction costs.

- There is limited capacity to monitor health and safety issues in some industrial sites
- Construction activities are usually not inspected for health and safety issues.

2.2.9 Natural habitats

Law 102/1984 regulates natural protected areas (including more than 140 islands in the Nile). Usually development of the protected areas is well monitored by EEAA. However, it has been noticed that for a number of islands , no effective law enforcement is in place, and many of them already host urban development activities.

2.2.10 Cultural Heritage

Law 117/1983 has been issued to protect antiquities and culturally valuable sites. The Law addresses structural protection of antiquities by placing certain procedures for chance finds. These procedures adequately safeguard against potential negative impacts during the construction activities associated with the program's sub-projects. Registered sites are closely inspected by the Antiquity Authority.

2.2.11 Rights to healthcare and com Comprehensive Health Insurance Law

According to Egypt's Strategic Vision for Health to 2030, a comprehensive, universal health coverage, is rooted in a system that is guaranteed to provide preventive and curative services needed by citizens and delivered at an acceptable quality and affordable price, is at the core of the public health sector of any state. The universal provision of healthcare is based on the accessibility and quality of services and the protection against financial risks, especially for the financially vulnerable. According to the World Bank collection of development indicators, health expenditure per capita (current US$) in Egypt was reported at 178 USD in 2014, compared with $500 for higher middle-income countries, while per capita healthcare expenditure in developed countries may reach more than $4,500. When considering the financial burden shouldered by the average Egyptian family it becomes clear that the health insurance system, in its current form, does not achieve its purpose, which may be due to the fact that the healthcare service provider is itself the financier of the service. In other words, universal health insurance is unavailable due to the modest return on investment on healthcare, leading to lack of investment to establish health services projects that increase the burden on the governmental sector.

Despite gains in health care in recent decades, Egypt still confronts many challenges to ensure that progress is made toward achieving social justice in health care and to enhance the quality of healthcare services (including policies, programs and projects related to healthcare services). Though Egypt recognizes the "right to health" in the new constitution, health outcomes continue to be unequally distributed and certain populations (defined by income, education, gender, or geography) remain excluded from gains in health outcomes, increases in financial protection, and improvements in health care quality.

Egypt's 2014 Constitution affirmed the universal right to healthcare, where Article 18 states that every citizen is entitled to health and to comprehensive health care with quality criteria. The state guarantees to maintain and support public health facilities that provide health services to the

people, and work on enhancing their efficiency and their fair geographical distribution across Egypt.

The state commits to the following:

- Allocate a percentage of government expenditure that is no less than 3% of Gross Domestic Product (GDP) to health. The percentage will gradually increase to reach global rates.
- The establishment of a comprehensive health care system for all Egyptians covering all diseases. The contribution of citizens to its subscriptions or their exemption therefrom is based on their income rates.
- Denying any form of medical treatment to any human in emergency or life-threatening situations is a crime.
- Improving the conditions of physicians, nursing staff, and health sector workers, and achieving equity for them.
- Encourage a partnership program between the public and private sectors in Public/Private Partnerships (PPPs) to increase investment in healthcare service provision.
- All health facilities and health related products, materials, and health-related means of advertisement are subject to state oversight.

In December 2017, the Parliament approved the Comprehensive Health Insurance Law drafted earlier in October by the government following discussions with the Health Committee's report on the law. The new system will be implemented between 2018 and 2032. The law will provide free health care coverage extension to all citizens who cannot afford to pay for their medical treatment. In fact, these account for 30-40 percent of the population. In addition, subscription would be obligatory for those who can afford covering treatment costs for all diseases. Article 40 of the new comprehensive health insurance law stipulates that the sources of funding would include fees paid by citizens (i.e. subscription fees), donations, tax on cigarettes, and additional funding sources increasing from three to six (no official details has been revealed on the other sources yet).

Furthermore, amongst the most important articles of the new health insurance law, are the following:

- Article (4) is concerned with the establishment of the **General Authority for Comprehensive Social Health Insurance (GACSHI)** to be an independent legal entity with an independent and separate budget. The authority will be under the primary supervision of the Prime Minister with a special administration.
- Article (5) is concerned with the formation of the Board of Directors of the Authority, and that it states that the term of the Council is four years, to be renewed once.
- Article (6) stipulates that the Board of Directors of the Authority is the supreme authority of its affairs as well as setting the necessary policies required to accomplish its goal.
- Article (7) provides for the appointment of an executive director for the authority to administer it, where his term of office will be four years, to be renewed once.
- Article (8) stipulates that all administrative and financial assets – except medical assets – of the General Authority for Health Insurance along with its branches and entities associated to health ministry shall be affiliated to the GACSHI.

- Article (10) states that GACSHI shall be responsible for following up the medical treatment of the insured patients in case they received a medical treatment at one of the medical entities, which are not registered in the GACSHI. Insured patients shall have the right to choose the treatment entities in case of emergency at one of the non-contracting medical entities, in such cases the GACSHI shall have the right to regulate the refund expenses in accordance with the applicable price regulations of the Authority.
- Article (11) stipulates that the Authority shall have the right to exclude any service providers in cases where service providers are less focused towards the citizens.
- Article (12) states that in the case of injury of the insured during work or because of work, the employer shall inform the GACSHI as soon as the injury takes place.
- Article (13) is concerned with the issuance of disability certificates resulting from the incidence of any disease and its percentage.
- Article (14), the GACSHI is obliged to submit performance reports regarding its financial position and semi-annual financial statements to the Cabinet and House of Representatives at least once a year.
- Article (40) deals with the sources of funding of the Authority. Article includes 9 points, all of which are concerned with the Authority's resources. It is also concerned with the collection of funds from other sources in order to finance the system, including P.T. 75 of the value of each pack of cigarettes sold in the domestic market, whether local or foreign, to be increased every three years by P.T. 25, plus EGP 1 toll for each vehicle passing highways and EGP 20 for each year when issuing or renewing the driving license. Also, EGP 50 when issuing or renewing the license cars with a capacity of less than 1,600 CC and EGP 150 for cars with a capacity of less than 2,000 CC and EGP 300 for cars with a capacity exceeding 2,000 CC.
  This comes in addition to LE 1,000 collected for each bed when issuing licenses of new hospitals and medical centers, LE 20 of the value of each ton of cement produced locally or abroad and LE 50 for every ton of iron manufactured locally or abroad. When opening new clinics and pharmacies, owners are to pay an amount ranging between LE 1,000 and LE 15,000 depending on several criteria.
  The Minister of Health stated that ministry of social solidarity is committed to paying the value of the health insurance for unemployed persons eligible for unemployment compensation in accordance with the provisions of the Social Security regulations. The ministry is also committed to collect the contributions of health insurance due from different parties.
- Article (42) states in the case of a delay in payment of contributions, an additional annual amount shall be imposed on the individual as a fine for the delay period. The additional amount shall be calculated in accordance with the rules provided for in the Civil Code.
- Article (44), the financial status of the system shall be examined at least once every four years by one or more experts in the field of health who shall be assigned by the Prime Minister based on the nomination of the Minister of Finance and Minister of health.
- Article (48) stipulates that the use of comprehensive social health insurance services requires that the beneficiary be a participant in the system and is paying their share. Individuals who do not join the universal health insurance from the beginning but decide to do so later will be obliged to pay the arrears via a one-off payment or in installments, except in case of an emergency, as defined by the authority.

- Article (49) states that those insured shall bear their share and the employer's share during the duration of the internal or external loan and the unpaid special leave and shall be handed directly to the Authority except for childcare leave, scholarships, sabbatical leave and scientific assignments granted to the administrative units of the State.
- Article (52) specifies that the bodies established under this law shall have an independent budget and shall begin their financial year at the beginning of the fiscal year of the State and shall end by the end of each year.
- Article (53) determines that the provisions of the Law shall be suspended during the period of compulsory conscription, retention and summoning of the armed forces.
- Article (59) determines that the Authority may provide its services to foreign residents or in accordance with the regulations it establishes, taking into consideration the requirement of reciprocity.
- Article (62) stipulates that a penalty of imprisonment for a period of not less than six months and a fine of not less than LE 2,000 and not more than LE 10,000, or one of these penalties, shall be given to anyone who gives incorrect statements or refrained from giving the data provided for in this law. Not less than six months and a fine of not less than LE 20,000 and not exceeding LE 100,000, or one of these penalties, to any individual or group that hinders the work of employees of the Commission who are eligible to apply judicial seizure.
- Article (63) asserts that a penalty of not less than one year and a fine of not less than LE 50,000 and not more than LE 70,000, or one of these two penalties, shall be imposed on each employee of the Authority who would illegally facilitate the attainment of medication or compensatory equipment. In such cases, the court shall confiscate medicine or compensatory devices, or its value, in favor of the Authority.
- Article (65) affirms that a penalty of imprisonment for a period of not less than six months and a fine of not less than LE 100,000 and not exceeding LE 200,000, or one of these penalties, for each employee of the Authority or service provider who shall assist any participant from not paying his share to the authority.

The new law mandates establishing three new administrative bodies to manage the new system:

1. The Social Health Insurance Authority, a legally independent body with its self-governing budget under the supervision of the Prime Minister, will be responsible for funding the service.

2. The Healthcare Authority will be handling healthcare services in primary healthcare units and hospitals.

3. The Quality Control body will be appointed to ensure all healthcare services and infrastructures meet international standards (handle accreditation of service units and providers, quality of service, and supervision of operations).

Moreover, in March 2018, Minister of Communications cooperated with the Ministry of Health and Population to automate the comprehensive health insurance system in Egypt. Thus, provide citizens with unified smart cards that include all necessary information required for health insurance system, such as medical records, in accordance with the cooperation protocol.

On the other hand, despite positive impact anticipated from the new law. Some concerns were raised such as the excessive burden on the individual's income, which will be feared as the law raises monthly insurance fees, given the difficult economic conditions, the law amendments would place a large burden on low-income families. In addition, the new law set quality standards for medical facilities to meet as conditions to be covered in the new insurance system. With many public hospitals expected to fail in this test, some of them may resort to selling their shares to private companies.

CHAPTER THREE: BASELINE DESCRIPTION

This section provides a high-level overview of key baseline components given the wide range of urban and rural areas eligible for sub-project implementation.

3.1 Baseline Overview

In general, the Nile Valley and the Nile Delta host the highest population and activity densities in Egypt. Around 8 million acres of agricultural land-use and the majority of rural and urban clusters are located in the Nile Valley and Delta.

The rest of the country is divided up between the Eastern & Western Deserts and the Sinai Peninsula in the North Easter corner of Egypt.

3.2 Climate Overview

The main vulnerabilities to climate change in Egypt are related to: rise of the Mediterranean Sea level leading to inundation of coastal areas in an around the Nile Delta, change of precipitation patterns leading to heavy rains causing urban flooding (along coastal areas) and flash floods (in Upper Egypt and Sinai), rise in average temperature and more frequent heat waves and dust storms.

Table 3.1 below provides an overview of temperature and precipitation in Egypt (Source: Weather Base).

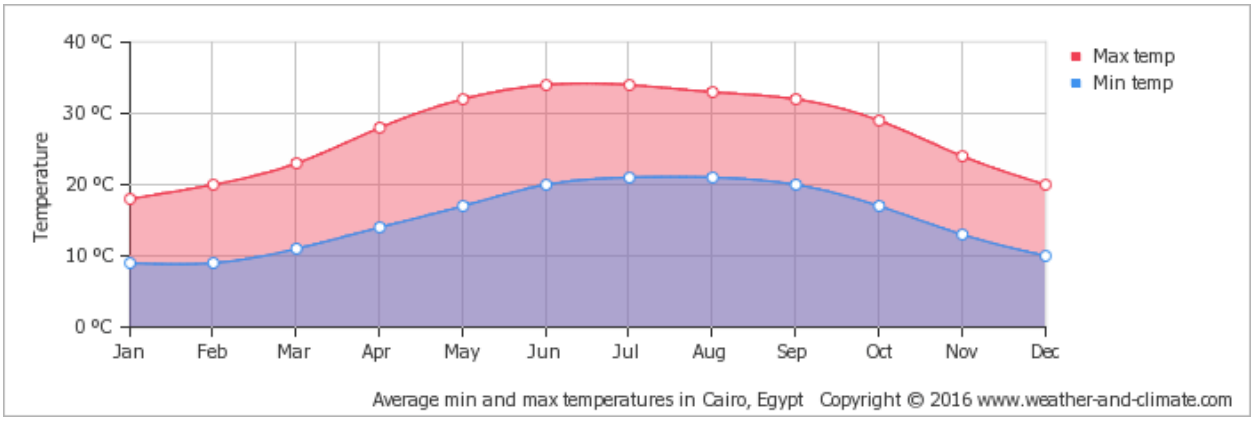
Table 3-1: Overview of temperature and precipitation in Egypt

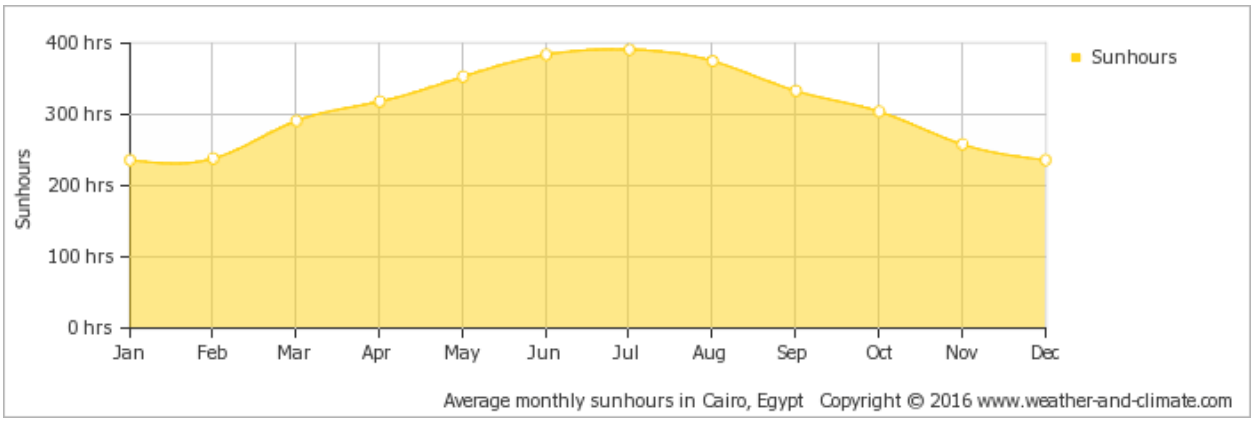
	ANNUAL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Average Temperature (C)	21.7	13.5	14.7	17.3	21.3	24.8	27.5	28.4	28.3	26.6	23.8	19.3	15.2
Average High Temperature (C)	27.8	19.4	20.8	23.6	27.8	31.5	33.9	34.4	34.3	32.5	29.8	25.4	21.1

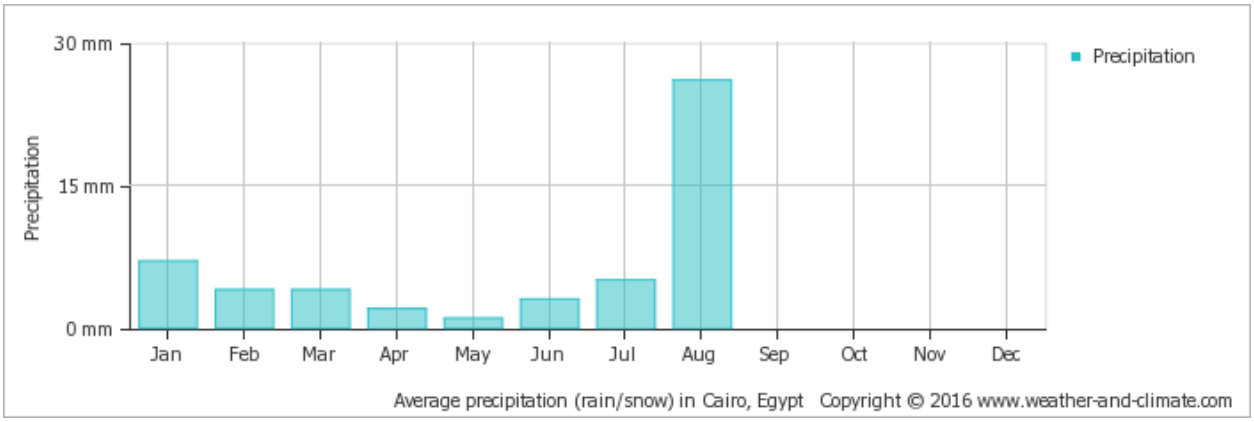
Average Low Temperature (C)	16.1	8.4	9.2	11.6	15	18.5	21.3	22.6	22.9	21.2	18.6	14.3	10.2
Average Precipitation (mm)	49.5	11.2	6.8	4.8	2.2	1.5	0.3	0.2	0.3	0.3	2.9	6.1	10.3

The graphs below show the max and min temperatures, and average precipitation for both Delta (represented by Cairo) and Upper Egypt (represented by Kosseir)

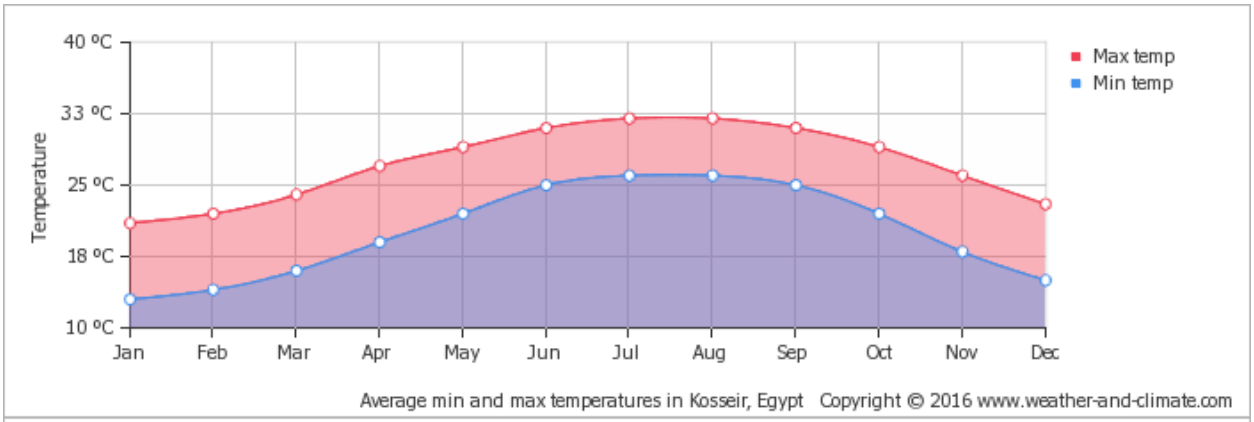
Delta:

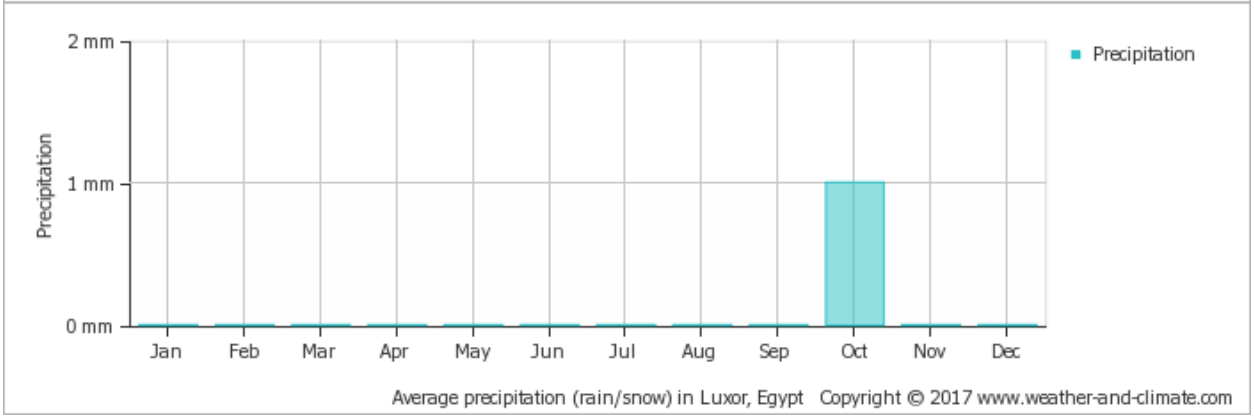






Upper Egypt:





3.3 Environmental Baseline

Topography

Topography in potential project areas is expected to be flat as the mountainous areas of Egypt exhibit extremely low population densities.

Geomorphology and Geology vary greatly across Egypt but are generally irrelevant to TEHP activities.

Soil and Water

Nile Valley and Nile Delta
Rural project areas are expected to be predominantly agricultural. While urban areas typically exhibit minimal uncovered soil.
Surface water is quite likely to be encountered in the Nile Valley and Nile Delta in the form of the Nile and its branch system.
Groundwater in the Nile Valley and Delta is generally at relatively shallow depths and is connected to the Nile and its branch system.

Eastern & Western Deserts and the Sinai
Rural and urban project areas may be expected to exhibit uncovered soil. Surface water is rarely encountered outside the Nile Valley and Nile Delta. Groundwater is generally deep in areas outside the Nile Valley and Nile Delta.

The unique location of Ismailia offered it a rich environment with fertility soil and good climate, all this helped corps to grow with quality, the most famous plantings in the governorate is vegetables. Soil also varies in Ismailia, some is clay soil (total area 60,000 acres east of Suez Canal). Sand soil (total area 340,000 acres) at East of Suez Canal, which is decided to be planted and watered by water drops method or spray according to each area. Ismailia is very specialized be the presence of Ismailia water Canal as a source for water.

Most of the Suez soil is classified as red desert characterized by salinity of the soil. Soil with such characteristics is not suitable for the cultivation of traditional crops known in the Nile Valley and Delta, especially in the absence of fresh water, and rain fed agriculture cannot be sustained due to the lack of continuity of the rainy season, as in the northern coast. The only source of fresh water in Suez Governorate is the Suez Canal, 45 km long. The canal starts at Ismailia with fresh water from north Cairo and passes through the provinces of Al-Qaliubia and Al-Sharqeya and Ismailia, where it branches to two fresh water wells, the fresh water canal in Port Said and the water canal in Suez.

In South Sinai 342,000 feddans can be classified as "fair" land (roughly equivalent to SCS class II), and 365,000 feddans as "poor" land (roughly equivalent to SCS class IV). The majority of South Sinai, however, is classified as "unsuitable" for agricultural reclamation. There are several significant areas of "fair" agricultural land in South Sinai. In the Wadi El Bruk area, a broad area of "fair" land occurs, extending from El Mineidra-El Soghaiyare northward to Bir El Thamada. In South Sinai, the largest area of "fair" agricultural land lies in the El Qaa Plain. This area runs north-south, encompassing most of the central stretch of the El Qaa Plain. Its broadest point is around El Tur, where it widens to about 10 to 15 kilometers, where 2,000 feddans are planned to be reclaimed during the period 2005-2017, on underground water using modern irrigation systems for vegetable and fruit crops cultivation (GARPAD). Another area of "fair" agricultural land can be found at

Abu Rudeis. The area occupies the alluvial fans developed by Wadi Baba and Wadi Sidri. Long narrow strips of "fair" agricultural land are also located in most of the major wadis of the region.

Flora and Fauna

Flora & Fauna to be encountered in project areas and during project activities is generally expected to be limited to agricultural crops and livestock & domesticated animals, respectively.
Across Egypt, total area of agricultural land is about 8.4 million feddan (3.5% of total area of Egypt). About 92% of the agricultural land is located in Nile valley and the Delta. Typical crops in Upper (Southern) Egypt include cotton, wheat, and sugar cane; while rice, citrus, maize, and cotton are more typically located in Lower (Northern Egypt). Alfalfa and various fodders are also commonly planted with these crops as livestock feed. Typical livestock includes: cattle, camels, buffalos, sheep, horses, goats, donkeys, and poultry.

Marine and coastal resources in the Gulf of Suez and the Red Sea are among the top four distinguished environmentalist in Egypt. Each has its own habitat for plant and animal life; there are a lot of places that classified as marine and protected areas. In the plant life there are 44 strains of viruses, 238 species of bacteria, 1260 species of fungus, 1148 species of Algae, 369 species of non-flowering flowering plants, in addition to 2072 breed of plants in flowering, in animal life, there are 10,000 strains of insects, 1,422 breeds of vertebrates, 755 strain of fish, 105 breed of reptiles and amphibians, 470 breed of birds, in addition to 126 species of mammals.

North Sinai is considered one of the important plant areas in Egypt because it contains plants of nutritional value suitable for grazing as plants of medicinal and aromatic interest. The diversity of topography of the earth, soil nature and the extension of the valleys between the high mountains made a great importance to the plants in north Sinai.

Forming a land bridge between Africa and Asia, Sinai is host to a unique assemblage of species from African, European and Asian biogeographic provinces. At the same time, the gulfs of Suez and Aqaba present dispersal barriers between South Sinai and the Egyptian mainland and Arabia, whilst convoluted topography and vertical climatic zonation create dispersal barriers within South Sinai, particularly within the southern mountain region. These joint factors have resulted in a large number of relict and endemic species in Sinai, especially in the southern mountain zone. Biodiversity assessments for the region vary, and there is a need for further inventories and studies, particularly for flora and insects in the southern mountain region.

Due to Egypt's dry climate, few indigenous wild animals are present across Egypt. For instance, gazelles which are found in the deserts, as well as desert fox, hyena, jackal, boar, jerboa, and ichneumon which inhabit the areas of delta and the mountains along the Red Sea. In addition, reptiles of Egypt are lizards and several kinds of poisonous snakes including the horned viper and the asp. As well as, the hippopotamus and crocodile which were common in the lower Nile and Nile delta in antiquity, which are now restricted to the upper Nile. Regarding Egypt's avifauna, Egypt is considered one of the significant transit locations of migrating birds; approximately 350 species of migrating birds come to Egypt across the Red Sea to find a resort in its islands. Thus, around 485 species of birds, including the sunbird, golden oriole, egret, hoopoe, plover, pelican,

flamingo, heron, stork, quail, and snipe are present in Egypt. Furthermore, birds of prey are also found in Egypt such as eagles, falcons, hawks, vultures, owls and kites. Several species of insects are present in Egypt, such as; beetles, mosquitoes, flies, and fleas being especially numerous, nevertheless; scorpions are found in desert areas.

Although South Sinai Governorate has relatively low faunal biodiversity the region supports several nationally or internationally endangered species. 42 reptile species (43% of Egyptian reptile fauna) are known from the area, 54 common resident breeding bird species (10% of Egyptian avifauna), and 39 mammal species in South Sinai (25% of Egyptian mammal fauna), with no amphibian species yet recorded. Insects have not been well studied in the region, with the exception of the Lepidoptera. 44 species of butterfly are known from the peninsula, 34 being confirmed residents.

Energy and sanitation utilities

The National electricity Network has generally covered all residential areas in Egypt. It is likely that most buildings undergoing rehabilitation within project activities will have access to electric power. However, many locations in Egypt experience power outages during summer months due to peak loads on the national and local grids.

Agricultural lands, canals, and roads where project activities may take place will generally not have access to grid electricity sources. Diesel generators are typically the alternative source of power in such locations.

Only a small proportion of households in rural areas in Egypt are connected to central sewage treatment collection networks. Rural areas generally rely on decentralized sanitation systems. Conversely, the majority of urban areas are connected to the sewage collection and treatment network.

Qena: With the exception of Qena city there is no sewerage infrastructure in any settlement in the Governorate of Qena. The network of gravity sewerage systems in Qena City covers about 200 km with approximately 1600 manholes, covering approximately 80% of the city's area, with approximately 10,000 connections.
The types of sanitation systems available include traditional gravity sewers, untraditional or pumped sewers or on-site sanitation systems. Traditional sewers account for 5% of sanitation coverage in the Governorate, untraditional sewers approximately 15% and on-site sanitation systems account respectively for approximately 45%. Accordingly, about 35% of the population is not provided with any sanitation services. The only operational wastewater treatment plant is in the city of Qena. The rural areas of Qena accommodate over 65 % of the total population, yet there are no formal wastewater services in these areas, which lead to adverse effects on health, particularly for women and children.

North Sinai: According to 2006 statistics of sanitation facilities, there is a sewage network in El Arish and Bir El Abed only. Other centers are connected to a drainage manhole with an open bottom. The percentage of homes connected to sanitation network in the governorate is about 36%

and the percentage of homes without any sanitation services are about 64%, equivalent to 222,423 people, while the countryside does not receive any sanitation services.

South Sinai: a range of sanitation facilities currently exists in both rural and urban areas; however, many of the rural settlements remain un-served. The type and availability of sanitation facilities are in direct correlation to the level of satisfaction people have with the services. In urban areas, the sanitation issue was often linked to a lack of secure tenure and therefore an inability to gain access to the city sanitation network through official channels. The absence of sanitation facilities was quite common in rural settlements.

Alexandria: According to the 2005 Human Development Report, 99.9% of households are connected to the sanitation network, but 6.7 thousand people remain without sanitation. The amount of sewage generated is 1.2 million m3/day. According to the Ministry of Housing, Utilities and Urban Development, the total capacity of sanitation is 1398 thousand cubic meters / day, which translates 372 liters/day per capita.
The sewerage system covers the planned areas of Alexandria and most of the informal settlements.

Matruh: Sewerage systems exist only in Marsa Matrouh while other provinces rely on septic tanks, which are periodically emptied by the local municipal. These practices do not present any environmental risks at the present time due to the low population density. The capacity of the sanitation plant is 25000 m3/day, which serves the city of Matrouh, and is yet to be expanded to a larger production capacity. An integrated sewage project is also under way in Siwa, but even with the larger expansions, those projects will only serve the urban areas, as the production capacity of 68000 m3/day would not be able to accommodate the needs of entire governorate (76600 m3/day). The percentage of households connected to the sanitation service is 25.4% and the per capita generation of sewage is 6.77 liters/day.

Luxor : Electricity reaches about 97 % of the household in their homes in the supreme council of Luxor compared to 95% for the Upper Egypt and 98.7 % for the republic of Egypt.
According to Information Center of the Supreme Council of Luxor, Total sewage capacity in Luxor reaches 42 thousand cubic meters / day. Per capita sewage is 71 liters / day / person. This area is limited to the urban areas of Luxor by 70% while the countryside is still connected permanently to any sewage network.

Aswan: The quantity of wastewater discharged from homes in Aswan Governorate is estimated at approximately 130,000 m3 / day. About one-third of this amount is processed while two-thirds are discharged others as untreated wastewater.
At present, there are eight sewage treatment plants in the province:

- 2 conventional treatment plants (Kema 1 & 2) in Aswan city
- 6 oxidation ponds (Balana, Nasr Nubia, Hager, Atawani, and the mountain, and al-Busayliya).

Most homes in Aswan do not have a sewerage system or treatment system but they discharge unprocessed wastewater in banks.

Waste Management

Waste collection, transport, treatment and disposal systems are generally underperforming across the country. Municipal waste management is typically the responsibility of local authorities. Door-to-door collection is rare and curbside collection is the dominant mode with average coverage of about 40%. Waste accumulations, open burning, and scavenging are common. Waste disposal sites are generally overloaded and many are unmanaged.
Hazardous waste is relatively better managed with the Nasreya Waste Treatment & Disposal Facility being the only licensed Hazardous waste disposal site in Egypt and is located in Borg El Arab, North of Alexandria Governorate

Medical Waste

Medical waste or healthcare waste contains both hazardous and non-hazardous components. The hazardous portion shall be managed according to the Law 4 requirements. This includes sharp and non-sharp tools, blood, human body, chemicals materials, pharmaceuticals, and radioactive materials. However, the largest portion of the medical waste is non-hazardous (up to 85-90%). The composition of a typical medical waste is shown in Figure 3-1. The estimated amount of hazardous waste generated daily from all healthcare facilities ranges from about 20 tons in Cairo governorate to about half a ton in New Valley Governorate with a total amount estimated at 104 tons per day. Figure 3-2 shows the estimation of the quantity of hazardous wastes generated from healthcare facilities in the different governorates of Egypt, while Figure 3-3 shows the distribution of hazardous waste from hospitals and healthcare facilities owned or operated by various national institutions. Figure 3-4 and 3-5 show the distribution of hazardous waste among different types of hospitals and healthcare facilities in Egypt.

<u>According to the Infection Control National Guidelines, handling of medical waste involves the following basic steps:</u>
1. Waste sorting and segregation at source.
2. Waste collection
3. Waste transportation inside the hospital
4. Intermediate storage where waste is retained until it is either ready for processing or sent outside the facility for treatment and final disposal.
5. Waste transport outside the facility
6. Treatment of waste either by shredding and sterilizing or by incineration.
7. Final disposal of treated medical waste.

<u>Figure 3-1: Medical Waste Composition</u>

Figure 3-2: Daily Average of Hazardous Waste in different Egyptian Governorates

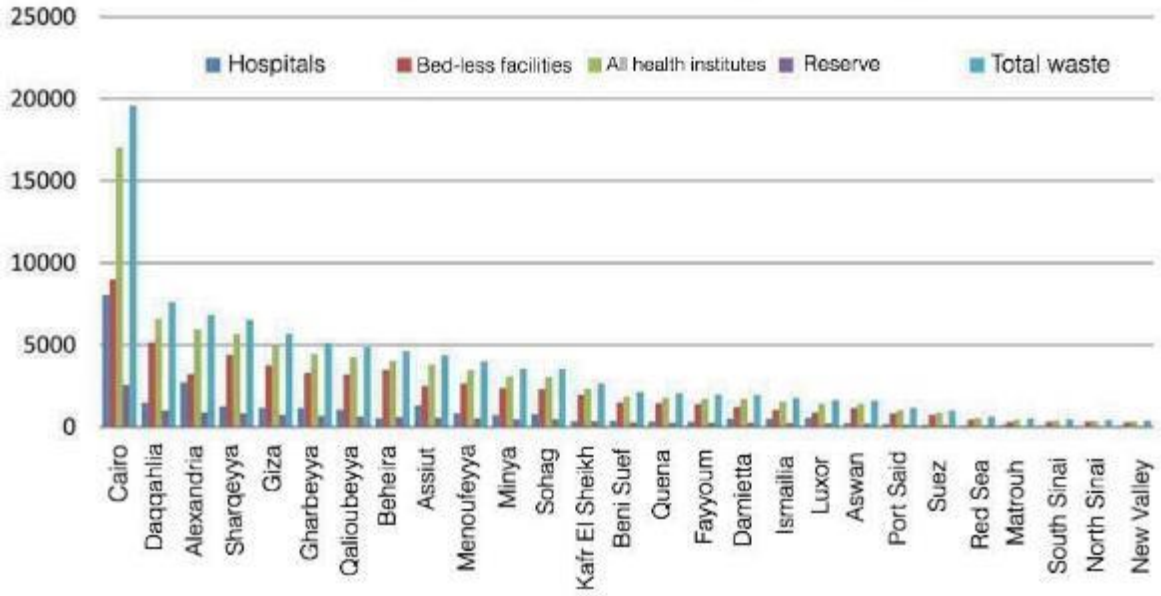


Figure 3-3: Hazardous Waste Distribution (2012)

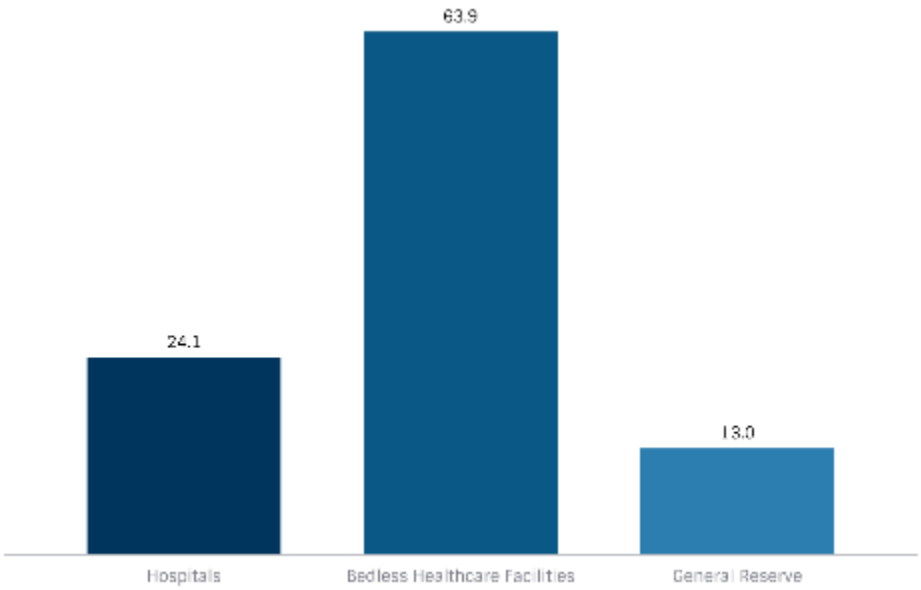


Figure 3-4: Distribution of Hazardous Waste in Hospitals (2012)

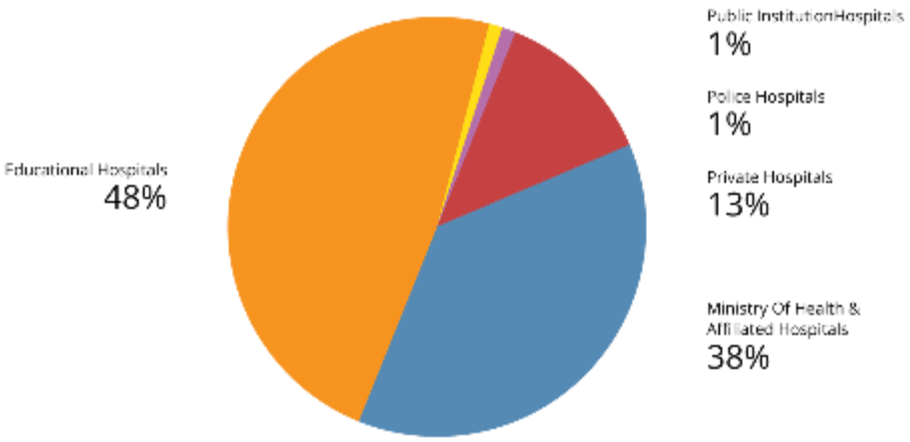
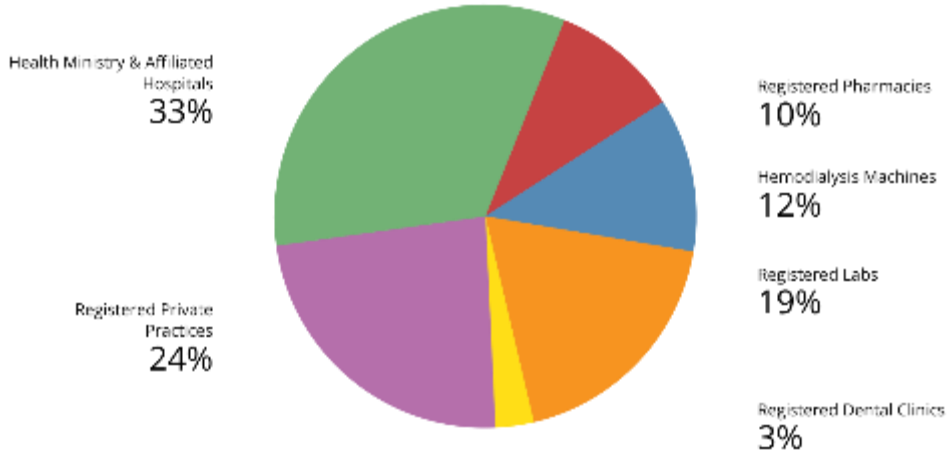


Figure 3-5: Distribution of Hazardous Waste in Non-Hospital

Health Facilities (2012)



According to Egypt's Health Care Waste Management Guidelines issued by the Ministry of Environment in 2015 , a number of assumptions regarding daily rates of hazardous waste generation in healthcare facilities in Egypt based on experience gained from a number of projects and practical experience are demonstrated in table 3-2 below:

Table 3-2. Approximate daily rates of hazardous waste generation in health care facilities in Egypt.

Notes / Reason of Assumption	Value (Kg/day)	Assumptions
This assumption was used in other projects. This average includes all hazardous waste generated from the hospital except dialysis.	0.275	Rate of hazardous waste generation for hospitals containing beds.
This assumption was used in other projects. Assuming each machine operates two shifts every day	2.0	Waste generation rate for dialysis machine.
This assumption was used in the Beni Sueif project. This number was confirmed through the waste records in the hospital.	0.8	Waste generation rate for health units and health centers And all non-bed containing facilities.
This assumption was used in other projects - category (1) - Including Surgery, Gynecology, Dentistry, Dermatology and Labs.	0.4	Waste generation rates for clinics - category (1)

This assumption was used in other projects - category (2) - including the rest of the clinics.	0.2	Waste generation rates for clinics - category (2)
Estimate equal to 50% of the assumed rate of category (2) clinics.	0.1	Waste generation rates for pharmacies

Figure 3-6 shows the number, type and condition of hazardous waste treatment methods/facilities in Egypt while the potential sites for final disposal of healthcare waste ash and residues resulting from treatment processes in different governorates are listed in Table 3-3.

Figure 3-6: Number, type and condition of hazardous waste treatment methods/facilities in Egypt

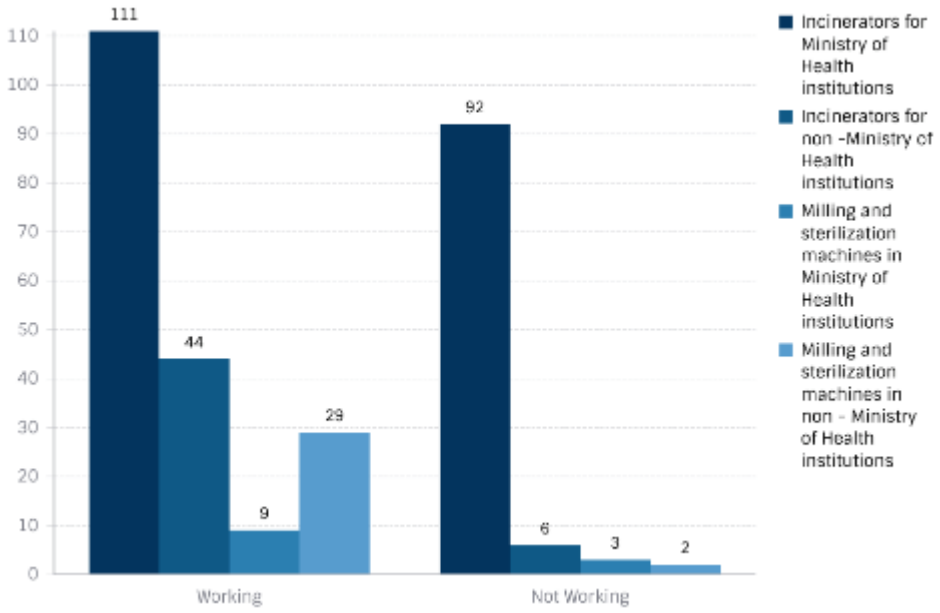


Table 3-3. List of potential sites for the final disposal of health-care waste or ash and residues resulting from treatment in different governorates:

Governorate	Random waste disposal sites	Governed waste disposal sites	Landfill sites
Ismailia	5	1	-
Suez	Not surveyed	-	1
Port Said	Not surveyed	2	1
Alexandria	Not surveyed	-	2 (Hammam, Burj El-Arab)
Cairo	Not surveyed	4 (shiqi althaeban, alqatamia, altuwb alramli, madinat alsalm)	2 (ElWafaa wel Amal, 15th of May city)
Qalyubia	Not surveyed	1 (Abo zaabal)	-
Giza	7	1 (Shubramint)	-
Damietta	4	-	-
Dakahlia	7	-	-
Kafr El Sheikh	Not surveyed	10	-
Gharbia	4	-	1 (Sadat city)
Monufia	9	-	-
Sharqia	12	-	1 (koum Oushim)
Beheira	15	-	-
Faiyum	5	2	-
Beni Suef	Not surveyed	1	-
Minya	Not surveyed	9	-
Asyut	Not surveyed	1	-
Sohag	11	3	-
Qena	9	-	-
Luxor	2	2	-
Aswan	Not surveyed	3 (Blana, Idfu, Aswan)	-
North Sinai	Not surveyed	6	-
South Sinai	3	-	-
Red Sea	5	1	-
New Valley	Not surveyed	6	-
Matruh	Not surveyed	-	-
TOTAL	**Not surveyed**	**53**	**9**

Table 3-4 shows that the total processing capacity available in all treatment facilities across all governorates is about 45 tons / day as compared to a total amount of hazardous medical wastes generated of around 100 tons/day, which leaves around 55tons/day of untreated wastes. The latter is subjected to random/uncontrolled disposal and open burning,

Table 3-4(a) - Assumed and actual capacities for hazardous waste treatment technologies in health care facilities in all governorates of Egypt in (kg /per day) – Source (Egypt's Health Care Waste Management Guidelines issued by the Ministry of Environment in 2015)

Governorate	**Estimated Hazardous Waste quantities (kg/day)**	**Incineration/Burning**		**Sterilization/Shredding**		**Total processing capacity (Actual) (Kg/hr)**	**Total Processing Capacity based on two/three shift per day (Kg/day)**	**amount of unprocessed Waste (Kg/day)**
		Estimated (Design) Capacity (Kg/hr)	Actual Capacity (Kg/hr)	Estimated (Design) Capacity (Kg/hr)	Actual Capacity (Kg/hr)			
Ismailia	1760.51	460	390	45	45	435	1087.5	673
Suez	999.33	700	700		-	700	1750	
Port Said	1161.34	300	100		-	100	250	911.3
Alexandria	6836.34	250	250		-	250	625	6211.3
Cairo	19587.16	1640	1130	772.5	750	1880	4700	14887.2
Qalyubia	4888.35	1300	600	45	45	645	1612.5	3275.9
Giza	5678.09	1700	900	202.5	90	990	2475	3203.1
Damietta	1951.92	360	100	45	45	145	362.5	1589.4
Dakahlia	7609.12	2140	1470	75	75	1545	3862.5	3746.6
Kafr El Sheikh	2656.61	950	590		-	590	1475	1181.6
Gharbia	5114.74	1530	1130		-	1130	2825	2289.5
Monufia	3985.98	1080	1080	157.5	157.5	1237.5	3093.8	892.2
Sharqia	6515.52	1300	900	37.5	15	915	2287.5	4228
Beheira	4614.47	1280	750	15	15	765	1912.5	2702
Faiyum	1963.03	420	320		-	320	800	1163
Beni Suef	2114.49	700	700		-	700	1750	364.49
Minya	3545.55	1400	1000		-	1000	2500	1045.6
Asyut	4373.85	2075	1800		-	1800	4500	
Sohag	3522.13	860	860		-	860	2150	1372.1
Qena	2042.67	700	400		-	400	1000	1042.8
Luxor	1629.64	300	150		-	150	375	1254.6
Aswan	1607.45	450	250		-	250	625	982.5
North Sinai	427.72	300	100	30	-	100	250	177.7
South Sinai	473.61	700	250		-	250	625	
Red Sea	622.07	250	250		-	250	625	
New Valley	414.76	340	100		-	100	250	164.8
Matruh	505.68	850	550		-	550	1375	
Total	**103762.8**	**24335**	**16820**	**1425**	**1237.5**	**18057.5**	**45143.8**	**53358.9**

According to the Ministry of Health and Population, the capacity of the medical waste treatment facilities in Egypt can be summarized as follows :

- Number of working burners = 141
- Number of working shredders and sterilization equipment = 17
- Actual capacity for medical waste treatment (ton/ per day) = 78
- Number of working medical waste hauling trucks = 210

Table 3-4(b) shows the amounts of waste collected and those treated in the different governorates. Compared with table 3-4(a) , it is concluded that the total treatment capacity has risen from 55t/day in 2015 to around 78t/day in 2018 . However, there is around 23t/day of waste collected not subjected to treatment.

Table 3-4(b) – Average Quantity Delivered and Average Quantity Treated in health care facilities in all governorates of Egypt in– source (MOHP 2018):

Governorate	Average Quantity Delivered (Kg/day)	Average Quantity Treated (Kg/day)
Cairo	22270	20019
Fayum	2013	1513
Aswan	1054	710
Kafr El Sheikh	3380	2533
Qaliubia	2804	2174
Sharqia	4453	3246
Gharbia	3667	1243
Gizeh	8381	6193
Alexandria	12263	9596
Behera	5217	4022
Beni-Suef	3312	2535
Port Said	1274	972
Ismailia	1368	1022
Assiut	3155	2355
North Sinai	742	592
South Sinai	210	153
Suez	1376	976
Minia	2547	1842
Damietta	2855	2369
Qena	2038	1152
Daqahlia	5555	4872
Sohag	2409	1788
Red Sea	533	443
Matrouh	823	627
New Valley	319	242

Luxor	1648	1173
Menufia	4899	3521
Total	100566	77884

3.4 Socio-economic conditions

Prevalence of Hepatitis C in Egypt is the highest in the world. As of 2015 (Ministry of Health and Population and others, 2015b), 7 percent of the population at ages 15-59 were chronically infected (testing positive for viral RNA), and 10 percent carried antibodies, i.e., had been exposed to the virus or infected at some stage (Table 3-5). The very high prevalence rates are attributed to a history of parenteral (injected) mass treatment of schistosomiasis until the early 1980s (Frank and others (2000), Strickland (2006)), which resulted in extensive blood-borne transmission of Hepatitis C. Although ongoing infections also play a role, this history plays an important role in explaining the current profile of the epidemic, including the very high (though declining) level and the age profile of prevalence of Hepatitis C, and its regional variation.

Table 3-5: Prevalence of Hepatitis C Across Population Gorups, 2015 (Ages 15-59, Percentage)

	Prevalence of Hepatitis C Antibodies			Prevalence of Hepatitis C RNA		
	Total	Men	Women	Total	Men	Women
Total	10.0	12.4	8.1	7.0	8.9	5.5
Urban	7.1	8.5	5.9	4.7	5.9	3.7
Urban poor	7.6	8.4	7.0	5.4	6.4	4.5
Urban wealthy	6.6	8.6	4.9	4.1	5.5	2.9
Rural	11.7	14.7	9.3	8.4	10.7	6.6
Rural poor	12.6	16.4	9.6	9.1	12.1	6.7
Rural wealthy	11.0	13.4	9.1	7.8	9.6	6.5
By wealth quintile						
First (poorest)	12.7	16.2	9.9	9.5	12.3	7.3
Second	11.8	15.7	8.7	8.2	10.7	6.3
Third	10.2	12.4	8.6	7.2	8.8	6.0
Fourth	9.1	10.0	8.3	6.4	7.7	5.3
Fifth (wealthiest)	6.5	8.2	4.9	3.9	5.3	2.7

Source: MoHP, El-Zanaty and Associates, and Macro International (2015, 2015b).
Note: For the urban and rural sub-populations, "poor" and "wealthy" refers to individuals with household income below or above the median for the respective sub-population. Wealth quintiles refer to the overall population.

The most comprehensive source of data on prevalence of Hepatitis C and its variation across the population is the 2015 Health Issues Survey conducted in connection with and on a subset of households from the 2014 Demographic and Health Survey. According to these data, summarized

in Table 1, the socio-economic gradient of Hepatitis C is characterized by three factors. First, prevalence for men is about one-half higher than for women. Second, there is a steep rural-urban differential, with prevalence in rural areas (which were more affected by schistosomiasis) about two-thirds higher than in urban areas. Third, there is a steep wealth gradient – prevalence for the poorest quintile is about twice as high as for the wealthiest quintile. Because urban areas are much wealthier than rural areas, the wealth differentials to some extent reflect regional variations in the prevalence of Hepatitis C rather than socio-economic differences within locations. For this reason, Table 3-5 also divides the urban and rural sub-populations in "wealthy" and "poor" segments (with household income above or below the median for the respective sub-population), with prevalence of Hepatitis C one percentage point higher for the "poor" population across urban areas, and 1½ percentage points higher across rural areas.

The high incidence of OOP health expenditure combined with poverty puts poorer Egyptians under extreme financial pressure when it comes to illness. In fact, since 2006, OOP payments as a percentage of total health spending in Egypt have remained fixed at 61% (World Bank 2016), with the poorest households spending nearly 21% of their income on healthcare. Due to endemic market failures, the poor are excluded from the health system in Egypt. They are unable to access high quality affordable healthcare and as a result skimp on care or skip care altogether. Egyptians in the highest income quintile report twice as many outpatient and inpatient visits as compared to those in the lowest income quintile (Rafeh et al., 2011). When the poor do seek care, their out of pocket expense is a higher proportion of their household expenditure as compared to the rich (Rafeh et al., 2011). Almost 7 per cent of Egyptians face catastrophic expenses[7] due to healthcare and the poor disproportionately bear the brunt of this cost. (Elgazzar et al., 2010). As a result, this target group tends to have worse health outcomes than the general population. The public sector, with its mandate of reducing inequities for the most vulnerable, is best positioned to rectify this and address the needs of this population. By upgrading the target public facilities as a prerequisite for contracting by the new health insurance payer, the project provides an efficient use of public systems as it optimizes the use of underutilized fixed capital at the primary and secondary level.

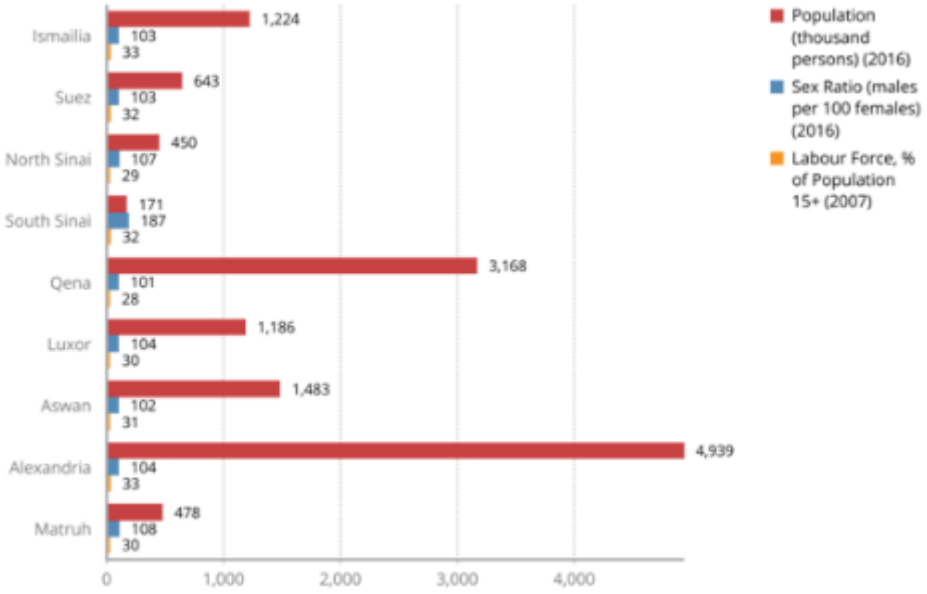
In addition, while the economy is recovering and macroeconomic imbalances are starting to narrow, social conditions remain challenging. Poverty rates, based on national poverty thresholds, place about a third of the population below the poverty line in 2015. Regional income disparities are an enduring characteristic, with Upper Rural Egypt lagging other regions. The unemployment rate is 12% (at end-FY2016/17), a decrease from 12.5% the year before, while the youth unemployment rate is 25.7%. The government is strengthening social safety nets through the expansion of cash transfer schemes and increases in social pensions and food subsidy allocations. Although Egypt has made significant strides in human development in the areas of child mortality, life expectancy, primary and secondary school enrollment and literacy rates, there are persistent challenges with large inequalities in access to and quality of basic social services.

[7] Catastrophic expenses are defined as costs greater than 10 per cent of total household

The poverty rate is highest in Upper Egypt and specifically rural Upper Egypt (51.5 %), followed by urban Upper Egypt (29.4 %) and it is the least prevalent in Urban Governorates (9.6 %); the same applies to the poverty gap[8] and the squared poverty gap[9].

Poverty in Upper Egypt is mainly structural/chronic poverty that is driven by lack of adequate public infrastructure, private capital accumulation, and low investment in human capital and the absence of pro-poor program-based fiscal policy, which collectively lead to deterioration in living standards in Upper Egypt, compared to other regions (CAPMAS, Population Department)

Figure 3-7: Demographic overview of nine gorvernorates



Poverty in the Poorest Villages of Egypt

CAPMAS analysis espoused an analysis of income and expenditure that was based on a representative sample of 141 villages out of 1000 households with the poorest villages. From the results that were obtained from the analysis, spending less than LE 197 per month in the year 2015 or approximately 2364 LE per year led to the classification of a person as poor in Egypt. The data findings also indicated that an average of 131 LE per month or 1572 LE per year also made a person to spend less than what was necessary or the minimum threshold to shun away the extreme poverty. In that regard, the amount fell short of the LE 148 per month/ LE 1776 per year that should be the lowest required. In the sample villages, the findings also deviated from the overall

[8] The poverty gap index amounted to 35.3% compared to 5.9% at the level of total rural Egypt.

[9] Geographically, Egypt is divided into seven regions: Metropolitan including Cairo, Alexandria, Port Said and Suez governorates which are fully Lower Urban and Lower Rural which include urban and rural areas of Damietta, Dakahlia, Sharkia, Qualiobia, Kafr el Sheikh, Garbeyya, Menoufia, Beheira, Ismailia governorates, Upper Urban and Upper Rural which include urban and rural areas of Giza, Bani Suef, Fayoum, Menia, Assiut, Sohag, Qena, Aswan and luxor governorates, and Border Urban and Border Rural which include urban and rural areas of Red Sea.

shallow nature of poverty. That is because the poverty is deep and thus not exhibits a situation where the poor cluster around the poverty line. Furthermore, unlike the overall shallow nature of poverty in Egypt (where most of the poor cluster around the poverty line), poverty in these particular villages is deep (Figure 3-8, 3-9, 3-10).

Figure 3-8: National Poverty Line

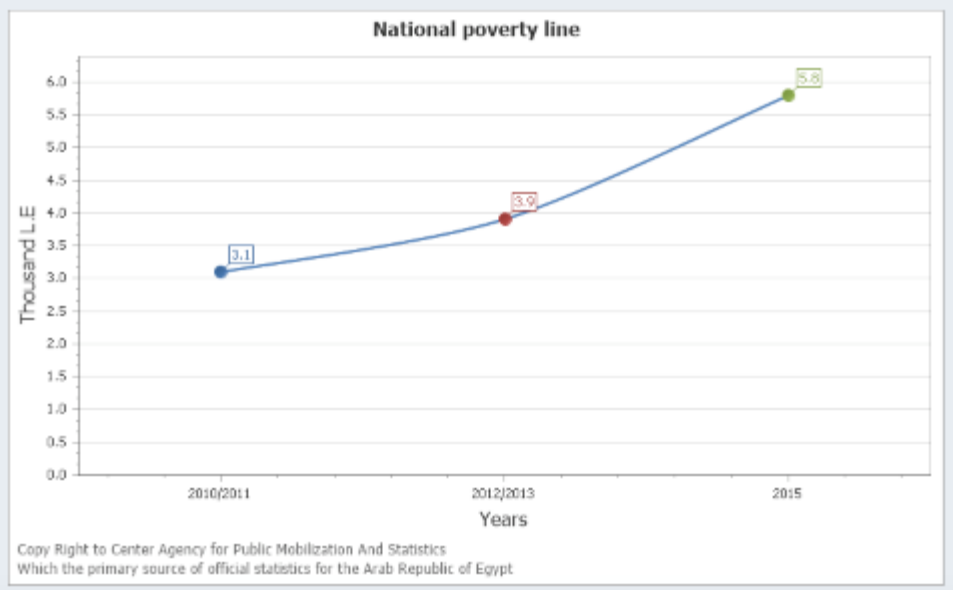


Figure 3-9: Pauperism – Geographical Regions Year 2013

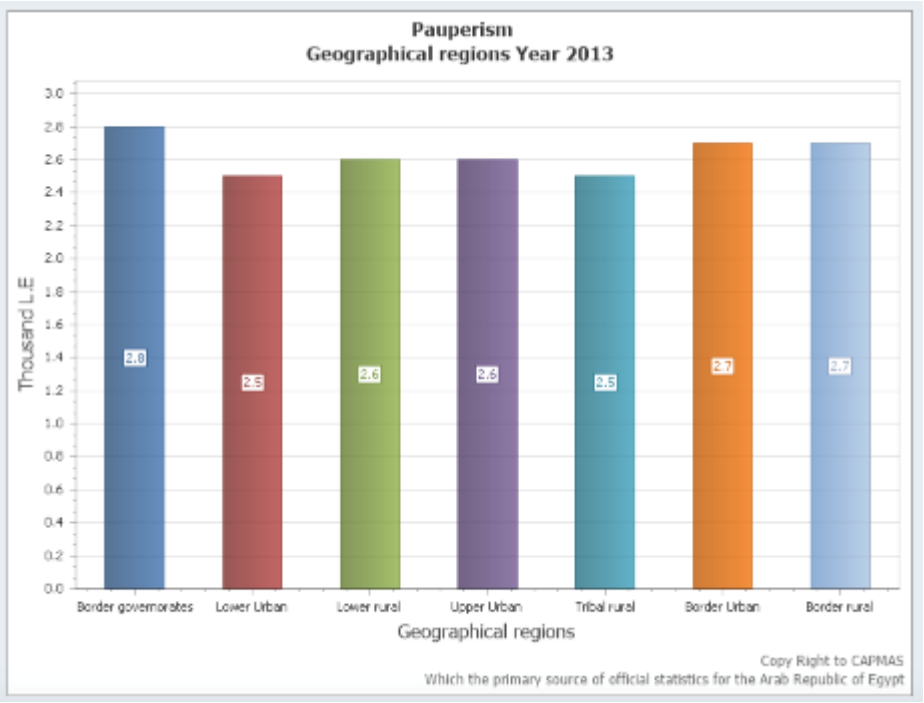
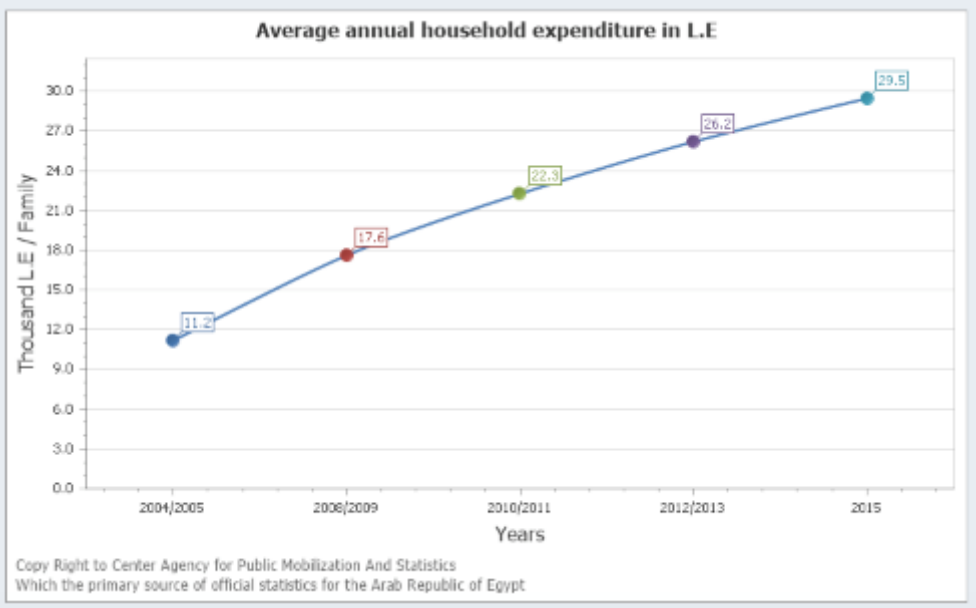


Figure 3-10: Average Annual Household Expenditure in L.E

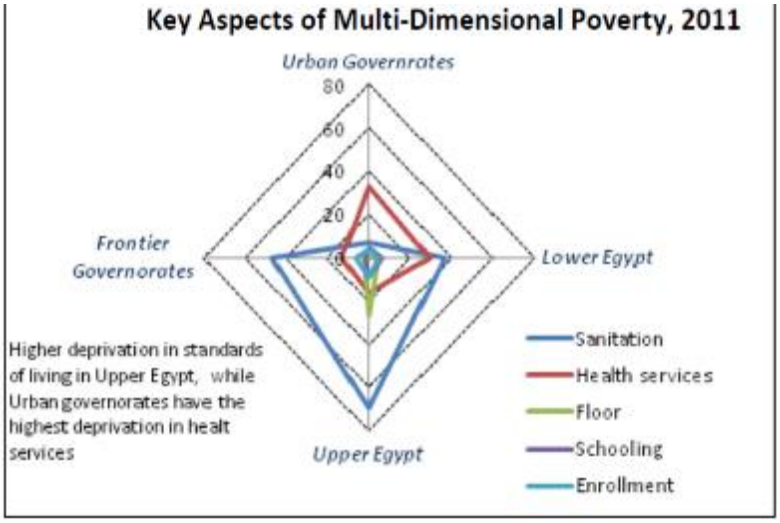


3.4.2 Multi-dimensional Poverty

The multi-dimensional poverty is often concerned with both intensity and the nature of the poverty. It is keen to espouse the multiple deprivations in measures like the education, health and the standard of living and as such show the extent of these factors at an individual level. The common approach taken by the multi-dimension poverty is to use the micro data that are taken from household surveys, which would later on be aggregated at a macro level to attain the national measure of poverty. The national measure often encompasses the standard UNDP definition that is focused on establishing indicators of factors such as health, education and the living standards. For instance, these might include the nutrition, child morality, and measures assets in a household, access to hard flooring, water, electricity, a toilet and cooking fuel)[10]. In Figure 3-11, the concept has been put into use in making comparisons in main geographical reasons and Cairo, Alexandria, Suez and Port Said have performed better in these entire areas apart from health services.

Figure 3-11: Key Aspects Of Multi-Dimensional Poverty, 2011
(Source: CAPMAS and World Food Program (WFP), May 2013)

[10] Alkire, S. and Santos, M.E., Multidimensional Poverty Index, (Oxford Poverty & Human Development Initiative, Oxford, July 2010)



3.4.3 Income and Expenditure in Egypt

The increasing prevalence of income poverty in recent times is compounded by the prevalence of poor living conditions and inadequate access to education and health services resulting in extreme multidimensional poverty amongst 11.9 % of the population in 2011.

Figure 3-12: Average Annual Incomes for the Family District Distribution Year 2013

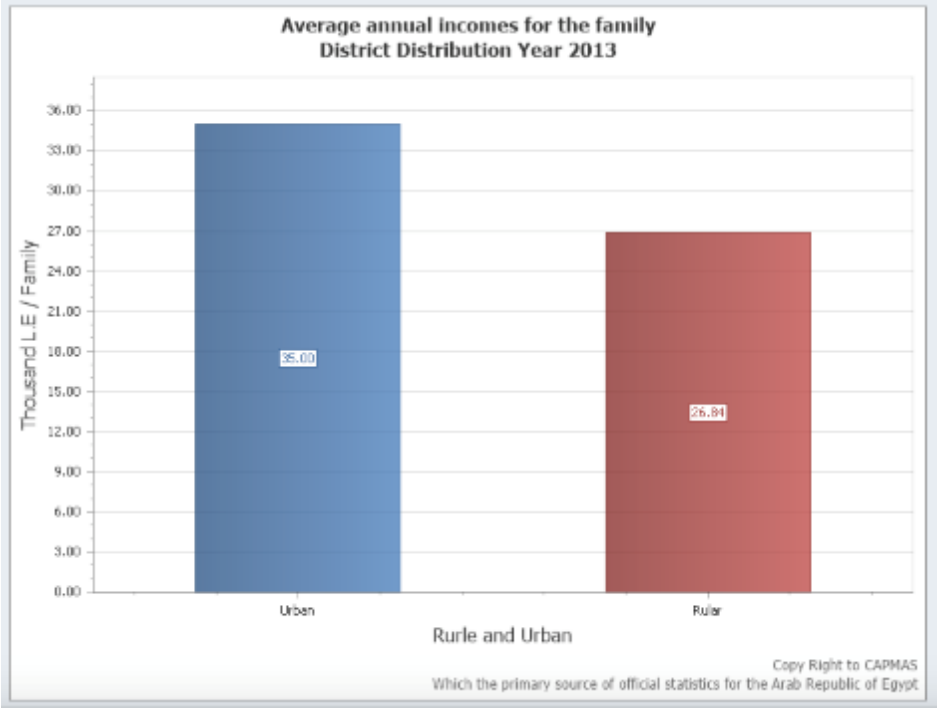


Figure 3-13: Average Per Capita of the Family Annual Expenditure in L.E

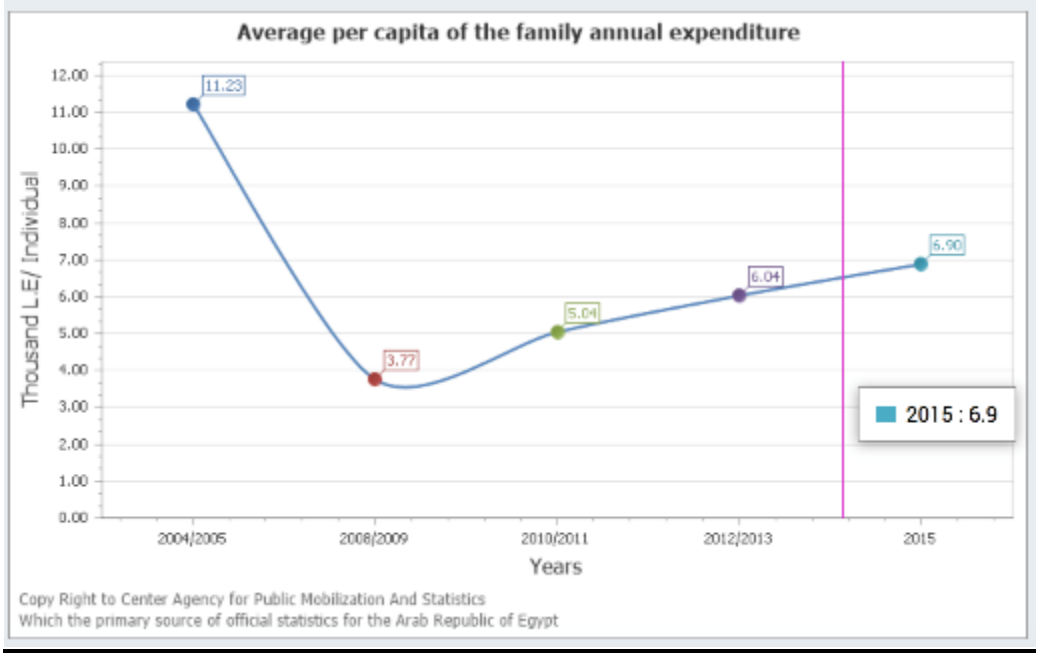
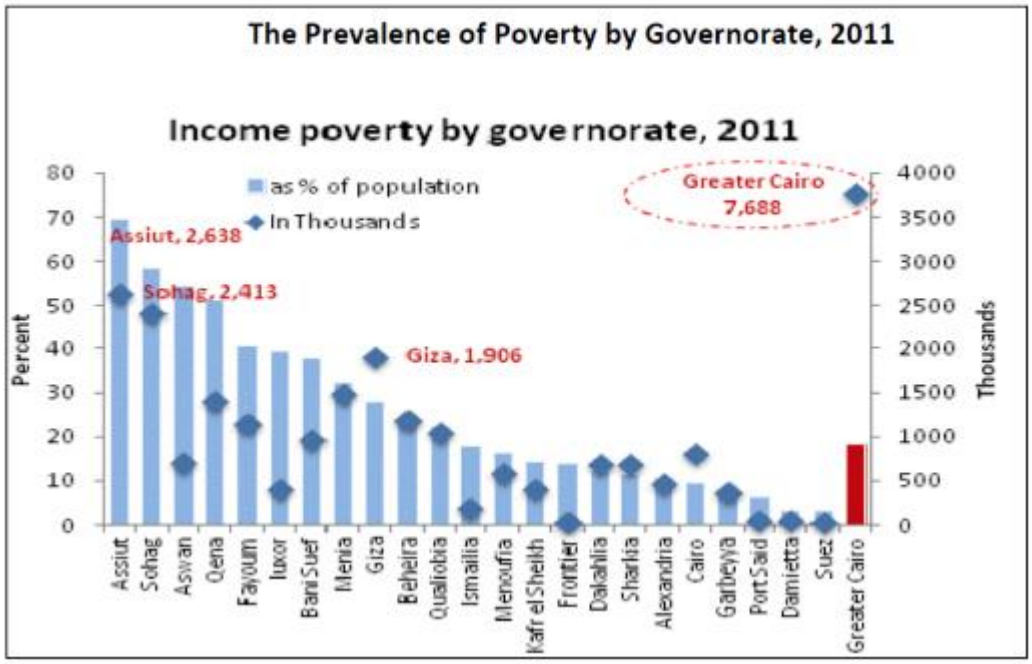


Figure 3-14: The Prevalence of poverty by Governorate, 2011



According to CAPMAS (Figure 3-14), Upper Egypt shows the highest prevalence rate (18 %) compared to all other regions, much higher than Lower Egypt and Urban Governorates (8.7 % and 6.8 % respectively). Moreover, the prevalence of poor living standards is generally higher in rural areas; deprivation of sanitation is as high as 87% in rural Upper Egypt and 47 % in rural Lower Egypt.

Governorates that demonstrate the highest income poverty rates are also those with the highest rates of extreme multi-dimensional poverty; mostly Menia, Assuit, Sohag, Bani Sueif, Fayoum and Qena in Upper Egypt (Figure 3-14).

3.4.4 Education

The correlation between the level of education and the poverty status is positive; as the level of poverty decreases as one decreases his/her education in this case. Increasing education determines individual access to income through employment. The results that are given by CAPMAS indicate that the illiteracy level increased in the year 2013 to 25.9 from around 24.9 percent in 2012. In term of numbers, the more Egyptians were unable to read or write with the numbers increasing from 16.1 million in the year 2012 to 17.2 million in the year 2013. From the findings, Upper Egypt was mostly affected as it recorded the highest rates of illiteracy especially among the youth. The illiteracy level among the youth is at 29.8% compared to 64.9 percent among the elderly. In terms of Cities, the highest rates were recorded in Fayoum at 37 percent followed by Minya and Sohag.

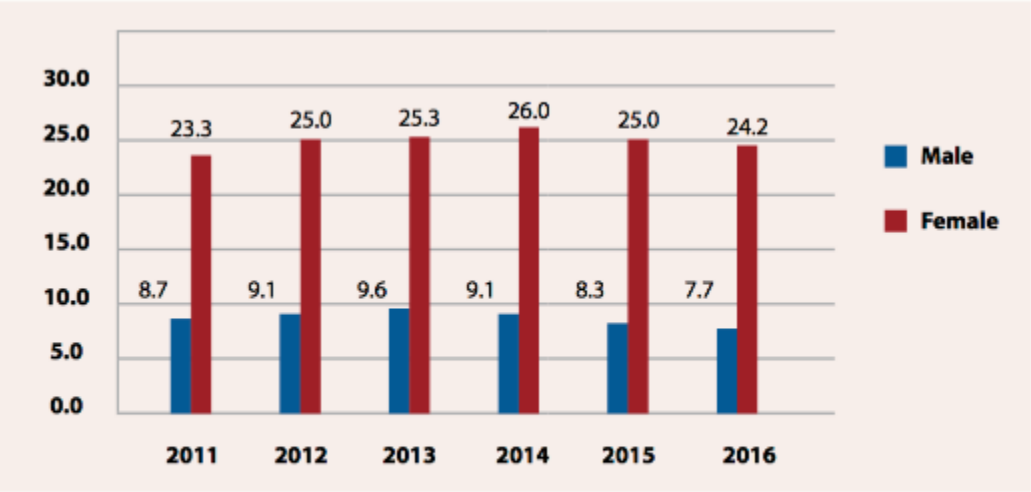
The social class members at 47% are the most affected in the rural parts of Upper Egypt. The reality is that families drop out school because of their inability to pay for their school fees. In case of the middle class, they prefer the technical high schools. Technical high schools are mostly widespread among the middle classes (48%); the lowest class prefers getting a job instead of going to a technical school, and the higher class chooses to continue in the university path (56%). The general high school education is the least between all the levels of education.

3.4.5 Unemployment

Unemployment is one of the key economic challenges facing youth around the world, and in Egypt specifically, where youth unemployment has reached an unprecedented level of 26% (World Bank, 2017). Moreover, there is not only a enormous employment gap, where labor supply exceeds the demand, but also despite attaining higher levels of education, there is a skills mismatch between job seekers and job offers (Abdel-Ghafar, 2016).

In 2015, according to "Women's Entrepreneurship Development Assessment" (Egypt, ILO, 2016), the data on labor force participation, illustrated in figure 3-14 below; employment and unemployment in Egypt indicate significant gender gaps. In fact, women in Egypt have more difficulties in finding new jobs and securing their current jobs, as female unemployment reached 25% in 2015, while the male unemployment amounted to 8.3%. Moreover, 37% of female employees are un-paid, compared to only 5% for male employees.

Figure 3-15: Unemployment in Egypt 2012-2016



Source: ILO KILM statistics http://www.ilo.org/global/statistics-and-databases/WCMS_424979/lang--en/index.htm [accessed 30 August 2016].

Unemployment rates for female and males categorized by age groups are illustrated in Table 3-7 below, which showcases that unemployment rates are mainly concentrated in the age group 30-59, as 29% of female unemployment exists in the age group 30-39. In addition, 25% of female unemployment exists in the age group 40-49, and 18% for age group 50-59, as oppose to the male are 26%, 22% and 18% in the same age groups respectively.

Table 3-6: Distribution of unemployment according to gender and age group

Age Group	15-19	20-24	25-29	30-39	40-49	50-59	60-64	65+
Male	5 %	11 %	13 %	26 %	22 %	18 %	3 %	2 %
Female	4 %	9 %	13 %	29 %	25 %	18 %	2 %	1 %

Source: Calculations based on CAPMAS statistics (2014). "Annual bulletin for labour force survey 2014".

Preference in hiring male employees versus female in private sector employers results in women's share being only 17% versus 83% for men. A similar situation exists in the public sector where women hold 31% of the jobs and men 69% of the jobs. The latter resulted in women lacking the opportunity to gain knowledge, skills, experience and network, which are all critical and essential pillars to those who later choose the self-employment option.

3.4.6 Health

Labor-intensive public works projects will be most effective in the more peripheral areas of Egypt, which face immediate demographic pressure and have a less educated labor force. Public works

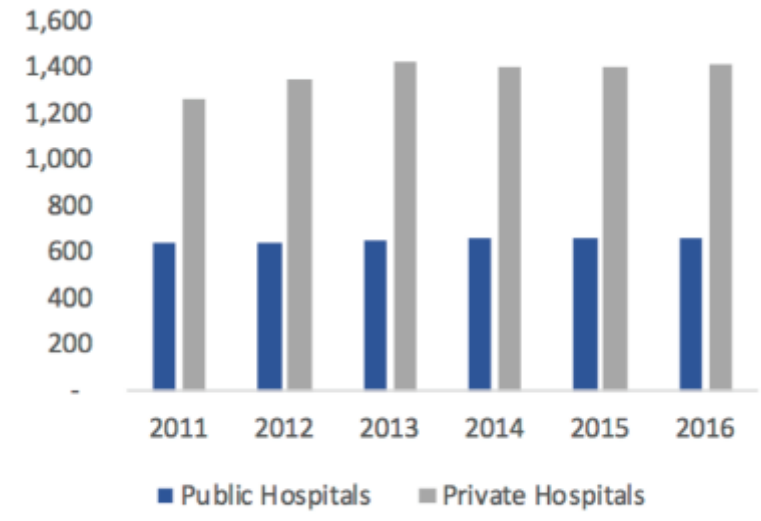
that concentrate on improving health and education services may be a viable method of addressing multiple problems at once while limiting potential negative consequences. Peripheral Egypt suffers from a dearth of schools and hospitals: while more than 80% of households in metropolitan Egypt report living within 20 minutes of a secondary school, this declines to less than 70% in rural Lower Egypt and less than 50% in rural Upper Egypt.

For health care, access is even more difficult: more than 70% of households in metropolitan Egypt live within 20 minutes of a hospital, compared to less than 40% in rural Lower Egypt and less than 30% in rural Upper Egypt. Access to both forms of infrastructure has also deteriorated dramatically over the last 15 years. Reequipping peripheral Egypt with adequate infrastructure would be a huge priority even in the absence of broader problems in the labor market. A public works program of constructing new hospitals and schools in remote areas could provide construction jobs for younger workers with lower levels of education. The positive externalities of added jobs can multiply the welfare impact of such a program.

In conclusion, the analysis puts forth a strong case that calls for targeting the rural Egypt especially the upper parts with government projects that are aimed at ensuring social protection and economic growth.

According to the National Center for Health Information (2012), there are 2352 hospitals registered in Egypt (including hospital branches of the Ministry of Health) According to the same source, Egyptian registered hospitals have a total of 135,478 beds. In addition, the National Center for Health Information (2012) - the number of health care facilities with no beds is 154,687, including clinics, clinics, labs, health centers, dialysis machines and pharmacies. Below figures showcase statistics and distribution of hospitals across Egypt as well as number of beds and healthcare spending:

Figure 3-15: Number of Hospitals by Category (2011-2016)
Source- BMI



Source: BMI

Figure 3-16: Distribution of Hospitals According To Ownership

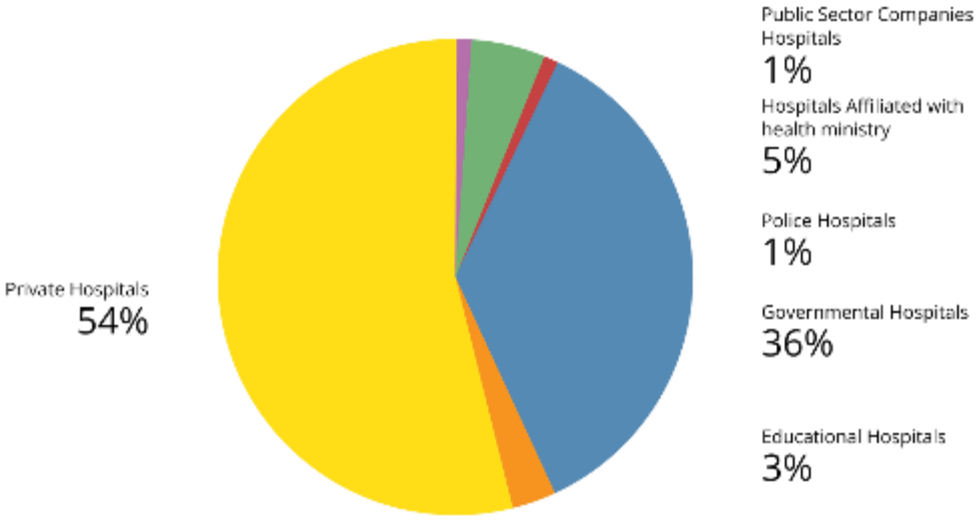


Figure 3-17: Number of Public and Central Hospitals per governorate (2009)

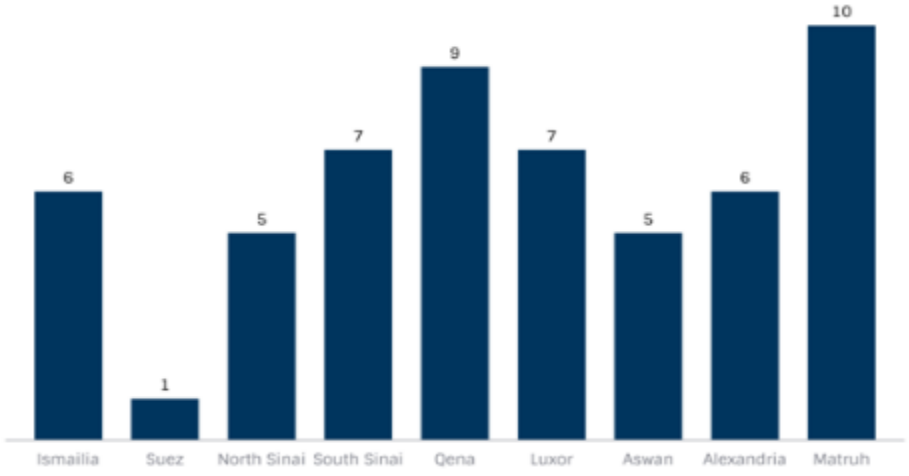


Figure 3-18: Percentage of Hospital Beds in each sector (2009)

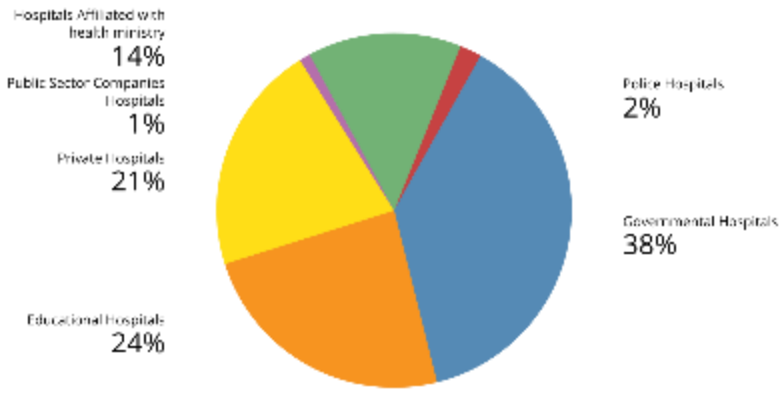
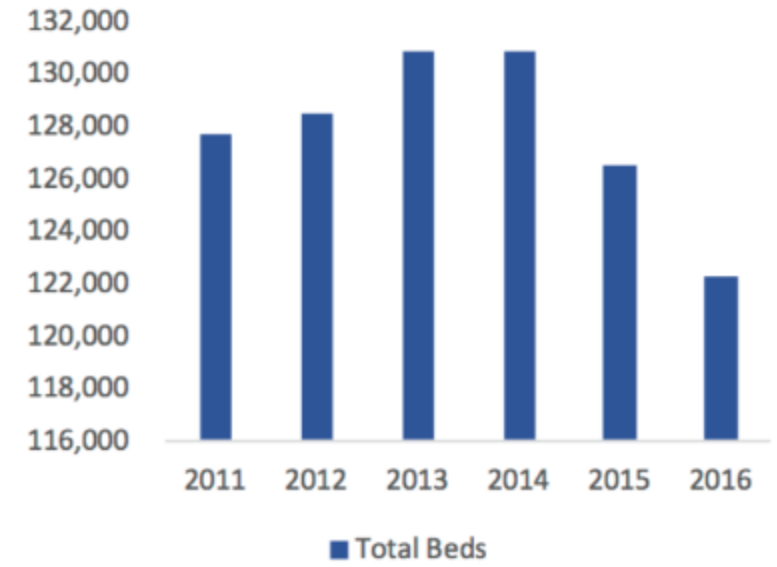
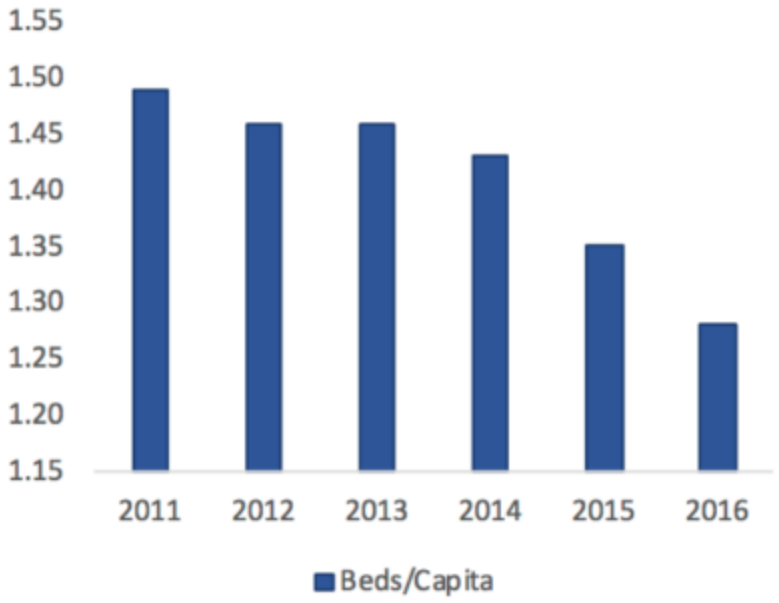


Figure 3-19: Number of Beds (2011-2016)
Source- CAPMAS, BMI



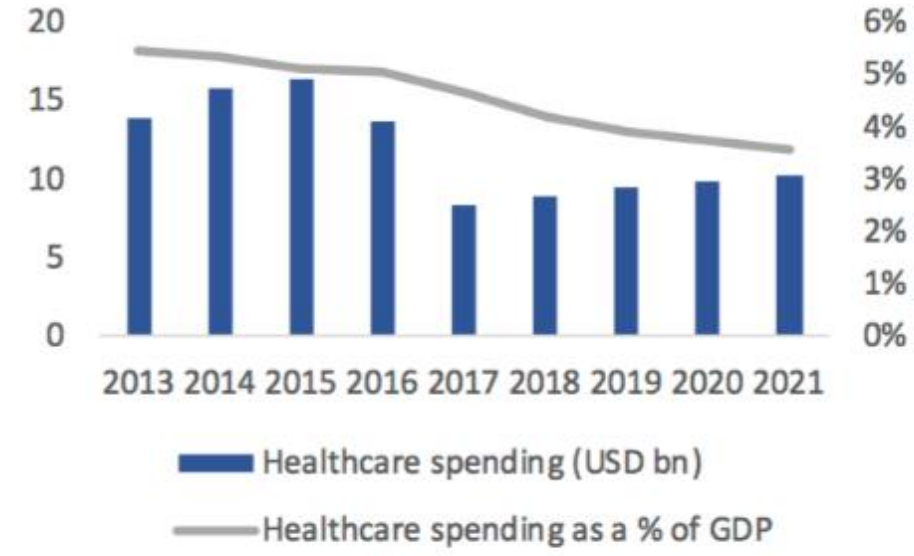
Source: CAPMAS, BMI

Figure 3-20: Number of Beds per Capita (2011-2016)
Source- CAPMAS, BMI



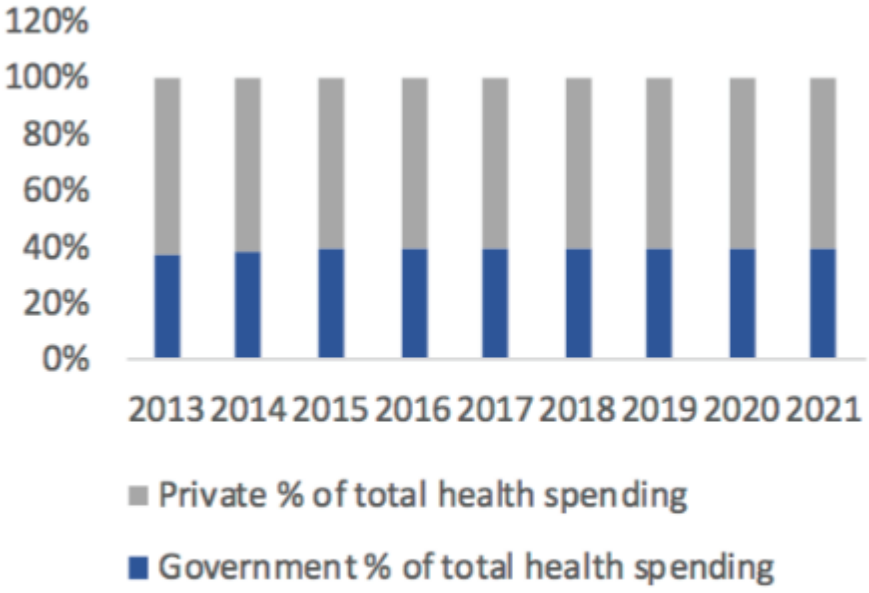
Source: CAPMAS, BMI

Figure 3-21: Healthcare Spending (2013-2021)
Source- BMI



Source: BMI

Figure 3-22: Public vs. Private Healthcare Spending Contribution (2013-2021)

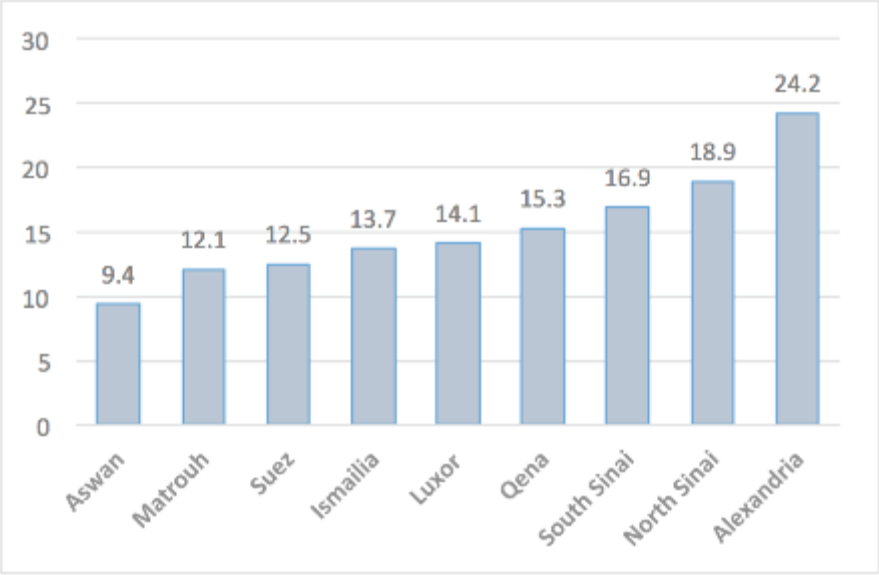


Source: BMI

Egypt's Burden of Disease Priorities

Despite long-term improvements, the rate of progress on health outcomes in Egypt is slowing, and demographic pressures are rising. Since 1990, Egypt has achieved significant improvements in key health indicators. Maternal mortality declined from 106 to 33 deaths per 100,000 live births, and infant mortality has fallen from 60 to 20 deaths per 1,000 births (World Bank, 2015). Despite these improvements, regional disparities persist, and data suggest the rate of progress on indicators is slowing (DHS 2014). Life expectancy, although having increased from 66 to 71 years over that period, remains below the MENA average of 73 years. Meanwhile, total fertility has increased from 3 to 3.5 births per women, contributing to rapid population growth and underscoring unmet needs for family planning. Egypt's population surpassed 100 million in 2017 and is expected to reach 128 million by 2030 and 150 million by 2050 (UN Population Projections). The government has warned that the rapidly growing population represents a major threat to the country's development and has encouraged uptake of family planning, particularly in rural areas[11]. However, use of family planning by married Egyptian women has plateaued since 2008 (DHS 2017), the rate of long-term methods use has declined, and 3 in 10 users of family planning in Egypt stop using a method within 12 months of starting.

Figure 3-23: Infant mortality rate on the nine governorates (Ministry of health and Population, 2016)

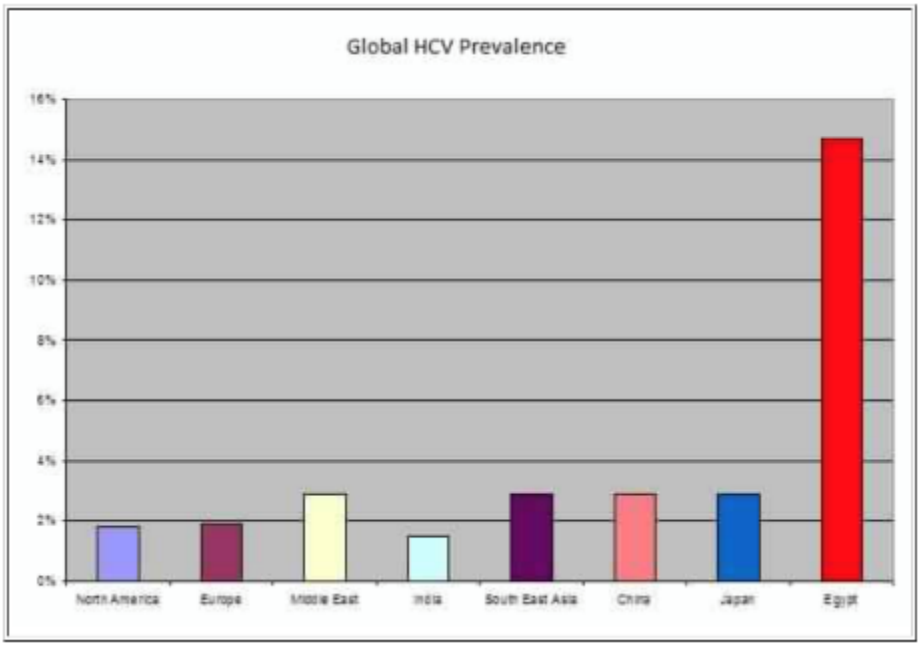


*deaths/ 1,000 live births

[11] https://www.reuters.com/article/us-egypt-population/egypt-promotes-birth-control-to-fight-rapid-population-growth-idUSKCN1BA153

Egypt has the highest burden of chronic Hepatitis C Virus (Hep C) in the world.

Figure 3-24: Hepatitis C virus in Egypt compared to other countries in the world (EDHS, 2008)



Nearly 10% of Egypt's adult population (15-59 years), some 4.5 million people, is infected with Hep C.[12] Roughly 150,000 Egyptians are newly infected annually, and about 40,000 die every year of Hep C, making it the third leading cause of death after heart disease and cerebrovascular disease. The prevalence rate is significantly higher among adults above age 40, the poor, and those living in rural areas. Many Egyptians were infected decades ago via poorly sterilized needles used in schistosomiasis treatment campaigns, but new infections continue today due to poor medical safety and hygiene, both in hospitals and outpatient settings. Hep C is already costing Egypt more than US$400 million annually in direct costs, and total spending is projected to reach US$4 billion by 2030 (World Bank 2017).

According to the Demographic Health Survey (DHS) 2015[i], the main age groups start from 1–59 years. The seroprevalence in the age groups 15–59 years was 10% (compared to 14.7% in the 2008 DHS), and the prevalence in the group aged <15 years was 0.4%, which brought the total seroprevalence in those aged <60 years to 6.3% and the viremic prevalence to 4.4% (7% in the age groups 15–59 years and 0.2% in those aged <15 years).

Although it appears to indicate that HCV infection is slowly eradicated, however, this is partially not credible. Table 3-8 shows the total national data in the 2008 DHS with modeling of the prevalence in the age groups <15 years and keeping the prevalence in those aged >59 years equal to that in those 55–59 years old and the 2015 DHS data for the whole population with keeping the

12 Egypt Demographic and Health Survey (2009)

prevalence in those aged >59 years equal to the prevalence in those aged 55–59 years in the 2008 DHS. If those aged >59 years are added to the 2015 DHS data, the viremic prevalence in the total population would be 6.2%, and a total number of 5,600,000 patients would be living with HCV infection in Egypt in 2016 compared to 5,825,000 in 2008. Although viremic infections in those aged <25 years decreased from 805,000 to 300,000 cases (a reduction of 505,000 cases), the total prevalence in the population decreased by 325,000 cases only. Thus, this shows that an ongoing infection is relatively higher in the older age groups.

Table 3-7: Age-specific HCV antibody and RNA prevalence in Egypt in 2008 and 2015

Age group (years)	2008 Population	HCV Ab, %	HCV RNA, %	HCV RNA, n	2015 Population	HCV Ab, %	HCV RNA, %	HCV RNA, n
<5	7,718,920	2.1a	1.0a	74,133	10,073,000	0.4	0.2	20,146
5–9	7,644,227	2.6a	1.4a	104,879	9,352,000	0.3	0.25	23,380
10–14	7,718,49	3.3a	2.0a	151,282	8,386,000	0.7	0.3	25,158
15–19	8,539,832	4.1	2.8	239,115	8,597,000	1.0	0.8	68,776
20–24	7,873,192	4.9	3.0	236,196	9,150,000	3.2	2.2	201,300
25–29	6,391,623	6.1	3.9	249,273	8,606,000	4.4	3.0	258,180
30–34	4,733,495	11.8	8.3	392,880	6,898,000	7.1	4.9	338,002
35–39	4,656,897	13.8	9.9	461,033	5,412,000	8.2	6.0	324,720
40–44	4,092,499	23.0	15.0	613,875	4,857,000	11.6	9.0	437,130
45–49	3,674,382	28.6	18.9	694,458	4,458,000	16.3	11.3	503,754
50–54	3,061,286	38.3	25.3	774,505	3,870,000	27.9	19.9	770,130
55–59	2,265,429	39.4	27.4	620,728	3,161,000	33.9	22.1	698,581
60–64	1,705,502	39.4b	27.4b	467,308b	2,317,000	39.4c	27.4c	634,858c
65–69	1,193,600	39.4b	27.4b	327,046b	1,630,000	39.4c	27.4c	446,620c
70–74	789,892	39.4b	27.4b	216,430b	1,075,000	39.4c	27.4c	294,550c

>75	738,764	39.4b	27.4b	202,421b	1,120,000	39.4c	27.4c	306,880c
Total	72,798,031	12.01b	8b	5,825,563b	88,962,000	8.6c	6c	5,352,165c

According to the WHO, Non-communicable diseases (NCDs) such as cardiovascular diseases, diabetes, cancer and chronic respiratory diseases, are now the leading cause of death in Egypt. NCDs are estimated to account for 82% of all deaths in the country. The 2011-12 STEP wise survey, conducted by the MoHP in collaboration with WHO, found a 17% prevalence of diabetes and a 40% prevalence of hypertension in Egypt, with obesity also a growing local problem.

Hypertension is a common health problem in Egypt. It has a high prevalence, whereas its rates of awareness, treatment and control are low. If everyone above 35 is screened (30 million), 5.4 million would have mild hypertension, 1.6 million moderate, and 0.7 million severe (EDHS, 2014). WHO recommends that mild cases don't require treatment immediately[13]. Thus, the project will treat 425,000 moderate and severe cases that aren't already under treatment (40%). Hypertension is a risk factor for cardiovascular morbidity and mortality[14] and 8% are subject to develop cardiovascular disease (IHME, 2016). Assuming a conservative intervention effectiveness of 25%, the project is expected to save 7,969 lives, which will yield US$ 120 million using VSL to the project beneficiaries.

Diabetes is a fast-growing health problem in Egypt with a significant impact on morbidity, mortality, and health care resources. If everyone is screened (30 million), 6.5m (diabetic type 2) plus 1.8 million (pre-diabetic) of which 3.6 million are not aware of their condition (EDHS 2014; IDF 2016; Hegazy, 2015). Therefore, 1.5 million (40%) who aren't already under treatment would require interventions[15]. Assuming a conservative intervention effectiveness of 25%, the project is expected to save 4,158 lives which yields US$ 62 million using VSL.

Health System Delivery Challenges

The Egyptian health system is not positioned to deliver high-quality health services to meet the most pressing needs of its population. Although more than 95% of Egypt's population lives within 5 kilometers of a health facility, [16] the quality of care at these facilities is often poor, leading to low

[13] The project can apply a community-based approach promoting Healthy lifestyle, including smoking cessation, physical activity, weight control, stress coping, salt restriction and healthy diet.

[14] Cardiovascular associated mortality is estimated at 7,5 % (IHME) and Diabetes T2 mortality is estimated at 1.1% (IDF)

[15] The Egyptian ministry of health (MOH) is currently the major provider of primary, preventive, and curative care in Egypt, with around 5000 health facilities and more than 80,000 hospital beds spread nationwide. There are no formal referral systems in the MOH delivery system, and most patients with diabetes are either treated in the private health care sector through out-of-pocket fee for service, in the limited number of academic hospitals, or in the scarce dedicated diabetes centers in Cairo and some other major cities.

[16] El-Zanaty F, et al. Egypt Demographic and Health Survey (2014). Cairo and Maryland: Ministry of Health and Population, the DHS Program, ICF International; 2014. [Internet]; Available from: http://dhsprogram. com/pubs/pdf/PR54/PR54.pdf; Van Wheel (2018), Primary healthcare policy implementation in the Eastern Mediterranean region: experiences of six countries, Eur J Gen Practice, 24(1).

utilization and reduced health benefits. Medication stock-outs lack of updated and enforced clinical guidelines for managing chronic diseases, and limited specialists have been widely reported (World Bank 2010, 2015). Pharmaceutical supply chains are outdated and inefficient, and primary health clinics and hospitals are often ill-equipped to respond to the real needs of the population in their catchments areas. Basic safety issues remain a major concern: Although the National Blood Transfusion Center (NBTC) is responsible for ensuring adequate safe blood supplies, financial constraints have limited it from adopting modern technologies (e.g. nucleic acid tests) that reduce the risk of infection with Hep C and other bloodborne diseases. And although the government has developed quality accreditation standards for PHCs and hospitals based on international guidelines, adoption has been patchy and only project-dependent, owing to the lack of financing and hitherto unclear need for accreditation.

Although the government has developed strong quality accreditation standards for PHCs and hospitals based on international guidelines, adoption has been patchy and only project-dependent, owing to the lack of financing and hitherto unclear need for accreditation. In addition, hospitals in Egypt are ill-equipped to respond to the real needs of the population in their catchments areas. Moreover, concerns about poor quality lead almost half of patients to seek outpatient care in private clinics and hospitals, where they incur higher out-of-pocket costs (OOP) (World Bank 2015). Indeed, since 2006, OOP payments as a percentage of total health spending in Egypt have remained fixed at 55% (World Bank 2016), with the poorest households spending nearly 21% of their income on healthcare.[17] Nearly 7% are pushed into poverty each year due to catastrophic expenditures.[18]

The delivery of quality PHC services is further limited by lack of community outreach for chronic conditions. Community outreach has been shown to play a vital role in connecting patients to healthcare, educating them on healthy behaviors, and improving health outcomes in many countries. Although Egypt's Community Health Workers (CHW) program (Raedat Refiyat) supports more than 14,000 personnel under the MOHP and has achieved relatively good geographic coverage (although more CHWs are needed), **the role of CHWs also is not clearly defined.** Sometimes, development partners have provided external funding for CHW to perform additional activities beyond working on family planning, i.e. supporting maternal and child health services or combating avian flu during the last epidemic. However, this role is not sustained due to both financial and institutional constraints given that household surveys in Egypt have shown high community rates of uncontrolled or undiagnosed chronic conditions, and poor awareness about the risk of complications, the potential impact of expanding community outreach to strengthen patient education and improve management is large.[19] Hep C is a particularly dramatic example, as several million Egyptians are chronically infected but have yet to develop symptoms that would lead them to seek care. NCDs have similar patterns.
According to the International Diabetes Foundation, spending on diabetes in Egypt (per patient) is among the lowest in the MENA region, suggesting that many patients likely forego medications and consultations rather than seek care (IDF Atlas, 2013). Another study found that fewer than 40% of diabetics in Egypt knew that their disease could lead to blindness.

17 Egypt Household Health Expenditure and Utilization Survey (2011)

18 The World Bank, WHO PAYS? Out-of-Pocket Health Spending and Equity Implications in the Middle East and North Africa. (2010)

19 Elaziz, K et al (2015). Screening for Hypertension among adults: community outreach in Cairo, Egypt. J Pub Health, 4(1): 701-706.

Integration of care among community, primary, and secondary levels is weak, as are efforts to align donor programming. Effective management of chronic conditions requires established referral pathways, or relationships, among community health workers, primary care providers, and hospital practitioners and specialists to ensure that patients have regular follow-up, appropriate management, and timely treatment of complications. These referral networks are lacking in Egypt. A 2013 study showed that only 6% of Egyptians in need of outpatient care go to public PHC facilities; most go intermittently to private clinics, or else seek care directly at the hospital level. Infrastructure (communication networks, medical records, etc.) to facilitate referrals and track patients is also lacking, likely contributing to poor management. One recent study of diabetics in Egypt found that only 26% had good adherence to their oral medication regimen, and other research has shown a higher prevalence of complications (e.g. diabetic retinopathy) than global counterparts. Meanwhile, although many large donors are active in Egypt's health sector, their efforts are often poorly coordinated at the point of care, leading to isolated vertical programming rather than a comprehensive, consistent package of services.

Community Health Workers in Egypt

Egypt's 'Raedat Refiat' (RR)—or "village pioneer"—community health worker (CHW) program was established in 1994 under the Ministry of Population (MoP) to address the country's high fertility rate by increasing demand for family planning services and improving health behaviors among key populations. Over the years, the number of workers has increased to 14,000, and the package they support has expanded to include an increasing number of health topics, including ANC, post-natal care (PNC), Family Planning, child care, and nutrition. Raedat Refiat also helps to promote healthy practices when additional health concerns emerge such as avian influenza, hepatitis, breast cancer screening and others.

While the RR workforce is now fully integrated as staff of the Ministry of Health and Population (MoHP) and welcomed into thousands of households each year, the RR program's capacity to realize results and demonstrate impact is limited. Although it has achieved good geographic coverage, it remains largely focused on maternal and reproductive health (WHO 2014). Given that household surveys in Egypt have shown high community rates of uncontrolled or undiagnosed chronic conditions, the potential impact of expanding community outreach to strengthen patient education and improve management is large. Hep C is a particularly dramatic example, as several million Egyptians are chronically infected but have yet to develop symptoms that would lead them to seek care.

Table 3-8: Rating the Functionality of the Raedat Refiat Program Using an Adapted CHW/AIM Tool (Source of evaluation: Maternal Child Survival Program (MCSP) Report)

No.	Component	Level of Functionality			
		Non-Functional	Partially Functional	Functional	Highly Functional
1	Recruitment		✓		
2	CHW role		✓		
3	Initial training		✓		
4	Continuing training		✓		
5	Equipment and supplies		✓		
6	Supervision			✓	
7	Individual performance evaluation		✓		
8	Incentives		✓		
9	Community involvement	✓			
10	Referral system		✓		
11	Opportunity for advancement	✓			
12	Documentation and information management		✓		
13	Linkages to health system		✓		
14	Program performance evaluation	✓			
15	Country ownership			✓	

MCSP Raedat Refiat Assessment Report, November 2015.

MoHP, the Ministry of Social Solidarity, World Bank, UNICEF, UNFPA, CSOs, and private sector representatives, agreed with these ratings. Currently the program is undertaking reformation and a new national strategy has been devised under the supervision of MoHP and USAID, MCSP.

Grievance redress mechanisms

According to the World Bank "Roadmap to Achieving Social Justice in Healthcare in Egypt", grievance redress mechanisms (GRM) in Egypt are not well established on the district, governorate, or national level. There is an absence of formal GRMs albeit a few hotlines established by the Undersecretary of the Ministry of Health that are available for only certain areas or complaint boxes in some facilities. There is no formal inclusion for patient advocacy groups perspective in the development of health policies or monitoring the quality of service provided. There is no uniform platform across all facilities/governorates through which patients can express their disapproval with the medical care provided or any infringement on their rights, which causes many complaints to be intentionally ignored, or unintentionally delayed. In addition, there is no functioning medical malpractice law in Egypt, so usually when a patient has a grievance with a physician, their complaint is referred to the Doctors Syndicate, which is a semi-autonomous union

of all doctors, which could be considered a biased entity, and the syndicate only has the authority to reprimand the physician through cutting the pay, transferring to a different hospital, or temporarily suspending the physician's license. The other option available to a patient is to file a criminal lawsuit, which is usually a very long strenuous process that is depleting for a patient's financial resources, so many patients choose to avoid that path, which leads to many unsolved grievances.

Another reason why the mechanism is not functional in Egyptian health care units is that many patients are unaware of their rights or how they could enforce them. The patients are unaware of their access to appropriate mechanism of grievance redress, or aware of the extent to which they can practice their rights as patients, including receiving legal advice regarding medical, nursing, and hospital malpractice, and compensation methods for injury, disease, and complication, result from medical, nursing, and hospital malpractice. Hence, the GRM guidelines will need to be operationalized.

Healthcare Quality Improvement Project

Egypt has undertaken intermittent quality improvement efforts since the 1990s, but progress was significantly galvanized under the World Bank's recently completed Egypt health project (Healthcare Quality Improvement Project- HQIP) which provides a roadmap for the scale up of healthcare quality improvement, which focused on improving the quality of primary health care (PHC) services offered in Egypt's most vulnerable villages. More than 1,000 facilities successfully implemented quality improvement plans, including upgrading equipment and supplies, procuring medicines, and training health workers on clinical guidelines. The MOHP's supervision capacity was strengthened so it could carry out routine facility audits to ensure guidelines are followed, and almost 700 facilities were officially accredited. The end-line client survey showed a 30% improvement in patient satisfaction at project-targeted facilities between 2016-2017. These results offer a framework for how such work could be scaled-up in Egypt.

The HQIP also supported the GoE in launching its Hep C elimination program, which has achieved remarkable progress thus far and helped position Egypt as a global leader on Hep C elimination. In recent years, the country has markedly lowered the costs for new Hep C treatments known as direct-acting antiviral agents (DAAs), which carry a roughly 96% cure rate. Approximately 5 million Egyptians have been screened and 1.6 million people treated. Also, the MOHP has developed a national electronic registry of screened patients. Nearly, a third of these screenings were financed by the Bank, in the first six months of 2017 under HQIP. Critically, these screenings were largely organized through PHCs, highlighting the central role of primary care in tackling this disease. However, significant challenges remain: the GoE has determined it still needs to screen an estimated 43 million people and treat an estimated 4 million infected patients to reach its elimination goal. Doing so will require additional resources for (i) expanding the screening program through the PHC level and community outreach; (ii) ensuring the delivery of quality, affordable treatment; and (iii) making critical investments in other support services at the secondary level hospitals, medicine supply chains, blood banks, etc.

Egyptian health system and insurance setup

While the Health Sector Reform Project (HSRP) led to the strengthening of the primary health care and family services and defined the basic package of primary healthcare services, efforts to introduce universal coverage and to transform Health Insurance Organization (HIO) into a single-payer and to separate financing from delivery had essentially failed. The system remained highly fragmented, with a multitude of entities providing and financing health care. At appraisal, approximately 50% of Egyptians were uninsured, primarily those in the informal sector and the poor. These populations depended largely on free care provided by the MOHP in 4,000 primary care facilities and 1,100 secondary care facilities, albeit out- of- pocket (OOP) expenditures still represented 62% for these uninsured because care outside of the defined subset of treatments had to paid OOP. Most of these costs stemmed from hospital and outpatient clinics, lab test and spending on pharmaceuticals. As a result, health shocks presented a high risk of impoverishment for many Egyptian families and individuals. Approximately 50% of the population (civil servants, private sector workers in formal economy, infants, school children, pensioners and widows) was covered by the HIO, which collected premiums from payroll tax through the Social Insurance Agency or from general and earmarked tax revenues. The HIO was an integrated payer and provider, offering a comprehensive package of services through about 9000 primary care facilities (mostly small clinics at schools) and approximately 40 hospitals. However, as in MOHP facilities, care in HIO facilities was perceived to be of low quality, with only about 5- 10% of all health service visits provided at HIO facilities although it enrolled half of the population. A central cause behind this inefficiency and poor quality was the integrated purchaser- provider model which limited incentives for efficient resource management and competition by care providers. In addition to MOPH and HIO, there were about 5,000 private primary care facilities and 1,200 secondary care facilities in Egypt, which were received, to be of higher quality.

The Health Insurance Systems Development Project (HISDP)

The project was under preparation since late 2006 with the first Project Concept Note (PCN) review-taking place in June 2007. At that time, the project was called the "Family Health Insurance Project" with the intention to finance a broader set of activities to support the establishment of a new national health insurance fund (NHIF), as well as increase enrollment of the poor and uninsured into the new national health insurance scheme by disbursing against enrollment list targets. The project also included strengthening institutional capacity for quality assurance and accreditation, which would be the basis for contracting of providers under the NHIF. After five Bank missions over 2007-2008 and extensive discussions with Government on project design, the MOHP became increasingly convinced that the new payer agency required much more substantial operational management capacity and rigorous and transparent controls on finances, health service utilization, quality and beneficiary enrollment. As a result, in mid 2008, the MOHP requested that the project be refocused to support the development and implementation of governorate level systems of health insurance in 3 Governorates of Suez, Sohag and Alexandria. The project design was further streamlined in May 2009 when the Government formally requested that the project focus more narrowly on supporting the development and establishment of an information technology enabled business support system for the Payer function required for the new national Social Health Insurance program. The project was quickly redesigned with the Bank support and approved in December 2009, becoming effective on August 10, 2010. The HISDP represented a natural extension and a bridging of the gap with the previous HSRP to establish a single national

health insurance payer. The project was to support the pilot of a model of social health insurance administration in three governorates (Suez, Sohag and Alexandria), two of which were the same governorates as under the HSRP, by financing the design and implementation of a management information software and hardware infrastructure for the Payer. In other words, the project was to develop the essential enabling condition for the efficient management of the overall health sector, namely a modern national social health insurance administration that included new business processes and a technology platform. A critical step in the reform process was to be the adoption of a new Social Health Insurance (SHI) Law which would seek to extend universal health care to all citizens by expanding risk pools, improving service quality and efficiency and defragmenting financing and service delivery arrangements. The new law envisioned mandatory enrolment into Social Health Insurance, with explicit subsidies for the poor.

The implementation of a single national Social Health Insurance payer in Egypt was envisioned to be a long-term process, with the expectation that about 85% of Egyptians would be enrolled in the new system by 2028. The HISDP was to support this process, beginning the pilot in the Suez Governorate once the SHI Law was passed. The Suez governorate was more advanced in its level of preparedness, with the project team established (drawn from HIO), an office provided, key managerial positions filled, and initial business processes defined. The pilot in Suez was to be followed by pilots in Sohag and Alexandria Governorates. Based on the experience gained under the project, the Government would generalize the health insurance model to all governorates while at the same time expanding coverage and quality of service provision.

The HISDP was strongly aligned with the national priority to establish the SHI and the operation contributed to the Bank's Country Assistance Strategy for Egypt (2008 Progress Report), namely to the third strategic objective of "promoting equity" and to the Result 3.3 of the CAS "to expand access to healthcare" with a specific CAS indicator to "adapt the health insurance reform reflecting international best practice."

CHAPTER FOUR: ENVIRONEMNTAL AND SOCIAL MANAGEMENT FRAMEWORK

4.1 Environmental and Social Impact Identification and Assesment

The TEHS project will lead to positive heath and social impacts, summarized as follows:

- Elimination of Hepatitis C via screening and treatment;
- Improving the operation of the national blood bank system via introducing more advanced blood analysis techniques;
- Screening 20 million people (above 35 years of age) for blood pressure, blood sugar and Body Mass Index (BMI) where treatment would be only financed for the diagnosed residents of 9 governorates at the hospital & PCU level (15% of nation-wide diagnosed patients); 22,000 diagnosed with Moderate/severe hypertension and 37,000 diagnosed with T2 diabetes are estimated to be yearly treated;
- Proposed project will target an estimated 14 million population in the 9 target Governorates, of which 54% and 46% are females and males respectively, through improvements in primary, secondary and CHW health services;
- Strengthening community and primary health care services.
- Positive socioeconomic impact expected from the screening and treatment of Hep C on the level of households, individual ability to work and the economics of the households and the country.
- Positive impacts related to the poor population access to quality service by enhancing the service quality in HCU and hospitals. This is strongly linked to social inclusion and improved service to the vulnerable groups including the groups that cannot afford to acquire private sector services.

Despite the positive impacts that will result from the implementation of the TEHS sub-projects some minor negative environmental and social impacts may occur. The project consists of four main components, where potential impacts are likely to result from the implementation of components 1 & 2 as summarized below:

- Negative impacts resulting from improper management of medical wastes generated during the implementation of components 1 and 2 (mainly screening activities for Hep C and NCD).
- Negative impacts resulting from expected rehabilitation/refurbishment works which might be required for accreditation purposes under component 1, where potential impacts are expected to be limited to the construction phase only.

More detailed outline for the impacts is outlined in Table 4-1.

Table: 4-1 Potential Negative Impacts from TEHS Sub-projects

Project Components	Project sub-component resulting in potential negative impacts	Potential environmental, occupational health & safety, community health & safety and social risks and impacts
Component 1 ▪ Providing for quality tools and mechanisms at PHCs (600 PCUs) ▪ Establish a GRM ▪ Strengthen decentralized management ▪ Improving of PHC quality of services through accreditation ▪ Strengthen community health worker (CHW) program ▪ NCD screening ▪ Hep C screening	▪ Improving of PHC quality of services through accreditation ▪ Providing for quality services at hospitals	- Demolition Waste Management - Solid waste management - Hazardous waste and chemicals management - Noise & Dust - Volatile Organic Compounds - Asbestos handling - Physical hazard from equipment or vehicles - Fire hazards - Slippage and falling - Working at heights - Manual handling and lifting - Electrocution - Worker influx - Traffic & accessibility - Worker and labour rights - Child labour - Discrepancy/overlap between ESMP proposed mitigation measures and accreditation standards
Component 2 ▪ Providing for quality services at hospitals ▪ Improve the blood bank network ▪ Treatment of Hepatitis C **Component 3** **Component 4**	▪ Improve the blood bank network ▪ NCD screening ▪ Hep C screening ▪ Treatment of Hep C	- Improper management of medical waste - Overloading the existing medical waste treatment infrastructure capacity - Infection risks - Service dissatisfaction

4.2 ES Screening and Approval Framework

A framework methodology is proposed in this section for the screening, categorization, review, approval, safeguarding, and monitoring of TEHS sub-projects. Sub-projects which will need to screened will be those associated with improving the quality services through accreditation as they may involve rehabilitation/refurbishment work . Each sub-project (either healthcare unit (HCU) or a hospital) will be screened for potential ES impacts using the screening checklists included as **Annex 2 in order to determine whether it will be category B or C**. The Bank will then review the screening results and accordingly the safeguards relevant instruments shall be prepared, consulted with stakeholders and disclosed. Following clearance of the safeguards instruments by the Bank and/or government, the ESMPs shall be implemented, supervised and monitored. It is worth to note that the expected refurbishment work is classified as category A according to the Egyptian legislation (EEAA category lists). Figure 4-1 outlines the proposed methodology.

Figure 4-1: Outline of the ES Screening and Approval Methodology

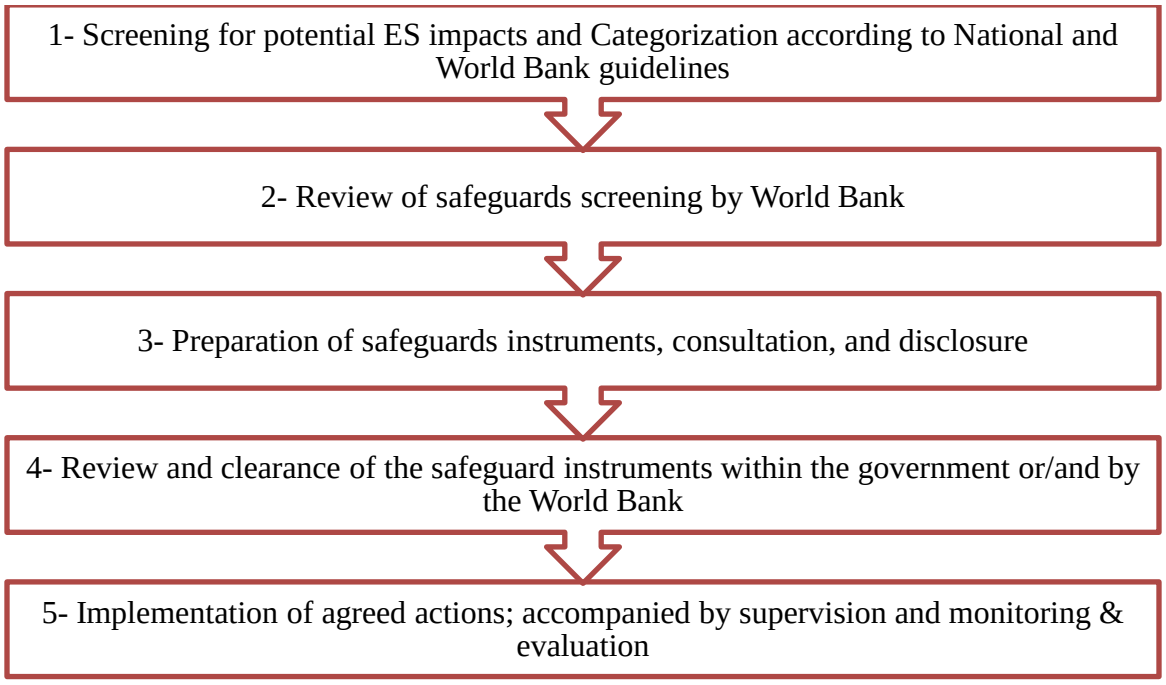


Table 4-2: TEHS Sub-project safeguarding, approval, and disclosure methodology

Step	Scope	Responsibility	Criteria	Outcomes
1- Screening for Potential Environmental and Social Safeguard Impacts and Determination of Safeguards Category for Each Sub-project	- Screen proposed sub-project according to safeguards checklist (Annex 2) - Determine applicable national and World Bank requirements - Determine instruments needed to meet requirements	Project proponent	- **Category B** o Less adverse than WB OP 4.01 Category A o May result in limited negative impacts o Site-specific Impacts o All impacts are reversible o Mitigation measures can be readily designed o **National Instruments needed:** EIA or scoped EIA o **WB Instruments needed:** ESMP o ES requirements included in tender documents & contracts - **Category C** o Most likely results in minimal or no negative impacts o **National Instruments needed:** Comply with National regulatory requirements o **WB Instruments needed:** None	- Subproject-specific screening checklist - Sub-project categorization - ES Assessments and Management & Monitoring instruments
2- Review of Safeguards Screening by the World Bank	- Prepare subproject-specific Safeguards Screening Summary - Assess Safeguards Screening	*A. Project proponent* *B.* WB	***A.* Safeguards Screening Summary (SSS)** *i.* Categorization Rationale *ii.* Safeguard instruments *iii.* Submitted as part of sub-project identification package ***B.* Selective review of SSS**	*C.* Safeguards Screening Summary (SSS) *D.* Approval/Revision of SSS
3- Preparation of Safeguards Instruments,	- Draft Category B ES instruments	Sub-project proponent	- Draft ES instruments according to national and WB requirements	- Draft ES instruments - Consultation on draft ES instruments

Consultation and Disclosure	- Consult on draft ES instruments - Incorporate feedback in Final ES instruments		- Liaise with WB in case clarifications or changes arise - Include project stakeholders, project-affected groups, local NGOs in consultations - Initiate consultations as early as possible - Provide relevant material in Arabic, comprehensible, accessible formats - Ensure enough time is provided to examine documents ahead of consultation events - Document stakeholder feedback and ensure disclosure & meaningful consultation - Show how stakeholder feedback was addressed in final ES instrument	- Final ES instruments
4- Review and Clearance of Safeguard Instruments	- Review and clearance of ES instruments according to national requirements - Review and clearance of ES instruments according to WB requirements	- Project proponent - WB for Category B	- Category C sub-projects are not reviewed by WB - Project proponent ensures compliance of Category C projects with national legal requirements	- Cleared ES instrument according to national requirements - Cleared ES instrument according to WB requirements
5- Implementation of Agreed Actions and Supervision, Monitoring and Evaluation	A. ES safeguards implementation B. Safeguard implementation supervision	A. Project proponent B. WB	A. Project proponent contractually obliged to implements ES safeguards B. WB team may conduct regular visits to supervise implementation of safeguards	A. ES instrument implementation B. ES instrument implementation review

	C. Monitoring & Evaluation	C. Independent consultants	instruments and compliance with the Bank policy requirements. C. Independent consultants carry out monitoring programs	C. ES instrument implementation monitoring, evaluation, and improvements

4.3 ESMP Framework Implementation Arrangements

4.3.1 Institutional Arrangment

Implementation Arrangements

The MOHP will be the main implementing agency for the project and will house the Project Management Unit (PMU) that will be in charge of all day-to-day operations and coordination with all relevant agencies, governorates and districts. The PMU will also be responsible for overall fiduciary activities, documentation, procurement of goods as well as contracting consulting and non-consulting services, monitoring & evaluation and reporting to the MOHP and the World Bank on all aspects of project implementation. The PMU will include the Project Manager (who is presently an official of the MOHP), relevant staff of the MoHP responsible for the various parts of the project (incl. staff from the Minister's office, Primary Care, Hospitals, Preventive & Hep C, Financial and Administrative departments), and a number of external consultants who will assist the MOHP in areas of M&E, financial management, procurement, verification of results, audits, and technical expertise to support the roll-out of the insurance system. The PMU should include an Environmental as well as a Social Specialist dedicated for following up on the day-to-day implementation of the safeguards measures as indicated in the ESMF and individual ESMPs .

A Steering Committee (SC) will be responsible for overall project stewardship and oversight. The SC will be headed by a senior level staff at the MOHP, selected by the Minister of Health and Population. The SC will include representatives from: (i) sector heads of the Minister's cabinet, Primary Care, Hospitals, Preventive Sector and Family planning sectors (ii) representatives from ministries of International Cooperation and Finance; and (iii) PMU manager. It will be tasked with resolving serious implementation bottle-necks, reviewing implementation progress, deciding on policy-relevant issues and approving the planned activities for the following period. The SC will meet at least on a bi-yearly basis or whenever called upon by the PMU manager. The SC should have the final decision on project course adjustments after consultations with the Bank team. The exact duties and responsibilities of the SC will be detailed in the POM.

Governorate Health Directorates Committees (GHDCs) will be formed at the level of the respective Governorate Health Directorates targeted under the project. These committees will be tasked with reviewing progress, providing DHOs and hospitals within their respective Governorates with the needed oversight, coordination and technical support during implementation period.

International Advisory Committee (IAC) on HepC and NCDs. The scale and impact of the project supported activities for screening & treatment of Hep C and screening for NCDs risk factors are largely viewed as a global public good. The project is expected to yield substantial new evidence and lessons as well as having direct and indirect consequences on global prices of Hep C medicines and screening tools. Therefore, the project IAC will be co-chaired by the minister of health and population and the World Bank with membership of all relevant development partners, MOHP departments and other stakeholders as described in the POM. The IAC will meet biannually or when summoned by either the MOHP or the WB. The IAD will serve as a platform for dialogue and will be tasked with the following: (i) Providing advice to the project steering committee and PMU on relevant updated evidence-based screening and

treatment protocols; (ii) reviewing project generated evidence and possible global implications; and (iii) advise on further needed scientific implementation research. All decisions and recommendations stemming out of the IAD will be publicly disclosed.

The District Health Offices (DHOs) will be responsible for direct control of implementation for its affiliated PHCs and related community-based activities. Adequate fiduciary training will be supported under component 1 of the project to serve this purpose. Hospitals included under the project will enjoy full autonomy for project related activities with direct reporting to their relevant GHDCs and PMU. The National Blood Bank Transfusion Services (NBTS) will be responsible for project activities implemented within the central and peripheral affiliated regional blood transfusion centers for all financial, procurement and administrative activities.

Screening activities will be carried out in different modalities. Nationwide screenings for Hepatitis C and NCDs will be carried out through: (1) Mobile teams at the village and neighborhood levels, whereby each team will have a suitable number of sub-teams that spread to cover the geographical area of intended village and/or neighborhood using rapid tests; (2) PCU and hospital levels whereby is fixed and is offered in a continuous basis using either rapid or lab based testing; and (3) Targeted campaigns for remote areas, categorical groups (e.g. factories, office complexes, etc.). The detailed screening plans, team compositions, tests used will be described in detail in the POM.

T**he World Bank will provide continuous implementation support.** The Bank team will provide regular supervision missions to ensure that the PDOs are met and that the Results Framework and independent verification of DLIs are adequately measured. Further, the bank team based in Cairo will be providing close handholding support on various project aspects especially on the technical, safeguards and fiduciary aspects.

Monitoring and Evaluation Arrangements

The project will be monitored and evaluated based on the systematic use of data, indicators and targets set out in the attached results framework and DLIs verification protocol. The PMU will have a dedicated M&E staff who will be responsible for: (a) regular data collection, analysis and reporting; (b) manage the third-party verification entity responsible for the independent verification of DLIs. A detailed M&E system and plan will be developed and included in the POM.

The PIU will also be responsible for preparing and submitting quarterly progress reports that, inter alia, provide detailed reporting on procurement, financial management, physical progress, verification reports received from independent verification and environmental and social issues. In addition, an annual external audit, combining both technical and financial audit components, will be conducted to ensure the appropriate use of funds and to monitor physical progress in the targeted activities and governorates.

4.3.2 Framework ESMP

In the event any of the subprojects financed through the TEHS should require the engagement of contractors, bidders must be requested to include a complete ESMP within their bidding documents. The ESMP would be treated as a legally binding document, which is to be enforced

in compliance with the social and environmental safeguards operational policies of the World Bank.

Table 4-3 below presents the framework ESMP, under which specific ESMPs shall be developed. This covers the first component of TEHS sub-projects as previously described in table 4-1, which are the sub-projects involving construction, refurbishment or demolition works which may be needed for accreditation.

The framework ESMP covers the potential impacts resulting from construction, refurbishment or demolition works. In general, the provisions related to worker training, occupational health & safety including Personal Protective Equipment (PPE) provision and utilization, sound waste management, should be included as contract clauses.

Safeguard Monitoring Forms are to be developed and integrated into the sub-project specific ESMPs in a format compatible with the annual reporting system. A sample **monitoring checklist** consistent with the framework Environmental and Social Management Plan to be used during the construction phase is included as **Annex 4** to this document.

The project also aims at strengthening the use of the existing manual for the users of GRM developed by the primary health care division at the MoHP through a set of specialized training sessions. The developed manual describes the procedures that will be followed by officials at the Primary Care Department at facility, district, governorate and central level to address complaints or concerns submitted by beneficiaries of the primary health care facilities. It intends to provide clarity and predictability on how complaints will be received, assessed, sorted, registered, resolved and monitored. It also provides guidance on the type of complaints that should be resolved at the PHC level before being referred to higher levels for resolution, and defines roles and responsibilities of various actors.

Table 4-3 summarizes the mitigation and monitoring measures for key impacts anticipated from the first TEHS component projects.

In order to simplify the table (also applicable to the monitoring checklist), it could be assumed that:

- **Implementing Contractor** is responsible for **Mitigation Measures Implementation and for self-monitoring of the implemented mitigation measures.**
- PIU is responsible for **Monitoring Measures Implementation** (with assistance from the supervising engineering consultant (SEC)).

For the Sub-projects involving screening and treatment for Hep C and NCD, a Framework medical waste management pan (**Annex 5)** is prepared in order to minimize /prevent impacts associated with medical waste management and ensure safe storage, handling, treatment and disposal of such wastes. This will form the basis for site-specific medical waste management plan to be prepared.

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Table 4-3: Framework ESMP

Potential Environmental and Social Impact	TEHS Sub-Project	Mitigation Measures[20]	Monitoring Measures
All impacts	▪ Improving of PHC quality of services through accreditation ▪ Providing for quality services at hospitals	- Develop a robust and multi-channels project level Grievance Redress Mechanism (GRM). - Ensure dissemination of the GRM to local communities and potential PAPs prior to starting construction activities. - Maintain solid documentation for the received complaints during the construction phase and track the level of responsiveness (provision of feedback).	- Review of the number of complaints received - Review of the number of complaints solved and the time it took to solve them.
Solid waste management (demolition, refurbishment etc.)		- **($)** Assign & train worker(s) to manage waste collection, transport, and management. - **($)** Provide suitable Personal Protective Equipment (PPE) for workers assigned to manage demolition waste - Anticipate mass / volume of possible demolition waste - **($)** Arrange for suitable waste containers and skips to be present for temporary waste storage - Predetermine temporary storage zone for waste pile or container and **inform facility managers/users** and/or surrounding community - Avoid temporary storage in areas highly utilized by facility users - Avoid dropping the demolition waste from heights without proper waste chutes - Avoid leaving sharp or protruding objects in the waste pile - Recover recyclable materials from the demolition waste	- Daily review of waste containers or accumulations - Weekly review of chain of custody or proof of contracting authorized waste handler - Weekly review of proof of disposal at designated facility - Daily review of signs of ash or waste accumulations - Daily review of log of relevant incidents & complaints

[20] **($)** denotes cost item

Potential Environmental and Social Impact	TEHS Sub-Project	Mitigation Measures[20]	Monitoring Measures
	▪ Improving of PHC quality of services through accreditation ▪ Providing for quality services at hospitals	- **($)** Arrange with local authority or authorized waste handler to transport and dispose of waste in designated facility - Ensure waste transport vehicles are adequately equipped and that waste material is covered during transport - Identify and verify specific waste disposal facility being used by waste handler and request chain-of-custody documents to prove sound disposal - Perform random checks on areas surrounding work site and route to waste disposal facility to ensure waste was not dumped - Strictly prohibit waste burning	
Hazardous waste and materials management		- Clearly identify and label hazardous waste or hazardous materials and ensure Material Safety Data Sheets (**MSDS**) are available in Arabic - Identify and provide contacts of closest authorities and emergency services to contact in case of incidents involving hazardous waste and materials - **($)** Assign & train worker(s) to identify & manage hazardous waste and materials - **($)** Provide suitable Personal Protective Equipment (PPE) for workers assigned to manage hazardous waste and materials - **($)** Provide relevant first-aid kits - Anticipate mass and volume of possible hazardous waste - Arrange for a secure area on-site for hazardous material receiving and storage - **($)** Arrange for suitable waste containers and skips to be present for temporary waste storage	- Daily review of waste containers or accumulations - Daily review of hazardous chemical storage areas and containers - Weekly review of chain of custody or proof of contracting authorized waste handler - Weekly review of proof of disposal at designated facility

Potential Environmental and Social Impact	TEHS Sub-Project	Mitigation Measures[20]	Monitoring Measures
		- Predetermine temporary storage zone for waste pile or container - Avoid temporary storage in areas highly utilized by facility users - **($)** Arrange with local authority or authorized hazardous waste handler to transport and dispose of waste in designated facility	
Noise	▪ Improving of PHC quality of services through accreditation ▪ Providing for quality services at hospitals	- **($)** Provide suitable Personal Protective Equipment (PPE) for workers assigned to jobs in sustained high noise levels - Coordinate with facility management and/or surrounding community to avoid noisy tasks during sensitive times of facility operation - Seek to schedule noisy works in institutional vacation periods - Inform facility managers and users and/or surrounding community of periods of unavoidable noisy works	- Daily review of works schedule - Daily review of Noise complaints Review of PPE availability & usage during noisy works
Dust Emissions		- **($)** Provide suitable Personal Protective Equipment (PPE) for workers assigned to jobs in sustained high dust levels - Economically spray water (preferably used/grey water) to wet waste and dust piles to minimize emissions - Coordinate with facility management and/or surrounding community to ventilate dusty works in confined spaces in the facility - Seek to schedule dusty works in institutional vacation periods - Inform facility managers and users and/or surrounding community of periods of unavoidable dusty works	- Daily review of works schedule - Daily review of Dust complaints - Weekly review of Dust wetting procedures - Review of PPE availability & usage during dusty works

	Potential Environmental and Social Impact	TEHS Sub-Project	Mitigation Measures[20]	Monitoring Measures
	Volatile Organic Compounds VOCs	▪ Improving of PHC quality of services through accreditation ▪ Providing for quality services at hospitals	- **($)** Provide suitable Personal Protective Equipment (PPE) for workers assigned to prolonged paint or road asphalting jobs - Coordinate with facility management to avoid paint jobs during sensitive times of facility operation - Coordinate with facility management to ventilate paint jobs in confined spaces in the facility - Seek to schedule paint jobs in institutional vacation periods - Inform facility managers and users of periods of unavoidable paint jobs - **($)** Use water-based paints from recognized manufacturers with Arabic Material Safety Data Sheets (**MSDS**)	- Monthly review of paint purchase receipts - Monthly review of paint MSDS Review of PPE availability & usage during prolonged paint works
	Asbestos		- Avoid inhalation near asbestos-containing areas or components - Spray water on asbestos components and seal them safely in impervious bags or wrapping - Same measures as for hazardous waste and materials management	- Daily review of asbestos containment - Daily review of PPE availability & usage during Asbestos exposure Proof of Asbestos disposal at designated hazardous waste facilities
Occupational H&S	Physical hazards from demolition waste		- Inform facility users to stay vigilant in areas of demolition waste generation and storage - Same measures as for demolition waste management	- Worker and facility user monitoring Log of relevant injuries & complaints
	Physical hazards from equipment and vehicles		- **($)** Ensure drivers and machine operators undergo random medical and drug/alcohol detection checks - **($)** Train workers on equipment operation safety - **($)** Ensure equipment, machinery, and vehicles used is in good working condition	- Monthly review of Driver & operator testing reports - Monthly review of Driver & operator training certificates - Review of exclusion zones

	Potential Environmental and Social Impact	TEHS Sub-Project	Mitigation Measures[20]	Monitoring Measures
			- Create exclusion zones to limit access to equipment and vehicle maneuver lines - Avoid vehicle speeds higher than 20km/hr in project sites - Same measures as for demolition waste management	- Log of relevant injuries & complaints
Occupational H&S	Fire Hazard		- **($)** Train workers on identifying and avoiding fire hazards - **($)** Provide fire extinguisher instruments and sand buckets in good working condition - Create strictly **No-Smoking** zones in fire risk areas such as fuel storage areas, excavations, near decomposing organic matter in waste piles and around water bodies - Avoid storing flammable materials in direct sunlight or near heat sources - Ensure suitable grounding and circuit breakers are available for electrical works - Strictly avoid excavations in areas with residential natural gas connections or works near natural gas piping - Identify and provide contacts of closest authorities and emergency services to contact in case of incidents involving Fires	- Weekly review of fire extinguishing instruments - Weekly review of flammable material containers & storage - Log of relevant injuries & incidents
	Slippage and Falling & Working at heights	▪ Improving of PHC quality of services through accreditation ▪ Providing for quality services at hospitals	- **($)** Provision of suitable footwear to avoid slippage - Avoiding tasks on unstable slopes or soils without proper fall prevention precautions - **($)** Installation of guardrails at the edge of any fall hazard area - Proper use of ladders and scaffolds by trained employees - **($)** Use of fall prevention devices	- Ongoing review of PPE availability & usage - On-going review of relevant fall prevention measures and awareness

	Potential Environmental and Social Impact	TEHS Sub-Project	Mitigation Measures[20]	Monitoring Measures
	Manual handling and lifting		- Incorporating rest and stretch breaks into work processes and conducting job rotation Taking into consideration additional special conditions such as left-handed persons and persons with existing medical conditions	- Ongoing observation of workers - Weekly review of break periods and rotations
	Electrocution		- Checking all electrical cords, cables, and hand power tools for frayed or exposed cords - Following manufacturer recommendations for maximum permitted operating voltage of the portable hand tool - Protecting power cords and extension cords against damage from traffic by shielding or suspending above traffic areas - Conducting detailed identification and marking of all buried electrical wiring prior to any excavation work	Ongoing equipment and connection checks and reporting
	Worker influx		- Inform local communities in case of anticipation of high worker influx into project area - Inform workers of local customs, traditions, and facilities - Perform medical checks on workers assigned prolonged work periods in confined spaces - Ensure work area is reasonably equipped to provide basic needs for workers during their work periods	- Daily review of log of relevant incidents & complaints
	Traffic and accessibility		- Inform local communities in case of anticipation of prolonged closure of roads or access routes - Assign trained workers to manage traffic in cases of works during peak traffic/ rush hours - Coordinate with local authorities and traffic authorities in case of major disruption to traffic	Daily review of log of relevant incidents & complaints
	Exposure to biological hazards		- **($)** Provide suitable PPE to limit the risk of exposure to biological hazards	- Ongoing review of PPE availability & usage

Potential Environmental and Social Impact	TEHS Sub-Project	Mitigation Measures[20]	Monitoring Measures
		- **($)** Train workers on avoiding routes of exposure to biological hazards and infections	On-going review of relevant biological hazard awareness
Equipment on-site fueling		- Minimize on-site fuel container storage and fueling activities by planning fueling before site deployment - Designate a specific location on-site for fueling, maintenance, and lubrication activities - **($)** Provide impervious material such as geotextile or polymer sheets in locations on-site designated for fueling, maintenance, or lubrication	- Weekly review of signs of spillage or contamination Weekly review of integrity of impervious layer
Utility damage		- Coordinate with local authorities and natural gas and electricity authorities before excavation - Conduct detailed identification and marking of all underground utility lines prior to any excavation work	- Daily review of log of relevant incidents & complaints
Risk of child labor		- Include clear and explicit measures in the contractors' contract to 1) prohibit labor under18 years old in the main contract, 2) stipulate that this contract should go to the entire sub contract as binding condition.	- Regular review of the contractors' contract. - Regular site inspection of workers
Discrepancy/overlap between proposed ESMP mitigation measures and accreditation standards		- Most measures are already included in the Egyptian healthcare Accreditation Program (Refer to Annex 5 for the environmental aspects included in the accreditation standards). However, the ESMP will prevail.	No additional monitoring measures required.
Risk of patients abstaining from reaching to the screening and treatment of Hep C due to any reasons	▪ NCD screening ▪ Hep C screening ▪ Treatment of Hepatitis C	- The project is designed to carefully take on board the aspect of the patient privacy and to incentivize patients' participation.	Ongoing review of how many community outreaches took place, and how many people had access to these outreaches taking into

Potential Environmental and Social Impact	TEHS Sub-Project	Mitigation Measures[20]	Monitoring Measures
including, but not limited to, social stigma.			consideration the principle of confidentiality.
Risk of patient dissatisfaction		- The project is designed to carefully assess patient satisfaction through regular feedback and GRM	Patient satisfaction assessed and complaints are dealt with in a reasonable timeframe.
Risks associated with improper management of medical waste	▪ Improve the blood bank perfromance ▪ NCD screening ▪ Hep C screening ▪ Treatment of Hepatitis C	A framework Medical Waste management plan has been prepared (please refer to Section)	Included in the Medical Waste management plan
Risks associated with overloading the existing medical waste treatment infrastructure capacity			
Uncontrolled infection			
Increased risk of illicit behavior and crime	▪ Improving of PHC quality of services through accreditation ▪ Providing for quality services at hospitals	- Enforce the national law - Ensure appropriate payment to both contractors and sub-contractors workers - Introduction of sanctions (e.g. dismissal) for workers involved in abuse or any inappropriate activities - Provision of substance abuse prevention and management programs - Creation of supervised leisure areas in workers' camp (if applicable)	Daily review of log of relevant incidents & complaints

4.3.3 Medical Waste Management Plan

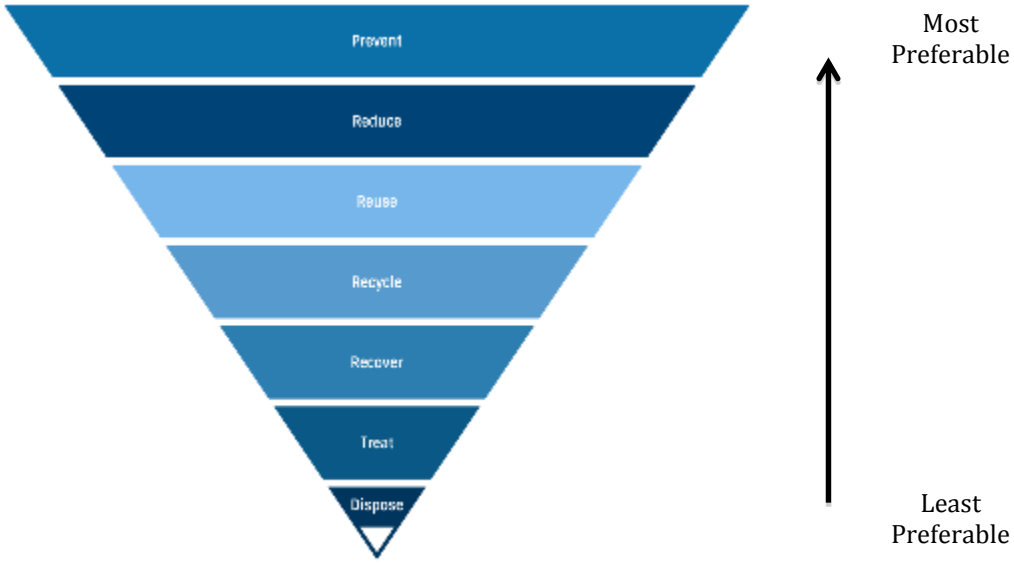
Definitions

"Medical waste": Refers to all the waste generated within the healthcare facilities, research centers/laboratories as well as scattered sources such rapid-test units. Medical waste refers to both hazardous and non-hazardous portions of the waste stream.

Objectives

The objective of the medical waste management plan (MWMP) is to ensure safe segregation, storage, handling, treatment and disposal of medical solid and liquid waste generated at the healthcare facilities, hospitals and rapid-test units as part of the activities conducted under the different components of TEHS project. In accordance with the mitigation hierarchy (Figure 4-2), the plan includes measures to prevent/minimize potential risks and impacts as well as mitigation measures and procedures with clear roles and responsibilities. Whenever relevant, the National Infection Control Guidelines should be adopted for onsite waste handling. Off-site transport, treatment and disposal shall be conducted according to national legislation. The current medical waste management plan is not intended to substitute but rather complements where necessary the existing national guidelines as well as highlighting the minimum requirements and standards which need to be complied with.

Figure 4-2: Mitigation Hierarchy for Waste Management



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Although all staff is responsible for managing waste, and to ensure optimal waste management, it is recommended to establish a facility-based Waste Management Committee and designate a single waste management project lead. The project lead should coordinate the medical waste management system and be supported by the health facility

management. In addition, the roles and responsibilities of key personnel engaged in waste management activities should be defined during all phases (i.e. generation, segregation, transportation and final disposal).

Types and characteristics of medical wastes

Waste generated from healthcare facilities is normally divided into around 75-90% non-hazardous waste (comparable to domestic waste) and the remaining is regarded as "hazardous". The non-hazardous portion includes paper, plastics, cardboard, etc. This portion could be diverted from landfill and recycled (Box 1 includes a list of common recyclable materials). The hazardous waste portion of the medical waste includes the waste types listed below:

- Sharps waste
- Infectious waste
- Pathological waste
- Pharmaceutical waste
- Cytotoxic waste
- Chemical waste
- Radioactive waste

(Table 4-4 includes a description of the different types of hazardous medical wastes).

Box 1: Common recyclable materials from healthcare facilities

Corrugated cardboard boxes
Newspapers and magazines
Polyethylene terephthalate (PET or PETE) (e.g. plastic water bottles, soft-drink bottles)
Polystyrene packaging
Wood (e.g. shipping pallets)
Paper (e.g. white office paper, computer printer paper, coloured ledger paper)
Metals (e.g. aluminum beverage cans and containers, food tin cans, other metal containers)
High-density polyethylene (HDPE) (e.g. plastic milk containers, containers for food, plastic bottles for saline solutions or sterile irrigation fluids)
Clear, colored or mixed glass
Construction and demolition debris

Table 4-4: Description of the different types of medical Wastes

Waste category	Descriptions and examples
Hazardous health-care waste	
Sharps waste	Used or unused sharps (e.g. hypodermic, intravenous or other needles; auto-disable syringes; syringes with attached needles; infusion sets; scalpels; pipettes; knives; blades; broken glass)
Infectious waste	Waste suspected to contain pathogens and that poses a risk of disease transmission (see section 2.1.2) (e.g. waste contaminated with blood and other body fluids; laboratory cultures and

	microbiological stocks; waste including excreta and other materials that have been in contact with patients infected with highly infectious diseases in isolation wards)
Pathological waste	Human tissues, organs or fluids; body parts; fetuses; unused blood products
Pharmaceutical waste, cytotoxic waste	Pharmaceuticals that are expired or no longer needed; items contaminated by or containing pharmaceuticals Cytotoxic waste containing substances with genotoxic properties (e.g. waste containing cytostatic drugs – often used in cancer therapy; genotoxic chemicals)
Chemical waste	Waste containing chemical substances (e.g. laboratory reagents; film developer; disinfectants that are expired or no longer needed; solvents; waste with high content of heavy metals, e.g. batteries; broken thermometers and blood-pressure gauges)
Radioactive waste	Waste containing radioactive substances (e.g. unused liquids from radiotherapy or laboratory research; contaminated glassware, packages or absorbent paper; urine and excreta from patients treated or tested with unsealed radionuclides; sealed sources)
Non-hazardous or general health-care waste	Waste that does not pose any particular biological, chemical, radioactive or physical hazard

Expected waste generation rates from the TEHS project

As previously mentioned, the generated amounts of hazardous medical wastes in Egypt is estimated at around 100 tons/day among which 50 to 75% are safely treated.
The TEHS project is expected to generate additional amounts of medical waste mainly as a result of the screening and treatment of Hep C . According to the MoHP, an average of 120 liters of medical waste is expected o be generated per every 2000 persons screened. Considering that the project will screen around 45 millions over 4 years, it could be estimated that around 1 million will be screened each month across Egypt generating around 60,000 litres of medical wastes/month or 2000 litres/day. Based on the assumption that each screening kit weighs around 10g (Figure 4-3), the amount of waste could reach around 350 kg/day (less than 0.5% of the total amount generated). Figure 1 shows pics of the rapid test screening kit which will be used for the screening.

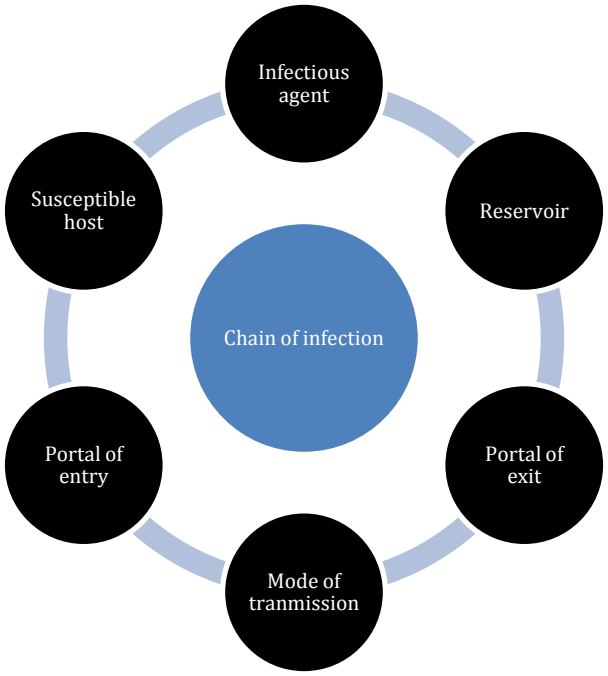
Figure 4-3: Screening kit

The hazardous nature of waste expected to be generated form Hep C screening activities will be mainly due to the presence of infectious and pathological agents. Sensitive receptors may include the following:

- Medical doctors, nurses, and hospital maintenance personnel
- Patients
- Visitors to the healthcare units and/or hospitals.
- Workers transporting waste to a treatment or disposal facility
- Workers in waste-treatment/disposal facilities
- Informal recyclers (scavengers).
- General public – when medical waste is disposed of improperly.

Contaminated sharps (particularly hypodermic needles) and concentrated cultures of pathogens are the waste items that pose the most acute potential hazards to health. There is particular concern about infection with Hep C, for which there is strong evidence of transmission from injury by syringe needles contaminated by human blood, which can occur when sharps waste is poorly managed.

Pathogens in infectious waste may enter the human body through a puncture, abrasion or cut in the skin; mucous membranes; inhalation; and/or ingestion. According to WHO, for an infection to take place, each link in the chain of infection presented below must be present.



General requirements

As required by national regulations, healthcare facility managers and rapid test units managers have a "duty of care" to ensure that waste is kept under control at all times within the healthcare facility and rapid test unit and disposed of safely either onsite or offsite. Listed below are the general principles of waste segregation, storage and transportation and how they relate to the control of waste flow from generation to disposal:

- For each medical area, healthcare waste should be segregated into different fractions, based on their potential hazard and disposal route, by the person who produces each waste item;
- In each medical area, separate containers should be available for each segregated waste fraction with colour coding and international hazard symbol;
- Waste containers should be labeled and bear the details of the medical area, date and time of closure of the container and the name of the person filling out the label;
- Closed local storage shall be provided inside or near to a medical area if wastes are not collected frequently;
- Hazardous and non-hazardous wastes should not be mixed during collection, transport or storage. If this occurs, the mixed waste shall be considered hazardous;
- Collected waste is often taken to central storage sites before onsite or offsite treatment and disposal;
- Staff should fully understand the risks and safety procedures for the wastes they are handling.

Measures to Prevent / Reduce exposure to infections / diseases

Healthcare providers and personnel working on the TEHS project may be exposed to general infections, blood-borne pathogens, and other potential infectious materials (OPIM) during screening and treatment, as well as during collection, handling, treatment, and disposal of healthcare waste. Implementation of the MoHP Infectious Control Guidelines will be sufficient to safely manage the additional waste expected to be generated from the screening activities within the hospitals and healthcare units. Accreditation sought will ensure sustainable management of medical waste.
For the rapid test units, waste shall be temporarily stored , then safely transported daily to the nearest shredding and sterilization unit (at the nearest hospital) using the MoHP licensed vehicles. Alternative to shredding and sterilization could be a licensed incineration unit. The treated waste shall be disposed of safely in accordance with national legislation.
The following measures are recommended to reduce the risk of transferring infectious diseases to healthcare providers:

- Formulate an exposure control plan for blood-borne pathogens;
- Provide staff members and visitors with information on infection control policies and procedures;
- Establish Universal / Standard Precautions to treat all blood and other potentially infectious materials with appropriate precautions, including:
  - Immunization for staff members as necessary (e.g. vaccination for hepatitis B virus);
  - All personnel handling infectious medical waste shall wear gloves and additional protective medical clothing and personal protective equipment (PPE) appropriate to the level of risk they encounter and shall remove any protective medical clothing used prior to leaving the work area and to place it in a designated area or container. When performing procedures where splashing is not expected, gloves are the minimum PPE that may be worn;
  - Protective medical clothing and PPE should not be submitted for laundering unless sterilized;
  - When performing procedures where splashing may occur or when infectious medical waste bags or containers may contact more than the worker's hands and wrists, the following medical protective clothing and PPE is required in addition to gloves;
    - Appropriate protective medical clothing should be of material that does not permit infectious medical waste from penetrating and reaching workers clothes or skin;
    - Eye protection, surgical face masks, and face shields when personnel may reasonably anticipate facial exposure to infectious medical waste.
    - Implement immunization for staff members, as necessary (e.g. vaccination for hepatitis B virus, tetanus immunization).

- Provide adequate facilities for hand washing. Hand washing is the single most important procedure for preventing infections (e.g. nosocomial and community). Hand washing should involve use of soap / detergent, rubbing to cause friction, and placing hands under running water. Washings of hands should be undertaken before and after direct patient contacts and contact with patient blood, body fluids, secretions, excretions, or contact with equipment or articles contaminated by patients. Washing of hands should also be undertaken before and after work shifts; eating; smoking; use of personal protective equipment (PPE); and use of bathrooms. If hand washing is not possible, appropriate antiseptic hand cleanser and clean cloths / antiseptic towelettes should be provided. Hands should then be washed with soap and running water as soon as practical
- Develop appropriate procedures and establish facilities for handling dirty linen and contaminated clothing, and preparing and handling food
- Implement appropriate cleaning and waste disposal practices for the healthcare workplace

- The following recommendations should be implemented when using and handling of needles / sharps:
  - Use safer needle devices and needleless devices to decrease needle stick or other sharps exposures;
  - Do not bend, recap, or remove contaminated needles and other sharps unless such an act is required by a specific procedure or has no feasible alternative;
  - Do not shear or break contaminated sharps;
  - Have needle containers available near areas where needles may be found;
  - Discard contaminated sharps immediately or as soon as feasible into appropriate containers;
  - Used disposable razors should be considered contaminated waste and disposed of in appropriate sharps containers.
- Establish policies to exclude animals from facility property.

Waste Inventory

It is key for future references as well as for monitoring purposes to accurately record the amount of waste generated as a result of the TEHS project

Rapid test Units

The amount of waste generated should be daily recorded. **Form 1** below should be filled once at the beginning of the program and **Form 2** should be filled on a daily basis in order to record the amount of waste.

Healthcare units and hospitals

Waste recording shall follow the existing procedures as above in order to record the amount of waste generated from the TEHS project

Form 1	**Waste Characterization**				
Item Name	Quantity used per patient (number of items)	Colour/ photo	Weight per ten items	Physical description	Chemical description/components

Form 2 Name/Identification Nunber of the Rapid Test Unit : Week:								
	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	**Total/week**
Total Weight of waste bags[21]								
Number of waste bags								
Number of people screened								

Waste minimization

Measures to minimize waste include but are not necessarily limited to :

- Always attempt to buy/use products, which have higher recycling potential. Some types of plastics are more readily recyclable than others. Common types of plastics and their symbols are listed below:

  - Low-density polyethylene – LDPE, 4
  - High-density polyethylene – HDPE, 2
  - Polypropylene – PP, 5
  - Polyethylene terephthalate – PET or PETE, 1

[21] The Volume of the waste bag to be used should be

- Polycarbonate – PC, which has no designated number but may be labeled 7 (a miscellaneous category for low-volume plastics).

- Incorporate green procurement in the procurement measures. Examples include:
  - Giving preferences to but easily recycled plastics such as polyethylene, polypropylene and terephthalate (PET) over PVC
  - Buy latex or nitrile gloves in place of PVC gloves
  - Polyethylene IV bags in place of PVC bags
  - Ethylene vinyl acetate bags can replace PVC bags for saline and blood.

Segregation and Interim Storage

At the point of generation, waste should be identified and segregated. Non-hazardous waste, such as paper and cardboard, glass, aluminum and plastic, should be collected separately and recycled where feasible. Food waste should be segregated and composted where feasible. Infectious and/or hazardous wastes should be identified and segregated according to its category using a color-coded system. Sharps shall be placed in rigid, leak and puncture resistant containers. Table 4-5 includes recommended specifications for waste storage containers.
Other segregation considerations include the following:

- Avoid mixing general healthcare waste with hazardous healthcare waste in order to reduce disposal costs;
- If different types of waste are mixed accidentally, waste should be treated as hazardous. In other words, waste that has been poorly segregated should never be re-sorted, but instead should be treated as the most hazardous type of waste in the container should be. Corrective action taken should concentrate on ensuring that waste is properly segregated in the future;
- The number of places where patients and visitors can dispose of waste should be minimized (e.g. using designated containers in communal areas).
- Segregate waste with a high content of heavy metals (e.g. cadmium, thallium, arsenic, lead) to avoid entry into wastewater streams;
- Separate residual chemicals from containers and remove to proper disposal containers to reduce generation of contaminated wastewater. Different types of hazardous chemicals should not be mixed.

Table 4-5: WHO-recommended segregation schemes

Type of waste	Colour of container and markingsa	Type of container
Highly infectious waste	Yellow, marked "HIGHLY INFECTIOUS", with biohazard symbol	Strong, leak-proof plastic bag, or container capable of being autoclaved
Other infectious waste, pathological and anatomical waste	Yellow with biohazard symbol	Leak-proof plastic bag or container

Sharps	Yellow, marked "SHARPS", with biohazard symbol	Puncture-proof container
Chemical and pharmaceutical waste	Brown, labelled with appropriate hazard symbol	Plastic bag or rigid container
Radioactive waste[b]	Labelled with radiation symbol	Lead box
General health-care waste	Black	Plastic bag

Specifications for waste containers
As minimum requirements:

- Containers should be sturdy, leak-proof and lined up with sturdy plastic bags (except for the sharps containers)
- Recommended thickness for the bag is 70 um (ISO 7765 2004), and plastic used should be chlorine free.
- Containers should have well-fitting lids preferably operated by a foot pedal.
- Plastic bag and container should match in colour.
- Contaminated and uncontaminated sharps should be collected in an impermeable and puncture-proof container that is difficult to break open after closure.
- Sharp containers may be disposable or designed for disinfection and reuse. The former is preferred.
- Appropriate waste receptacle (bags, bins, sharps boxes) should be available to staff in each medical and other waste-producing area in a healthcare facility.

Important storage considerations include but are not necessarily limited to:

- Seal and replace immediately waste bags and containers when they are approximately three quarters;
- Plastic bags should never be stapled but may be tied or sealed with a plastic tag or tie.
- Waste should be identified and labeled appropriately, noting the substance class, packaging symbol (e.g. infectious waste, radioactive waste), waste category, mass / volume, point of origin, and final destination;
- Waste should be collected daily at the same time (or as frequently as required) and transported to the designated central storage/treatment site.
- No bags should be removed unless they are labeled with their point of production (health unit/center) and contents.
- Bags or containers should be replaced immediately with new ones of the same type.
- There should be enough buckets provided to ensure an appropriate number of clean buckets in rotation. Buckets should be washed and disinfected before reuse.
- The waste should be placed in rigid or semi-rigid and leak-proof containers.
- Transport waste to storage areas on designated trolleys / carts, which should be cleaned and disinfected regularly;
- Waste buckets should be transported with their lids securely in place to prevent spillage.

- Waste storage areas should be located within the facility and sized according to the quantities of waste being generated, with the following design considerations:
  - Hard, impermeable floor with drainage, and designed for cleaning / disinfection with available water supply;
  - Secured by locks with restricted access;
  - Designed for access and regular cleaning by authorized cleaning staff and vehicles;
  - Protected from sun, and inaccessible to animals / rodents;
  - Equipped with appropriate lighting and ventilation;
  - Segregated from food supplies and preparation areas;
  - Equipped with supplies of protective clothing, and spare bags / containers.
- Unless refrigerated storage is possible, storage times between generation and treatment of waste should not exceed the following:
  - Temperate climate: 72 hours in winter, 48 hours in summer
  - Warm climate: 48 hours during cool season, 24 hours during hot season

Onsite transport

Onsite transport should be scheduled to take place during less busy times whenever possible. Separate hazardous and non-hazardous routes should be planned and used. The selection of routes should be done as to prevent exposure to staff and patients and to minimize the passage of loaded carts through patient care and other clean areas. In general, a waste route should follow the principle "from clean to dirty". Collection should start from the most hygienically sensitive medical areas (e.g. intensive care, dialysis, theatres) and follow a fixed route around other medical areas and interim storage locations. The internal transport of waste should use separate floors, stairways or elevators wherever possible. Regular transport routes and collection times should be fixed and reliable. Transport staff should wear adequate PPE, gloves, strong and closed shoes, overalls and masks.

Hazardous and non-hazardous waste should always be transported separately. In general, there are three different transport systems (WHO - Safe management of wastes from health-care activities):

- Waste transportation trolleys for general waste should be painted black, and only be used for non-hazardous waste types and labelled clearly "General waste" or "Non-hazardous waste".
- Infectious waste can be transported together with used sharps waste. Infectious waste should not be transported together with other hazardous waste, to prevent the possible spread of infectious agents. Trolleys should be coloured in the appropriate colour code for infectious waste (yellow) and should be labelled with an "Infectious waste" sign.

It is to be noted that the use of waste chutes in healthcare facilities is not recommended, because of the potential risk of transmitting airborne infections.

Offsite Transport

Offsite transport of hazardous medical waste should be conducted in compliance with Egyptian regulations (Article 29 of Law 4/1994). A plan for waste collection from rapid

test units should be developed in coordination with the MoHP staff and approved by the PMU prior to starting the project**.** According to the Guidelines for Healthcare Waste Management in Egypt issued in 2015 by the Ministry of Environment, the MoHP has distributed around 280 vehicles (around 210 vehicles are in good working conditions) on the different governorates for transport of hazardous medical waste , in addition to 59 vehicles owned by individuals, private companies and university hospitals. As a minimum, the waste collection workers and cleaners should follow recommendations listed below:

- Transport waste destined for off-site facilities according to the requirements of Egyptian regulations and guidelines for transport of hazardous wastes / dangerous goods in the General EHS Guidelines;
- Transport packaging for infectious waste should include an inner, watertight layer of metal or plastic with a leak-proof seal. Outer packaging should be of adequate strength and capacity for the specific type and volume of waste;
- Transport vehicles should be dedicated to waste and the vehicle compartments carrying waste sealed.
- Bulk liquids to be transported off-site shall, in addition to the above requirements, be placed in rigid containers.

Treatment and Disposal of Solid Hazardous Medical Waste

Hazardous medical waste resulting from the screening activities in addition to any other activities resulting in the types of wastes classified as hazardous should be autoclaved at the point of generation wherever possible. Once disinfected, the waste would leave a medical area in the infectious healthcare waste container.
If the option above is not feasible, waste shall be transported to the nearest shredding and sterilization unit or to the nearest licensed medical incinerator. Evidence of treatment should be collected and regularly sent to the PMU showing that the full amount of waste generated from the project has been treated.
As previously shown in Figure 3-6, there exist around 155 working incinerators and 38 shredding & sterilization Units in Egypt . Other sources stated the numbers to be 141 and 17 for the incinerators and Sterilization units respectively. Table 3-3 includes list of potential sites for final disposal of treated healthcare waste while table 3-4 shows the actual capacity of the existing waste treatment system in Egypt including both options: Incineration, shredding & sterilization.
Some types of wastes should not be incinerated , as shown in the below list[22]

1. Pressurized gas containers (aerosol cans)
2. Large amounts of reactive chemical waste
3. Silver salts and photographic or radiographic wastes
4. Plastic containing polyvinyl chloride (blood bags, IV tubing or disposable syringes)
5. Waste with high mercury or cadmium content, such as broken thermometers, used batteries and lead-lined wooden panels
6. Ampoules or vials, as molten glass will cause the grate to block up and vials can

[22] The alternative in that case will be to send the waste to a shredding & sterilization unit

explode.

7. Bottles of chemicals and reagents due to risk of explosion and formation of toxic gases.
8. Needles due to the risk of needle stick injury from the metal ash.
9. Expired drugs.
10. Kitchen waste as this is wet, does not burn and will lower the efficiency.

Table 4-6 shows the recommended treatment and disposal methods for the different categories of healthcare waste

Table 4-6: Recommended treatment and disposal methods for the different categories of healthcare waste

Type of waste	Summary of treatment and disposal options / notes
Infectious waste: Includes waste suspected to contain pathogens (e.g. bacteria, viruses, parasites, or fungi) in sufficient concentration or quantity to cause disease in susceptible hosts. Includes pathological and anatomical material (e.g. tissues, organs, body parts, human fetuses, animal carcasses, blood, and other body fluids), clothes, dressings, equipment / instruments, and other items that may have come into contact with infectious materials.	**Waste Segregation Strategy**: Yellow or red colored bag / container, marked "infectious" with international infectious symbol. Strong, leak proof plastic bag, or container capable of being autoclaved. **Treatment**: Chemical disinfection; Wet thermal treatment; Microwave irradiation; Safe burial on hospital premises; Sanitary landfill; Incineration (Rotary kiln; pyrolytic incinerator; single-chamber incinerator; drum or brick incinerator)[e] • Highly infectious waste, such as cultures from lab work, should be sterilized using wet thermal treatment, such as autoclaving. • **Anatomical waste** should be treated using Incineration (Rotary kiln; pyrolytic incinerator; single-chamber incinerator; drum or brick incinerator[e]).
Sharps: Includes needles, scalpels, blades, knives, infusion sets, saws, broken glass, and nails etc.	**Waste Segregation Strategy**: Yellow or red color code, marked "Sharps". Rigid, impermeable, puncture-proof container (e.g. steel or hard plastic) with cover. Sharps containers should be placed in a sealed, yellow bag labeled "infectious waste". **Treatment**: Chemical disinfection; Wet thermal treatment; Microwave irradiation; Encapsulation; Safe burial on hospital premises; Incineration (Rotary kiln; pyrolytic incinerator; single-chamber incinerator; drum or brick incinerator)[e] • Following incineration, residues should be landfilled. • Sharps disinfected with chlorinated solutions should not be incinerated due to risk of generating POPs. • Needles and syringes should undergo mechanical mutilation (e.g. milling or crushing) prior to wet thermal treatment
Pharmaceutical waste: Includes expired, unused, spoiled, and contaminated pharmaceutical products, drugs, vaccines, and sera that are no	**Waste Segregation Strategy**: Brown bag / container. Leak-proof plastic bag or container. **Treatment**: Sanitary landfill[a]; Encapsulation[a]; Discharge to sewer [a]; Return expired drugs to supplier; Incineration

longer needed, including containers and other potentially contaminated materials (e.g. drug bottles vials, tubing etc.).	(Rotary kiln; pyrolytic incinerator [a]); Safe burial on hospital premises[a] as a last resort. • Small quantities: Landfill disposal acceptable, however cytotoxic and narcotic drugs should not be landfilled. Discharge to sewer only for mild, liquid pharmaceuticals, not antibiotics or cytotoxic drugs, and into a large water flow. Incineration acceptable in pyrolytic or rotary kiln incinerators, provided pharmaceuticals do not exceed 1 percent of total waste to avoid hazardous air emissions. Intravenous fluids (e.g. salts, amino acids) should be landfilled or discharged to sewer. Ampoules should be crushed and disposed of with sharps. • Large quantities: Incineration at temperatures exceeding 1200 □C. Encapsulation in metal drums. Landfilling not recommended unless encapsulated in metal drums and groundwater contamination risk is minimal.

Awareness raising and capacity building

Training and awareness campaigns will be required for both staff and the public respectively about the expected risks associated with hazardous medical waste and best practices to manage it. All staff working on the TEHS project shall be trained and training outcome evaluated.
Awareness campaigns for the public should start early enough (during project preparation). The aim of these awareness campaigns will be to lower the risks associated with the public exposure to hazardous medical waste at any point from generation up to disposal.
The training sessions and awareness campaigns should be complemented with a set of posters, leaflets and booklets of good practices/procedures for waste management and disseminate these materials to the hospitals, primary healthcare and rapid test units.
One of the staff should be designated to train other healthcare staff on the management of generated waste. Consultants could be recruited by the PMU to train healthcare staff on managing wastes generated from facilities and units supported under this project.

Examples of such posters are shown below.

Monitoring Plan

The aim of the monitoring plan is to ensure that the objectives of the MWMP are achieved and that medical waste has been properly and safely managed according to legislation requirements and international best practices. This can be achieved through periodic internal and external monitoring and evaluation processes on a continuous basis, at all institutional levels.

Monitoring Objectives

The objectives of the monitoring plan is to establish appropriate criteria to evaluate the level of implementation of mitigation measures and to ensure that unforeseen impacts are detected and mitigation measures are implemented at an early stage. Specific objectives of the monitoring plan are to:

- Ensure that any additional impacts are addressed appropriately;
- Check the effectiveness of the recommended mitigation measures;
- Ensure that the proposed mitigation measures are appropriate;
- Demonstrate that medical waste management is being implemented according to plan and existing regulatory procedures; and
- Provide feedback to implementing agencies in order to make modifications to the operational activities where necessary.

Monitoring Arrangements

The MWMP will be monitored both internally and externally. Internally, the plan will be part of the project's overall monitoring and reporting. The MoHP through the project's PMU will ensure that the staff hired will be monitoring the implementation of the MWMP. The monitoring task should be assigned to at least one person for each primary healthcare

unit, hospital and rapid test unit. The reporting on the plan will be part of the regular reporting of the project components/activities at local, governorate and national levels. Externally, the project will use third party monitoring service for intervention and activities under each component of the project. This will include scope of work for monitoring the performance of the MWMP.
The cost of implementing the monitoring plan is included as part of the project's cost.

Monitoring Indicators

The general indicators listed below will be used to monitor progress in implementing the MWMP:

- Development of procedures for proper and safe medical waste management & disposal;
- Existence of human resource capacity in primary healthcare units, hospitals and rapid test units, with basic knowledge to deal with medical waste;
- Existence of records on waste generation, treatment and disposal.

The monitoring of environmental impacts is necessary to ensure that predicted impacts are addressed effectively and efficiently through the indicated mitigation measures. Specific monitoring indicators to be considered include but will not be necessarily limited to the following:

- Staff has received specific training on the MWMP
- Waste is correctly segregated into hazardous and non-hazardous at the point of generation.
- Storage bins/containers comply with standard specifications.
- Waste collection and transportation plan is developed.
- Waste is removed daily or as according to the collection plan
- Waste amounts are recorded daily in terms of volume and weight.
- Waste transportation is conducted by the MoHP licensed vehicles.
- Receipts for treatment and safe disposal of treated waste are obtained and available.

4.4 Capacity Building and Training Needs

Upon ESMF and ESMP approval by the WB and adoption by project proponent, the following stakeholders should undergo training on ESMF application:

- Environmental/Safeguards Focal Points at the PMU and PIUs
- Relevant staff of the concerned governorates and ministries - TEHS staff
- NGOs
- Other project stakeholders - intrested/potential TEHS partners

ESMF Training will be customized to the roles of the various stakeholders to include:

- Sub-project screening, categorization, ES instrument preparation, and disclosure.
- Overview of the TEHS ESMF structure, including positive list of potential subprojects
- Mitigation measures implementation
- Monitoring measures implementation
- Templates, archiving, and reporting
- Project data analysis and project improvements
- Specific training associated with medical waste management
- Training on operationalizing the GRM manual/system. This should include training on communication and on the different approaches for measuring patients satisfaction evaluation.

In addition, worker training is needed to minimize incident risk and ensure compliance with ESMF/ESMP provisions. Relevant training topics to be delivered by the contractor for worker training include:

- Customized Occupational Health and Safety
- First aid & Emergency response
- Training on sub-project ESMP preparation and implementation

4.5 ESMF Cost Estimate

The costs associated with implementing the ESMF are included in Table 4-4, ESMF Cost Estimate. Training costs will be primarily related to the use of the ES consultant to prepare and execute training workshops as needed.

It is expected that TEHS project will retain access to ES consultancy services to advise the TEHS on a “as needed” basis. ES consultancy services implies that the TEHS may retain services of several different ES consultants as they are available when their services are needed.

Table 4-7: ESMF Implementation Cost Estimate Details

Activity	Quantity	Unit Rate (USD)	Estimated Cost (USD)
ESMF Training (Environemntal)	650	20	13,000
ESMF Training (Social and GRM)	650	20	13,000
Medical Waste Management Training	3,500	15	53,000
M&E consultants	60 days per year (300 days per 5 years)	200	60,000
Total (USD)			**139,000**

ANNEXES

Annex 1: TEHS Consultation Summary Note
- **Appendix 1: List of Attendees**
- **Appendix 2: Newspaper Ad**
- **Appendix 3: PowerPoint Presentation**

Annex 2: Environmental & Social Screening Criteria/Checklists
Annex 3: Environmental and Social Management Plan (ESMP) Outline
Annex 4: Environmental & Social Management Plan (ESMP) Sub-project Monitoring
Annex 5: Key Environmental and Social Accreditation Standards

Annex 1: TEHS Consultation Summary Note

The public consultation event was held in Cairo at the National Training Institute in Abassia Training Centre on April 10th, 2018.

The event was attended by around 50 representing different segments of Egypt's community, different departments of the MoHP. A copy of the list of attendees is included in **Appendix 1.** The event has been advertised in local newspapers (a copy of the Ad is included in **Appendix 2).** The consultation session started with a Powerpoint presentation introducing the TEHS project followed by a second Powerpoint presentation describing the objectives of the ESMF, ESIA process, difference between ESMF and ESIA, project screening process, potential negative impacts and their mitigation measures, and general guidelines for developing ESMPs for specific projects. Presentations are included as **Appendix 3**.




During the introductory session, it was clearly stated to all attendees what is expected from their side, they have been informed with their right to clearly state their opinions and identify any impacts/risks that the project's team may have omitted. It was also clearly stated that their opinions will be taken into consideration and the ESMF Study will be modified accordingly where applicable.

Towards the end of the presentation, the attendees were kindly requested to write down their questions and comments for documentation purposes. Below is a detailed description of each question, answer and how this affected/has been considered in the final version of the ESMF.

Question	Response	Resulting modifications to the ESMF study
Q1: Are all types of hazardous wastes being considered in the study ? How to guarantee safe disposal of medical waste?	A1: Yes, all types of medical and hazardous wastes have been considered and a medical waste management plan has been developed. There are two safe treatment and disposal methods: 1) Incineration followed by the disposal of ash in licensed hazardous waste landfills; and 2) Shredding and sterilization followed by safe disposal in a licensed hazardous waste landfill - which is better alternative but relatively more expensive. Most incinerators are now centralized, and located away from residential clusters. Waste is transported from the hospital to the storage areas in the incinerators. Incinerator facilities are at least 3kms away from the nearest settlement area. Duty of care: Waste is weighed at the hospital and weighed again at disposal area before incineration to ensure that the total quantity of waste has been transferred.	According to international best practice, the products of incineration and strelisations are normally disposed in normal sanitary landfills (not hazardous). Accroding to the discussion with the MoHP officials during the consultation session, it was highlighted that the Egyptian legislation prohibits such action and enforce the disposal in licensed hazardous waste landfills.
Q2: Screening of 2 or 3 million people will create a burden on the waste collection, treatment and management system. The actual quantities of the waste need to be therefore estimated beforehand and the associated risks assessed.	A2: The medical waste management plan was developed to ensure such impacts are avoided or properly mitigated. There is already a system in place, and we need to know if it will be able to accommodate these quantities. We will estimate the total amount of waste expected to be generated and we will assess the impacts associated with this additional amount. However, estimation of waste quantities needs to be verified during the life of the project.	This impact was not covered in the original study and was included in the ESMF.A section in the baseline chapter was added to describe the actual medical waste treatment capacity in Egypt versus the amount of wastes, which are generated.
Q3:Is Nasreya landfill the only licensed landfill where you could dispose of the ash resulting form the	A3: Yes, and it's very nearing its full capacity. In addition to that, the Ministry of Environment considers the treated medical waste as hazardous	

waste incineration and/or the sterilized waste?		
Q4: Could you please elaborate more on the social impacts of the project?	A4: The social impacts considered could be summarized as follows: - Impacts associated with child labor and worker rights and conditions (during refurbishment or rehabilitation work) - Impacts associated with population unsatisfied with the service. - Impacts associated with ineffective GRM. In this regard, the project will focus on GRM as a tool for minimizing any adverse social impacts attributed to the project. This will be done through delivering training on the recently developed user's manual guide, and properly addressing patient's complaints in timely and efficient way, effective ways to receive grievances.	
Q5: Why isn't patient satisfaction taken into consideration in the social impact of the project? And there should be support for the patients during and after the project.	A5: Patient satisfaction is already tackled as a core element in the project. The treatment for positive cases is fully funded by the project.	
Q6: After finishing construction works, any rubble or waste resulting from this process should be removed and conditions should be restored to their original state.	A6: This clause and other similar clauses will be included in the contractors contract.	
Q7: In case the project will exhaust	A7: Suggestions for improvement of the existing system are in a later phase	

the existing waste treatment system, what are the measures which will be considered in such case? For example: Establishing more landfills.	of the project design, where there will be detailed studies for all the options. This project is similar to older projects like the renovation of healthcare units in Upper Egypt or the previous HCV screening project where 3.5 million people were screened in Upper Egypt alone, and the existing system was able to accommodate the additional load of waste. In other words, the present project does not cover in its scope the construction of any additional treatment facilities nor the establishment of a hazardous waste or sanitary landfill.	
Q8: Is there a treatment plan for liquid medical waste?	A8: Yes, it is included in the medical waste management plan	
Q9: HCV tests should not be in the same category as diabetes or blood pressure tests, because the waste arising from the tests as well as the risks of the process itself are much higher, and have a higher impact on the personnel handling the blood samples.	A9: The ESMP and the medical waste management plan cover both types. The high risks associated with the HCV tests are well taken into consideration.	
Q10: Is waste minimization considered?	A10: Yes	
Q11: There is a risk associated with the patients (screened people) ending up disposing contaminated waste such as small pieces of contaminated cotton pads. This will require additional awareness measures to be	A11: This risk has not been considered and will be included in the ESMP and awareness programs.	The risk has been included and mitigation measures have been considered in the form of awareness campaigns.

included in the program		
Q12: How will the project ensure the Social Responsibility and Accountability, to ensure equal accessibility to all services? for example any Investigations to be undertaken on the received complaints or corrective measures to ensure transparency in the process of project implementation? This is an important social aspect that needs particular focus on during the project.	The project is designed taking Transparency and Social Responsibility into consideration.	

Appendix 1: List of AttendeesAppendix 2: Newspaper Ad

م	الاسم	الجهة	التليفون	الأيميل
١	د/[illegible] عبدالمنعم محمد	إ.ع للرعاية الأولية الوزارة	٠١٠٠٢٨٩٠٨٢٨	Maha_mohp@hotmail
٢	د/ محمد منصور محمد السيد	الإدارة العامة لمكافحة الفيروسات الكبدية	٠١١١٤١٣٤٦١٧	Shams9221@Yahoo.Com
٣	د/ ريهام مجد الدين محمد	[illegible]	٠١٠٠٧٠٢٠٤٣٦	rehammagdeldeen@gmail.com
٤	د/ مروة أمين	الإدارة العامة لمكافحة الفيروسات الكبدية	٠١١٠٠٩٦٠٨٠٢	dr.marwaamin@yahoo.com dr.marwaamin@gmail.com
٥	د. محمد حسين محمود	الإدارة المركزية للرعاية الصحية المتكاملة	01144355475	hussienmoh@gmail.com
٦	د. رباب حسين عبد المسيح	مكتب رئيس قطاع الرعاية الأساسية	٠١٢٢٤٦٦٤٥٠١	rababelroby@hotmail.com
٧	د/ دعاء سامي إبراهيم محمد	الإدارة العامة لمكافحة الفيروسات الكبدية	٠١٠٠٠١٥٢٢١٤	drdoaasamy83@Yahoo.com
٨	د/ مها يحيى محمود عبد الباقي	مكتب رئيس قطاع الرعاية الأساسية	01120694422	mahayehia_mahmoud@yahoo.com
٩	[illegible]	[illegible]	01006835570	ABdelhady-shalaby@yahoo.com
١٠	د. مرفت محمد عبد الوهاب	مديرية الشئون الصحية بالسويس	1005788701	mm mohamedabdelwahab@yahoo.com
١١	د. آمال كمال مرسي	مديرية الشئون الصحية [illegible]	01289621215	
١٢	وحيد [illegible]	[illegible]	01222403433	Wagidaanwar@gmail.com

دعوة لإبداء الرأى
بشأن إطار عمل الإدارة البيئية والاجتماعية
ببرنامج تطوير خدمة الرعاية الصحية

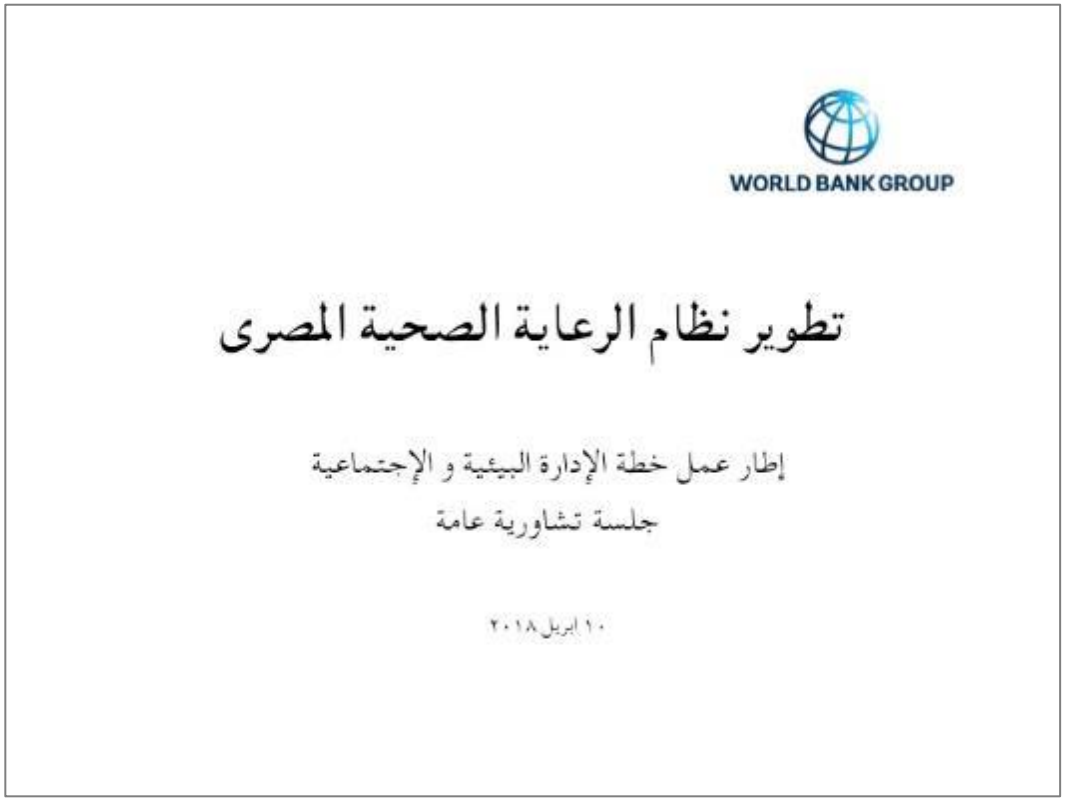
فى إطار قيام وزارة الصحة والسكان حاليا بالإعداد بتنفيذ برنامج تطوير خدمة الرعاية الصحية بالتعاون مع البنك الدولى فى محافظات جمهورية مصر العربية ونظرا لقيام وزارة الصحة والسكان بإعداد إطار عمل للإدارة البيئية والاجتماعية (ESMF) للبرنامج المشار إليه . والذى بنيه وزارة الصحة والسكان الاستماع واستقبال راء المواطنين الراغبين فى المشاركة لذا فقد تقرر عقد جلسة لهذا الشأن .

وفى هذا الصدد . تتشرف وزارة الصحة والسكان
بدعوة الجهات المختلفة وعموم المواطنين بالمحافظات

لحضور ورشة العمل يوم الثلاثاء الموافق ٢٠١٨/٤/١٠
الساعة العاشرة صباحا

بالمعهد القومى للتدريب بالعباسية لإبداء الرأى
بشأن مسودة إطار عمل الإدارة البيئية والاجتماعية .

Appendix 3: PowerPoint Presentation



أهداف إطارخطة الإدارة البيئية والاجتماعية (تابع)

3. تحديد الإجراءات الخاصة بادارة و رصد تدابير التخفيف للآثار البيئية والاجتماعية و تحديد كافة الادوار و المسئوليات لتنفيذ هذه الإجراءات و متابعتها بما يتضمن ذلك من برامج تدريب و رفع الكفاءة

4. وضع التدابير اللازمة لتطوير خطط الإدارة البيئية والاجتماعية الخاصة بالمشروعات الفرعية طبقاً للواقع وعند الحاجه.

مقدمة عامة | وصف المشروع | أهداف إطار الإدارة البيئية و الإجتماعية

ملخص التاثيرات الايجابية البيئية والاجتماعية المتوقعة

- القضاء على فيروس التهاب الكبد الوبائى ج
- مسح لحالات الاصابة بمرض السكر و الضغط
- تطوير نظام التشغيل ببنك الدم
- تطوير خدمات الصحية الاولية و الثانوية والاعتماد

ومن المتوقع أن تكون التاثيرات السلبية بسيطة و محدودة و مؤقتة اثناء فترة المشروع و تختلف باختلاف موقع ونوعية النشاط، ويمكن تجنبها و **تخفيفها** بشكل فعال **والتحكم فيها** من خلال تنفيذ خطة للإدارة البيئية والاجتماعية بما يتماشى مع سياسات السلامة الخاصة بالبنك الدولي و القوانين المصرية

5

مقدمة عامة | وصف المشروع | أهداف إطار الإدارة البيئية و الإجتماعية

ملخص التاثيرات السلبية البيئية والاجتماعية المتوقعة

أعمال تاهيل المستشفيات و المراكز الصحية (**التأثيرات الناتجة عن**):

- إدارة مخلفات الهدم (أو االتشطيبات)
- إدارة المخلفات والمواد الخطرة
- حرق المخلفات ، وإلقاء و التخلص من المخلفات ، وانبعاثات الهواء الناتجة من حرق المخلفات

- الأتربة والغبار والمركبات العضوية المتطايرة VOCs

- الضوضاء
- تزويد المعدات بالوقود في الموقع

6

ملخص التاثيرات السلبية البيئية والاجتماعية المتوقعة

التأثيرات المتعلقة بالصحة والسلامة المهنية

- التعامل مع الأسبستوس
- الأخطار الجسدية الناجمة عن مخلفات البناء و االتشطيبات

- الأخطار الجسدية الناجمة عن المعدات والمركبات
- خطر الحريق

- الانزلاق والسقوط والعمل على ارتفاعات
- التعامل اليدوي والرفع

- الصعق الكهربائي
- التعرض للمخاطر البيولوجية ن(العدوى)

مقدمة عامة | وصف المشروع | أهداف إطار الإدارة البيئية و الإجتماعية

ملخص التاثيرات السلبية البيئية والاجتماعية المتوقعة

التأثيرات البيئية و الصحية المتعلقة بالمخلفات الطبية

- العدوي للعاملين و المرضى
- تلوث التربة و الهواء والمياه السطحية الناتج عن التخلص و التعامل الغير امن مع المخلفات الطبية

ملخص التاثيرات السلبية البيئية والاجتماعية المتوقعة

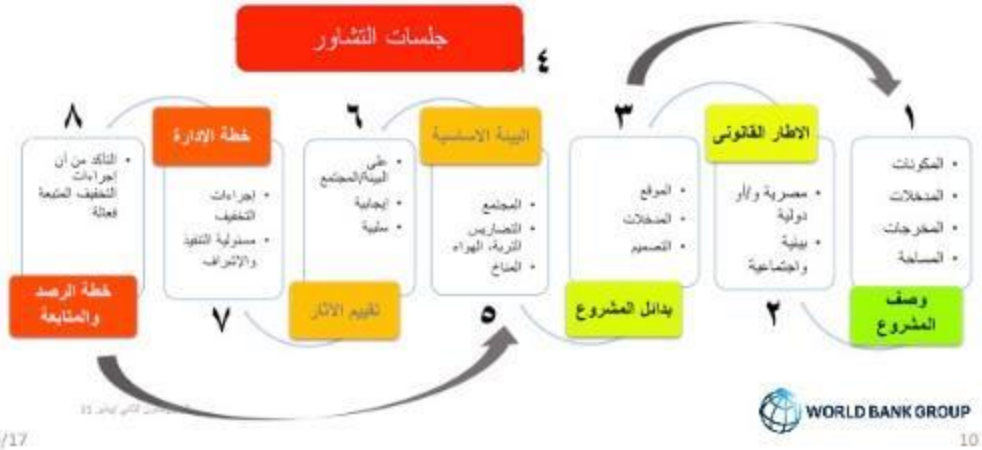
التأثيرات المتعلقة بصحة وسلامة المجتمع

- تدفق العمالة المؤقت
- حركة المرور وإمكانية الوصول
- العدوي

9

إطار الإدارة البيئية والاجتماعية و تقييم الأثر البيئي و الإجتماعي

مراحل تقييم الأثر البيئى والإجتماعى



4/30/17

10

الترتيب المؤسسى

تقوم وزارة الصحة (وحدة تنفيذ المشروع) بإعداد إطار الإداره البيئة والاجتماعية وتقوم بإدراج توصيات أصحاب المصلحة

تعتمد وزارة الصحة (وحدة تنفيذ المشروع) إطار الإداره البيئية والإجتماعية ويتم إدراج اجراءات الوقاية البيئية والإجتماعية في العقود

وزارة الصحة (وحدة تنفيذ المشروع) تقوم بإعداد الرسومات التفصيلية ووثائق المناقصة (شاملة اجراءات الوقاية البيئية والإجتماعية)

المقاولون يتقدمون بالعروض للمناقصات

وتقوم وزارة الصحة (وحدة تنفيذ المشروع و وحدات التنفيذ المحلية) برصد و متابعة تنفيذ المشروع، وتقديم تقارير عن الامتثال للاحكام البيئية والاجتماعية، وتقوم باصدار تصاريح المدفوعات للمقاول

القوانين والتشريعات المصرية

القانون 1994 / 4

- التقييم البيئي – دليل اسس واجراءات التقييم اللبيئي
- المواد والمخلفات الخطرة
- معايير جودة الهواء المحيط واشتراطات الانبعاثات
- معايير بيئة العمل
- معايير التصريف في البيئة البحرية
- معايير الضوضاء ومدد التعرض

القانون 1982 / 48

- معايير جودة المياه في نهر النيل والترع والمصارف والمياه الجوفية
- معايير التصريف الى هذه المسطحات المائية

القانون 1962 / 93

- اجراءات التوصيل بشبكات الصرف الصحي
- اشتراطات حماية شبكات الصرف الصحي
- معايير التصريف

13

مقدمة عامة | وصف المشروع | أهداف إطار الإدارة البيئية و الإجتماعية | الترتيب المؤسسي | الإطار القانوني و سياسات البنك الدولي

القوانين والتشريعات المصرية

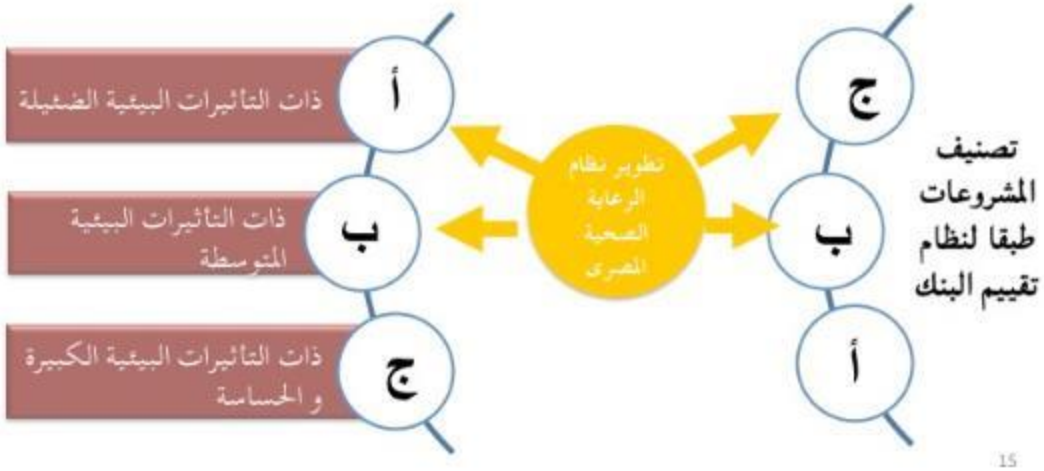
القانون 2003 / 12

- المخاطر الفزيائية والديناميكية والكيماوية والحيوية
- اشتراطات الحماية الشخصية
- معايير بيئة العمل
- مخاطر الحريق – كود هندسي

14

تصنيف المشروعات طبقا للقوانين المصرية و نظام تقييم البنك

- وفقاً لدليل أسس وإجراءات تقييم التأثير البيئي (الصادر من جهاز شئون البيئة عام ١٩٩٦، تم تصنيف المشروعات إلى ثلاثة فئات ليعكس مستوى دراسة تقييم التأثير البيئى المطلوبة وذلك وفقاً لدرجة التأثيرات البيئية المحتملة من المشروع



مقدمة عامة | وصف المشروع | أهداف إطار الإدارة البيئية و الإجتماعية | الترتيب المؤسسي | الإطار القانوني و سياسات البنك الدولي

السياسات و الاجراءات الوقائية البيئية و الإجتماعية لدى البنك الدولى

1. OP/BP 4.01 Environmental Assessment	التقييم البيئى
2. OP/BP 4.04 Natural Habitats	الموائل الطبيعية
3. OP 4.09 Pest Management	مكافحة الآفات
4. OP/BP 4.12 Involuntary Resettlement	إعادة التوطين القسرية
5. OP/BP 4.10 Indigenous Peoples	الشعوب الأصلية
6. OP/BP 4.11 Physical Cultural Resources	الممتلكات الحضارية
7. OP 7.50 Projects on International Waterways	الممرات المائية الدولية

كيفية الفحص و التقييم البيئي و الاجتماعى للمشاريع الفرعية

ويقترح إنشاء إطار منهجي بيئي من أجل الفحص المستمر، والتصنيف، والموافقة علي، ورصد و متابعة المشاريع الفرعية لبرنامج تطوير نظام الرعاية الصحية المصرى ويبين الشكل أدناه الإطار المنهجي المقترح.

١- فحص التأثيرات البيئية والاجتماعية المحتملة والتصنيف وفقا للمبادئ التوجيهية الوطنية وتوجيهات البنك الدولي

٢- مراجعة فحص الإجراءات الوقائية البيئية و الإجتماعية من قبل البنك الدولي

٣- إعداد مستندات الإجراءات الوقائية البيئية و الإجتماعية، والتشاور، والإعلان عن المشروع

٤- مراجعة و الموافقة علي أدوات الإجراءات الوقائية البيئية و الإجتماعية داخل الحكومة أو / و البنك الدولي

٥- تنفيذ الإجراءات المتفق عليها؛ مع الإشراف والرصد و المتابعة والتقييم

الفحص و التقييم البيئي و الاجتماعى

الفئة "ب" أو الفئة "ج" ؟

المرحلة٢ : فحص المشروع الفرعي بالنسبة للقائمة المرجعية الثانية من أجل تقييم التأثيرات البيئية والاجتماعية المحتملة، وتحديد الفئة البيئية وفقا لتصنيف البنك الدولي (ب أو ج) وتحديد الأدوات و المستندات المطلوبة.

المرحلة ١ : تحديد الفئة البيئية للمشروع الفرعي وفقا للقوانين المصرية.

الفحص و التقييم البيئي و الاجتماعى

الارشادات الخاصة باعداد خطط الادارة البيئية و الاجتماعية

الأدوار الرئيسية في خطة الإدارة البيئية والاجتماعية المقترحة هي:

- **المقاول المنفذ** هو المسؤول عن **تنفيذ تدابير التخفيف**
- وحدات تنفيذ المشروع مسؤولة عن تنفيذ **تدابير الرصد و المراقبة**

ينبغي إدراج الإحتياطات التالية كبنود تعاقدية بسبب مخاطرها وأثرها المحتمل:

- تدريب العامل على "قواعد الصحة والسلامة المهنية" و "خطة الإدارة البيئية والاجتماعية"
- توفير واستخدام معدات و مهمات الحماية الشخصية
- الإدارة السليمة للنفايات

الارشادات الخاصة باعداد خطط الادارة البيئية و الاجتماعية

كما سيتم تحديث آلية التعامل
مع الشكاوى القائمة و ادراجها
في أدوات خطة الإدارة البيئية
والاجتماعية.

مقدمة عامة | وصف المشروع | أهداف إطار الإدارة البيئية و الإجتماعية | الترتيب المؤسسي | الإطار القانوني و سياسات البنك الدولي | الإطار المنهجي للفحص و التقييم البيئي | إطار خطة الإدارة البيئية و الإجتماعية

الارشادات الخاصة باعداد خطط الادارة البيئية و الاجتماعية

بعد موافقة البنك الدولي على اطار عمل و خطة الإدارة البيئية والاجتماعية واعتمادها، ينبغي أن يخضع أصحاب المصلحة التاليون للتدريب على تطبيق إطار الإدارة البيئية والاجتماعية:

- الموظفون ذو الصلة في المحافظات والوزارات المعنية
- المنظمات الغير حكومية ذات الصلة
- أصحاب المصلحة الآخرون في المشروع

وتشمل موضوعات التدريب الآتي:

- الصحة والسلامة المهنية
- الإسعافات الأولية والاستجابة لحالات الطوارئ
- تنفيذ خطة الإدارة البيئية والاجتماعية
- تنفيذ خطة إدارة النفايات الطبية

تدابير التخفيف العامة وتنفيذ اعمال الاشراف و المتابعة و الرصد

التأثير	اجراءات التخفيف	اجراءات الرصد
مخلفات الهدم و البناء	• تعيين عاملين مختصين بادارة و جمع المخلفات • توفير وسائل / أماكن تخزين للمخلفات • التنسيق مع السلطة المحلية أو مقاولي نقل المخلفات المرخصين لنقل المخلفات للأماكن المصرح بها	• مراجعة يومية لأماكن التخزين • مراجعة أسبوعية للفواتير و إثباتات التخلص من المخلفات في الأماكن المصرح بها

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مقدمة عامة	وصف المشروع	أهداف إطار الإدارة البيئية و الإجتماعية	الترتيب المؤسسي	الإطار القانوني و سياسات البنك الدولي	الإطار المنهجي للفحص و التقييم البيئي	إطار خطة الإدارة البيئية و الإجتماعية	تدابير التخفيف

تدابير التخفيف العامة وتنفيذ اعمال الاشراف و المتابعة و الرصد

التأثير	اجراءات التخفيف	اجراءات الرصد
المخلفات و المواد الخطرة	• التحديد بوضوح أنواع المخلفات الخطرة أو المواد الخطرة وتصنيفها وضمان توفر صحائف بيانات سلامة المواد باللغة العربية • توفير وسائل الاتصال بالسلطات وخدمات الطوارئ في حالة وقوع حوادث أو انسكابات • ($) تدريب العاملين • ($) توفير معدات و مهمات الحماية الشخصية اللازمة للعمال المكلفين بإدارة النفايات والمواد الخطرة • ($) توفير مجموعات الإسعافات	• مراجعة يومية لأماكن التخزين • مراجعة يومية لمناطق تخزين المواد الكيميائية الخطرة • مراجعة أسبوعية للفواتير الخاصة بنقل و التخلص الآمن من المخلفات

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مقدمة عامة	وصف المشروع	أهداف إطار الإدارة البيئية و الإجتماعية	الترتيب المؤسسي	الإطار القانوني و سياسات البنك الدولي	الإطار المنهجي للفحص و التقييم البيئي	إطار خطة الإدارة البيئية و الإجتماعية	تدابير التخفيف

تدابير التخفيف العامة وتنفيذ اعمال الاشراف و المتابعة و الرصد

التأثير	اجراءات التخفيف	اجراءات الرصد
الضوضاء	• ($) توفير معدات الحماية الشخصية المناسبة للعمال المكلفين بالعمل في مستويات عالية من الضوضاء • التنسيق لجدولة الأشغال ذات الضوضاء العالية خلال الأوقات المناسبة وفترات الإجازات المؤسسية • إبلاغ المجتمع المحيط مسبقا بفترات الأعمال الصاخبة التي لا يمكن تجنبها	• مراجعة يومية لجدول الاعمال • مراجعة يومية للشكاوى الخاصة بالضوضاء • التاكد من توافر معدات الوقاية الشخصية واستخدامها

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تدابير التخفيف العامة وتنفيذ اعمال الاشراف و المتابعة و الرصد

التأثير	اجراءات التخفيف	اجراءات الرصد
الاتربة	($) توفير مهمات الحماية الشخصية المناسبة للعمال المكلفين بالعمل في مستويات عالية من الغبار و الاتربة – رش المياه للحد من الاتربة - – جدولة الأعمال المسببة للاتربة و الغبار في فترات الإجازات المؤسسية - إبلاغ المجتمع المحيط مسبقا بفترات الاعمال المسببة للاتربة و الغبار التي لا يمكن تجنبها	• مراجعة يومية لجدول الاعمال • مراجعة يومية للشكاوى الخاصة بالاتربة و الغبار • مراجعة توافر معدات الحماية الشخصية واستخدامها اثناء الاعمال المسببة للاتربة و الغبار

مقدمة عامة | وصف المشروع | أهداف إطار الإدارة البيئية و الإجتماعية | الترتيب المؤسسي | الإطار القانوني و سياسات البنك الدولي | الإطار المنهجي للفحص و التقييم البيئي | إطار خطة الإدارة البيئية و الإجتماعية | تدابير التخفيف

تدابير التخفيف العامة وتنفيذ اعمال الاشراف و المتابعة و الرصد

المواد العضوية المتطايرة	– ($) توفير معدات الحماية الشخصية المناسبة (ب) للعمال المكلفين بالطلاء المطول أو وظائف سفلتة الطرق – التنسيق مع إدارة المرافق لتجنب وظائف الطلاء خلال الاوقات الحساسة من تشغيل المنشأة – التنسيق مع إدارة المرافق لتهوية وظائف الطلاء في الاماكن الضيقة في المرفق – السعي لجدولة اعمال الطلاء في فترات الإجازات المؤسسية – إبلاغ مديري المرافق والمستخدمين لفترات من وظائف الطلاء لا مفر منه	– مراجعة شهرية من إيصالات شراء الطلاء – مراجعة شهرية من مسس الطلاء – مراجعة توافر معدات الوقاية الشخصية واستخدامها اثناء اعمال الطلاء المطولة

مقدمة عامة	وصف المشروع	أهداف إطار الإدارة البيئية و الإجتماعية	الترتيب المؤسسي	الإطار القانوني و سياسات البنك الدولي	الإطار المنهجي للفحص و التقييم البيئي	إطار خطة الإدارة البيئية و الإجتماعية	تدابير التخفيف

تدابير التخفيف العامة وتنفيذ اعمال الاشراف و المتابعة و الرصد

المواد العضوية المتطايرة	– ($) توفير معدات الحماية الشخصية المناسبة (ب) للعمال المكلفين بالطلاء المطول أو وظائف سفلتة الطرق – التنسيق مع إدارة المرافق لتجنب وظائف الطلاء خلال الأوقات الحساسة من تشغيل المنشأة – التنسيق مع إدارة المرافق لتهوية وظائف الطلاء في الأماكن الضيقة في المرفق – السعي لجدولة أعمال الطلاء في فترات الإجازات المؤسسية – إبلاغ مديري المرافق والمستخدمين لفترات من وظائف الطلاء لا مفر منه	– مراجعة شهرية من إيصالات شراء الطلاء – مراجعة شهرية من مسس الطلاء – مراجعة توافر معدات الوقاية الشخصية واستخدامها اثناء أعمال الطلاء المطولة

مقدمة عامة	وصف المشروع	أهداف إطار الإدارة البيئية و الإجتماعية	الترتيب المؤسسي	الإطار القانوني و سياسات البنك الدولي	الإطار المنهجي للفحص و التقييم البيئي	إطار خطة الإدارة البيئية و الإجتماعية	تدابير التخفيف

تدابير التخفيف العامة وتنفيذ اعمال الاشراف و المتابعة و الرصد

السلامة و الصحة المهنية مخاطر استخدام الآلات و المركبات	($) ضمان السائقين ومشغلي الآلات تخضع لفحص عشوائي الطبية والكشف عن المخدرات / الكحول – ($) تدريب العمال على سلامة تشغيل المعدات – ($) ضمان المعدات والآلات والمركبات المستخدمة في حالة صالحة للعمل – إنشاء مناطق الاستبعاد للحد من الوصول إلى المعدات وخطوط المناورة المركبة – تجنب سرعات السيارة أعلى من 20km / هر في مواقع المشروع	المراجعة الشهرية لتقارير اختبار السائق والمشغل – مراجعة شهرية لشهادات تدريب السائقين والمشغلين – مراجعة مناطق الاستبعاد – سجل الإصابات والشكاوى ذات الصلة

تدابير التخفيف العامة وتنفيذ اعمال الاشراف و المتابعة و الرصد

التاثيرات علي شبكة المرافق العامة	• التنسيق مع السلطات المحلية وسلطات الغاز الطبيعي والكهرباء قبل البدء فى الاعمال • تحديد مفصل للشبكات ووضع علامات على جميع خطوط المرافق قبل البدء فى أي أعمال حفر	مراجعة يومية لسجل الحوادث ذات الصلة والشكاوى
العمل بالقرب من الاماكن الاثرية و إمكانية العثورعلي آثار	• في حالة العمل بالقرب من المواقع الأثرية، يتم الحصول على الموافقة من هيئة الآثار • تقليل الاهتزازات وتجنب استخدام المعدات الثقيلة والآلات بالقرب من المناطق الأثرية في حالة العثور على قطعة اثرية:	– الحصول على التراخيص من قبل المجلس الأعلى للآثار – وجود عمال لحراسة الموقع حتى وصول سلطات الآثار في حالة العثور على اثر

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Annex 2: Environmental & Social Screening Criteria/Checklists

Objectives

1. Determine the WB environmental category for each sub-project and the WB instruments needed (ESIA/ESMP)
2. Identify the category of the sub-project according to national classification and type of National Instruments needed (EIA or scoped EIA).

In order to achieve the above, the screening process follows three stages:

- **Stage 1**: Identify the environmental category of the sub-project according to national classification. This determines the type of National Instruments needed (EIA or scoped EIA) and provides an early indication of the potential ES impacts of the project.

- **Stage 2:** Screen the sub-project against **Criteria/Checklist 1 – High Impact Checklist.** The objective of this Checklist, is to identify projects which would have highly significant and sensitive ES impacts (WB OP 4.01 Category A).

- **Stage 3:** Screen the sub-project against **Criteria/Checklist 2– Detailed Impact Assessment Checklist**, in order to assess the level of significance of potential ES impacts, determine the WB environmental category (B or C), and determine the WB instruments needed (ESMP).

Stage 1: Identify the Environmental Category according to the national classification (Country System)

Sub-project title	
Sub-project brief description	
The most relevant description/title/category of the project as described in EEAA project lists	
Sub-project environmental category (A-B-Scoped-C)	
Comments	

Stage 2: High Impact Checklist (to identify projects with high ES impacts)

If any of the answers to the questions below is **Yes**, then the sub-project would be classified as WB Category A and would require a full fledged ESIA.

Sub-project title:	
Sub-project brief description:	
Question	**Answer (Yes/No)**
Will the project:	
1. Cause sensitive (direct and or cumulative) impacts? Examples of Sensitive impacts are those, which may be irreversible, or those which raise issues related to natural habitats and or physical cultural resources.	
2. Cause diverse (direct and or cumulative) impacts? Diverse impacts are those impacting different media (air quality, water quality, noise level, risk to the community) at the same time.	
3. Cause unprecedented impacts? Unprecedented impacts are those, which have not been experienced before in the project's area of influence (i.e. those which occur for the first time in the area)	
4. Have an area of influence that significantly exceeds its footprint?	

Stage 3: Detailed Impact Assessment Checklist

For Eligible projects, apply the checklist below:

- If the answer is YES to any of the questions, then the project should be classified as Category B according to WB OP 4.01.
- If the answer is "No" to all questions, then the project should be classified as Category C according to WB OP 4.01.

Question		**Answer (Yes/No)**	Other categories affected
	Water (quality and resources)		
W1	Is the sub-project adjacent to waterways?		
W2	Will the sub-project generate solid waste?		
W3	Will the sub-project generate liquid waste?		
W4	Will the sub-project generate demolition waste?		
W5	Will the sub-project generate hazardous waste (grease, oil, empty paint containers, etc..)?		
W6	Will the sub-project consume an amount of potable water higher than $3m^3$/site/day		

Question		Answer (Yes/No)	Other categories affected
W7	Will the project cause interruption to water flows?		
	Air (Quality and Noise level)		
A1	Will the sub-project use of chemicals, agro-chemicals, corrosives, and solvents?		
A2	Will the sub-project use machinery?		
A3	Will the sub-project involve refurbishment works (marble, concrete, ceramics, wood, etc)?		
A4	Will the sub-project activities generate volatile Organic Compounds VOCs (paints, asphalt heating, preparation and application, etc)?		
A5	Will the sub-project involve major and/or minor demolition works?		
A6	Will the sub-project involve Asbestos management?		
A7	Will the sub-project involve the installation of air conditioning units/systems?		
A8	Will the sub-project involve waste burning?		
A9	Will the sub-project involve Generation of odors?		
	Soil (quality and erosion)		
S1	Will the sub-project cause soil erosion?		
S2	Will the sub-project cause topsoil loss?		
S3	Will the sub-project involve soil compaction?		
S4	Will the sub-project involve concrete foundations/impervious layers?		
S5	Will the sub-project involve equipment on-site fueling and storage?		
	Social impacts and community health & safety		
CHS1	Will the sub-project involve temporary labor influx (more than 20 workers)?		
CHS2	Will the sub-project cause traffic impacts and accessibility issues?		
CHS3	Could the sub-project cause utility damage?		
CHS4	Will the sub-project affect physical integrity of weak structures/houses adjacent to construction sites?		
	Occupational Health & Safety		

Question		Answer (Yes/No)	Other categories affected
OHS1	Will the sub-project involve potential physical hazards?		
OHS2	Will the sub-project involve fire hazards?		
OHS3	Will the sub-project involve slippage, falling & working at heights?		
OHS4	Will the sub-project involve manual handling and lifting?		
OHS5	Will the sub-project involve electrocution?		
OHS6	Will the sub-project involve excavation works?		
	Biodiversity		
BIO1	Will the sub-project involve works in rivers, canals, or drains?		
BIO2	Will the sub-project involve land disturbance or site clearance?		
	Physical Cultural Resources		
CR1	Is the sub-project located in the vicinity of a recognized PCR conservation area or heritage site?		
CR2	Does the sub-project involve significant excavations and/or movement of earth?		

Annex 3: Environmental and Social Management Plan (ESMP) Outline

Guidelines for a sub-project ESMP: An ESIA is needed for EA category B projects in order to identify the potential impacts and appropriate mitigation measures to be included in the ESMP.

Any sub-project ESMP would have the following format:

1. **Project Description**
2. **Description of Adverse Impacts:** The anticipated impacts are identified and summarized.
3. **Description of Mitigation Measures:** Each measure is described with reference to the effects it is intended to deal with. As needed, detailed plans, designs, equipment description, and operating procedures are described.
4. **Mitigation Indicators and Description of Monitoring Program:** Monitoring provides information on the occurrence of impacts. It helps identify how well mitigation measures are working, and where better mitigation may be needed. The monitoring program should identify what information will be collected, how, where and how often. It should also indicate at what level of effect there would be a need for further mitigation. How environmental impacts are monitored is discussed below.
5. **Monitoring methods:** Methods for monitoring the implementation of mitigation measures or environmental impacts should be as simple as possible, consistent with collecting useful information, so that the sub project implementer can apply them. For instance, they could just be regular observations of the sub project activities or sites during construction and then when in use. Are plant/equipment being maintained and damages repaired, does a water source look muddier/cloudier different than it should, if so, why and where is the potential source of contamination. Most observations of inappropriate behavior or adverse impacts should lead to common sense solutions. In some case, e.g. transgenic crops, there may be need to require investigation by a technically qualified person.
6. **Responsibilities:** The people, groups, or organizations that will carry out the mitigation and monitoring activities are defined, as well as to whom they report and are responsible. There may be a need to train people to carry out these responsibilities, and to provide them with equipment and supplies.
7. **Implementation Schedule:** The timing, frequency and duration of mitigation measure and monitoring are specified in an implementation schedule, and linked to the overall sub project schedule.
8. **Capacity Development and Training:** If necessary, the ESMP can recommend specific, targeted training for project staff, contractor, and community groups to ensure the implementation of environmental safeguards recommendations.
9. **Cost Estimates and Source of Funds:** These are specified for the mitigation and monitoring activities as a sub project is implemented.
10. **Integration:** The ESMP must be integrated into the sub-project's plan and design, budget, specifications, estimated costs, bid documents, and contract/agreements clauses.

Contract documents should only be finalized when site-specific ESMP recommendations are adequately and appropriately incorporated into the plan and design, cost estimates, specifications, and contract clauses.

Annex 4: Environmental & Social Management Plan (ESMP) Sub-project Monitoring

Sample Monitoring Checklist to be used by the Contractor and the Supervising Engineering Consultant (SEC) during construction phase Is included below.

		Monitoring requirments /Inspection items	Frequency* (Contractor/SEC)	Checklist response - Week .....- Month/Year							Evidence required
				Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	
1	Demolition and/or exavation waste	Please indicate the status of the waste container(s) , whether they are full, half full, or empty. Please provide photo evidence of the site.	Daily/weekly	Full	Full	Full	Full	Full	Full	Full	Three weekly Photos of different dates
		Please rate the cleanliness of the site from 1 to 3 (1 indicates " no acumulation" and 3 indicates " random accumlation across many areas of the site" . Please provide photo evidence of the site.	Daily/weekly	1	1	1	1	1	1	1	Three weekly Photos of different dates
		Did you obtain a proof for the waste collection ? Please keep receipt as record	Upon collection/weekly	✓	✓	✓	✓	✓	✓	✓	Record of collection receipt
		Is waste disposal proof checked and copy archived ? Please keep receipt as record	Upon disposal/weekly	×	×	×	×	×	×	×	Record of disposal receipt
2	Hazardous waste and materials management	Please indicate the status of the waste container(s) , whether they are full, half full, or empty. Please provide photo evidence of the site.	Daily/weekly	Full	Full	Full	Full	Full	Full	Full	Three weekly Photos of different dates
		Are there any uncontained or unproperly disposed hazardous wastes? Please provide photo evidence of the site.	Daily/weekly	✓	✓	✓	✓	✓	✓	✓	Three weekly Photos of different dates
		Please rate the cleanliness and organisation of hazardous chemicals' storage and containers of the site from 1 to 3 (1 indicates " Clean, organised and no acumulation" and 3 indicates " random accumlation across many areas of the site". Please provide photo evidence.	Daily/weekly	1	1	1	1	1	1	1	Three weekly Photos of different dates
		Did you obtain a proof for the waste collection ? Please keep receipt as record	Upon collection/weekly	✓	✓	✓	✓	✓	✓	✓	Record of collection receipt
		Is waste disposal proof checked and copy archived ? Please keep receipt as record	Upon disposal/weekly	✓	✓	✓	✓	✓	✓	✓	Record of disposal receipt
3	Noise	Does the work schedule comprises of machinary/equipment associated with high noise emissions (more than 70 dBA at source)?	Daily/weekly	–	–	–	–	–	–	–	
		Please indicate number of noise complaints received - Please update the Complaints Register/Record with the new complaints received	Daily/weekly								Record of complaints
		Is PPE made available ?	Daily/weekly	✓	✓	✓	✓	✓	✓	✓	
		Is PPE used during noisy conditions ?Please provide photo evidence of the site.	Daily/weekly	✓	✓	✓	✓	✓	✓	✓	Three weekly Photos of different dates
4	Dust	Does the work schedule comprises of machinary/equipment associated with high dust emissions ?	Daily/weekly	×	×	×	×	×	×	×	
		Please indicate number of dust complaints received- Please update the Complaints Register/Record with the new complaints received	Daily/weekly								Record of complaints
		Are dust wetting procedures are being applied ? Please provide photo evidence of the site.	Daily/weekly	✓	✓	✓	✓	✓	✓	✓	Three weekly Photos of different dates
		Is PPE made available ?	Daily/weekly	✓	✓	✓	✓	✓	✓	✓	
		Is PPE used during dusty conditions ? Please provide photo evidence of the site.	Daily/weekly	✓	✓	✓	✓	✓	✓	✓	Three weekly Photos of different dates
5	VOCs	Is the type of paint purchased from a reputable/known brand? Please keep receipt as record	monthly/monthly	–	–	–	–	–	–	–	Record of purchase receipt
		What is the amount of Paint purchased?Please keep receipt as record	monthly/monthly								Record of purchase receipt
		Do the types of paint purchased contain harmful chemcials (such as .....)? Please keep MSDS as a record	Daily/weekly	–	–	–	–	–	–	–	Record of MSDS
		Is PPE made available ?	Daily/weekly	×	×	×	×	×	×	×	
		Is PPE used during paint works? Please provide photo evidence of the site.	Daily/weekly	×	×	×	×	×	×	×	Three weekly Photos of different dates
6	Asbestos	is Asbestos waste being contained according to the Asbestos management plan ? Please provide photo evidence of the site.	Daily/weekly	×	×	×	×	×	×	×	Three weekly Photos of different dates
		Is PPE made available ?	Daily/weekly	×	×	×	×	×	×	×	
		Is PPE used during Asbestos exposure?Please provide photo evidence of the site.	Daily/weekly	×	×	×	×	×	×	×	Three weekly Photos of different dates
		Did you obtain a proof for the waste collection ? Please keep receipt as record	Upon collection/weekly	×	×	×	×	×	×	×	Record of collection receipt
		Is waste disposal proof checked and copy archived ? Please keep receipt as record	Upon disposal/weekly	×	×	×	×	×	×	×	Record of disposal receipt
7	Physical hazards from demolition waste, equipment and vehicles	Please indicate the number of injuries/incidents - Please update the Incident Log	Daily/weekly								Incident Log
		Please indicate the number of complaints received/incidents - Please update the Complaints Register with the new complaints received	Daily/weekly								Complaints Registe
		Driver and operator testing report checked? Please keep a copy of the testing reports	monthly/monthly	✓	✓	✓	✓	✓	✓	✓	Copy of the testing report
		Driver and operator training report checked? Please keep a copy of the training reports	monthly/monthly	✓	✓	✓	✓	✓	✓	✓	Copy of the training reports
		Have you reviewed and confirmed exclusion zones? Copy of the site layout indicating all exclusion zones	Daily/weekly	✓	✓	✓	✓	✓	✓	✓	Site layout with all exclusion zones
8	Fire hazards	Are the fire extinguishing instruments checked? Please complete relevant log	weekly/weekly	✓	✓	✓	✓	✓	✓	✓	
		Have you checked flammable material containers & storage ? Please provide photo evidence	weekly/weekly	✓	✓	✓	✓	✓	✓	✓	
		Please indicate number of injuries & incidents - Please update the Incident Log	Daily/weekly								
9	Other occupaional health & safety (Slippage and Falling - Working at heights - manual handling & lifting - electrocution - Exposure to biological hazards)	Is the approved occupational health and safety plan being applied ?	Daily/weekly	×	×	×	×	×	×	×	EHS approved plan and monitoring checklist
		Please indicate number of accidents and near-misses. Please keep an updated Log	Daily/weekly								Accident Log
10	Worker influx	Please indicate the number of complaints received/incidents - Please update the Complaints Register with the new complaints received	Daily/weekly								Complaints register
11	Traffic & accessibility	Please indicate the number of complaints received/incidents - Please update the Complaints Register with the new complaints received	Daily/weekly								Complaints register
12	waste burining	Was there any signs of ash and/or waste accumulations ? Please provide photo evidence of the site	weekly	✓	✓	✓	✓	✓	✓	✓	Photo evidence
		Please indicate the number of complaints received/incidents - Please update the Complaints Register with the new complaints received	Daily/weekly	×	✓	✓	✓	✓	×	×	Complaints register
13	Equipment on-site fueling	Was there any signs of spillage or fuel contamination ? Please provide photo evidence of the site	weekly	✓	✓	✓	✓	✓	✓	✓	Photo evidence
		Have you checked the integrety of the impervious layer for the onsite fueling activities ? Please provide photo evidence of the site	Daily/weekly	✓	✓	✓	✓	✓	✓	✓	
14	Untility damage	Please indicate the number of complaints received/incidents - Please update the Complaints Register with the new complaints received	Daily/weekly								Complaints register
15	Chance finds	Have you prohobited the use of equipment associated with high vibration close to the chance-find site? Please provide a copy of the proc	Daily/weekly	✓	✓	✓	✓	✓	✓	✓	Copy of the procedure
		Have you reviewed permitting procedures ? Please provide a copy of the permits	Daily/weekly	✓	✓	✓	✓	✓	✓	✓	Copy of the permits
		Has a guard been assigned to secure the chance-find area? Please provide a photo evidence of the site	Daily/weekly	✓	✓	✓	✓	✓	✓	✓	Photo evidence

* The Contractor is requested to seld-monitor the implmented mitigation measures on a daily/weekly/monthly basis
* The SEC is requested to inpect the implmented mitigation measures on a weekly/monthly basis
* The highlighted monitoring requirments fall under the responsibility of the SEC only (i.e. the contractors are not required to self-monitor these measures)

Annex 5: Key Environmental and Social Accreditation Standards

Potential Environmental and Social Impact	Primary health care - Mitigation Measures as included in the accreditation standards for hospitals
	Patient Rights and Responsibilities Policy and procedure defines the process for patients to make oral or anonymous written complaints or suggestions. Patients' complaints and concerns are addressed and resolved timely **General Patient Safety** There are Policies & Procedures related to patient's safety in the organization The patient's safety policy defines Egyptian and WHO Patient Safety recommendations and solutions that include at least the following: • The patient's safety policy defines Egyptian and WHO Patient Safety recommendations and solutions that include at least the following: • Accurate standardized patient identification in all service areas • Standardized process for dealing with verbal or telephone orders (Refer to standard MM.31) • Handling critical values/tests • Hand hygiene throughout the organization (Refer to standard IC.12.2) • Prevention of catheter and tubing mis-connections • Prevention of patient's risk of falling • Prevention of patient's risk of developing pressure ulcers • A standardized approach to hand over communications • The policy and procedure for handling critical values/tests includes al least the following: • List of the lab tests that have critical values/test results and the critical values/test results are defined for each test.

Potential Environmental and Social Impact	Primary health care - Mitigation Measures as included in the accreditation standards for hospitals
	• List of the radiology tests that have critical values/test results and the critical values/test results are defined for each test. • List of the clinical findings that have critical values results and the critical values are defined for each clinical finding • Process of communication of the critical values/test results including the timing of reporting • The organization and staff are educated regarding the Egyptian and WHO Patient Safety recommendations and solutions In addition to hospital policy. • The patient safety standards and solutions are posted in all applicable areas. • At least two (2) ways are used to identify a patient when giving medicines, blood, or blood products; taking blood samples and other specimens for clinical testing; or providing any other treatments or procedures. • Current published and generally accepted hand hygiene guidelines; laws and regulations are implemented to prevent healthcare-associated infections. • Single use injection devices are discarded after one time use to prevent healthcare-associated infections. • A process for taking verbal or telephone orders and for the reporting of critical test results, that requires a verification by write down and "read-back" of the complete order or test result by the person receiving the information is implemented (Refer to standards IM.20 and IM.21). • Systems are implemented to prevent catheter and tubing misconnections. • Each patient's risk of falling, including the potential risk associated with the patient's medication regimen is assessed and periodically reassessed. • Action is taken to decrease or eliminate any identified risks of falling. • Each patient's risk of developing pressure ulcers is assessed and documented. • Action is taken to decrease or eliminate any identified risks of developing pressure ulcers. • Preventive maintenance and testing of critical alarm systems is implemented and documented. • Alarms are tested and activated with appropriate settings and are sufficiently audible with respect to distances

Potential Environmental and Social Impact	Primary health care - Mitigation Measures as included in the accreditation standards for hospitals
	and competing noise within the unit. • A standardized approach to hand over communications, including an opportunity to ask and respond to questions is implemented. **Medication Management Safety** Policy & Procedures For Medication Management Safety include at least the following: • Abbreviations not to be used throughout the organization (Refer to standard PS.21) • Documentation and communication of patient's current medications & discharge medication • Labeling of medications, medication containers and other solutions • Prevent errors from high risk medications • Prevent errors from look-alike, sound-alike medications The Policy to prevent errors from high-risk medications defines: • The list of high risk medications including concentrated electrolytes • Labeling and storage of high risk medications • Dispensing and preparation of the high risk medications • Frequency of reviewing and updating of the list The Policy to prevent errors from look-alike, sound-alike medications defines the following: • The list of look-alike, sound-alike medications, • Labeling and storage of look-alike, sound-alike medication • Dispensing and preparation of the look-alike, sound-alike medication • Frequency of reviewing and updating of the list Abbreviations not to be used throughout the organization are: o U/ IU o Q.D., QD, q. d. qd

Potential Environmental and Social Impact	Primary health care - Mitigation Measures as included in the accreditation standards for hospitals
	○ Q.O.D., QOD, q. o. d., qod MS, MSO4 ○ MgSO4 ○ Trailing zero No leading zero ○ Dose x frequency x duration • Look-alike and sound-alike medications are identified, stored and dispensed to assure that risk is minimized • Concentrated electrolytes; including, but not limited to, potassium chloride (2 meq/L or greater concentration), potassium phosphate, sodium chloride (>0.9% concentration), magnesium sulfate (50% or greater concentration) and concentrated medications are removed from all patient care areas, whenever possible. • Concentrated medications not removed are segregated from other medications with additional warnings to remind staff to dilute before use • All medications, medication containers (e.g., syringes, medicine cups, basins), or other solutions on and off the sterile field in peri-operative and other procedural settings are labeled. • A process is implemented to obtain and document a complete list of the patient's current medications upon admission to the organization and with the involvement of the patient. • A complete list of the patient's medications to be taken after discharge is provided to the patient. • The discharge medication list is communicated to the next provider of service when the patient is referred or transferred outside the organization. - **Operative and Invasive Procedure Safety** <u>Policy & Procedures for operative and invasive procedures safety includes at least the following</u>: • Accurate documented patient identification preoperatively, and just before surgery (time out) • Process for verification of all documents and equipment's needed for surgery or invasive procedures preoperatively

Potential Environmental and Social Impact	Primary health care - Mitigation Measures as included in the accreditation standards for hospitals
	• Marking of site of surgery preoperative • Verification of accurate counting of sponges, needles and instruments pre and post procedure • A process or checklist is developed and used to verify that all documents and equipment needed for surgery or invasive procedures are on hand, correct and functioning properly before the start of the surgical or invasive procedure. • There is a documented process of accurate pt identification preoperatively and just before starting a surgical or invasive procedure (time out), to ensure the correct patient, procedure, and body part • The precise site where the surgery or invasive procedure will be performed is clearly marked by the physician with the involvement of the patient. • There is a documented process to verify an accurate accounting of sponges, needles and instruments pre and post procedure. - **Infection Control, Surveillance and Prevention** - **Program Plan and Management** - • A qualified physician and a qualified nurse jointly oversee the infection control activities of the organization/ hospital. • There is a continuous program to reduce the risks of organization-acquired infections that describes the scope, objectives, expectations, and surveillance methods. • The infection control program covers patients, staff, and visitors. • The infection control program is based on current scientific knowledge, accepted practice guidelines, and applicable laws and regulations. • All areas of the organization are included in the infection control program. • The infection control program is evaluated, updated at least annually, and more frequently as needed, and reported to the governing board at least annually. • There is an established functioning infection control committee that meets at least monthly. • All relevant disciplines are represented on the infection control committee. There are clear terms of reference for the infection control committee that include the following:

Potential Environmental and Social Impact	Primary health care - Mitigation Measures as included in the accreditation standards for hospitals
	• Coordination of infection control activities • Development, implementation, monitoring and revision and updates to the infection control program • Approval of all relevant infection control polices and procedures. • Selecting, approving and monitoring of the surveillance activities • Reviewing, aggregating, and analyzing infection control data • Taking or recommending action (including education) when infection prevention and control issues are identified • Reviewing the effectiveness of the actions taken • The organization identifies those procedures and processes associated with increased risk of infection. • There are infection control policies and procedures that describe infection control practices <u>IC Policies and procedures that describe infection control practices include at least the following</u>: • Selection and uses of antiseptics and disinfectants • Hand hygiene and washing techniques • All cleaning activities, including environment, equipment, supplies, furniture, etc. • Types of isolation with standard precautions (contact, droplet and airborne) • Precautions for Immune-compromised patients • Precautions for Hemorrhagic patients • Handling and disposal of sharps/needles and bio-hazardous materials • Identification and management of organization-acquired infections. • Reporting of patients with suspected communicable diseases as required by law and regulation (Refer to standard IC.42) • Management and reporting of outbreaks of infections (Refer to standard ES.27) • Antiseptics and disinfectants are available and used correctly when required as per policy • Gloves, gowns, masks, soap, and washing detergents are available and used correctly when required. • Hand hygiene, washing techniques are used correctly in the organization • All cleaning activities are implemented as per policy • Policies and procedures of Identification and management of organization- acquired infections are

Potential Environmental and Social Impact	Primary health care - Mitigation Measures as included in the accreditation standards for hospitals
	implemented • IC precautions for immune-compromised and hemorrhagic patients are implemented • Handling and disposal of sharps/needles and bio-hazardous materials follow the policy • Isolation and standard precautions are implemented as per policy • National guidelines for the care of infectious patients are followed when there is no isolation room available. • Approved policies and procedures are disseminated to all departments, and relevant staff is educated and trained regarding infection prevention and control process. • Infection control policies and procedures are reviewed and updated by the infection control committee at least every three years, and more frequently as needed. - **Sterilization** • The organization has a central sterilization processing and supply department or defined area. • The functions of cleaning, processing, and sterile storage and distribution are physically separated. • In all areas where instruments are cleaned there must be airflow that prevents cross-contamination and prevents contaminated material from exiting the area • There is at least one functioning sterilizer. • There is documented evidence that complete sterilization has been accomplished. • There is a procedure that guides each sterilization technique or device used, and includes the manufacturer's recommendations. <u>Policy and procedure describes the processes of sterilization including at least the following</u>: • Receiving and cleaning of used items and disinfection. • Preparation, processing and labeling of sterile packs • Storage of sterile supplies • Inventory levels • Expiration dates for sterilized items • Use of emergency flash sterilization • Policies and procedures are uniformly applied implemented, and monitored for compliance. • There is a policy and procedure for reprocessing guided by the laws and regulations and manufacturers

Potential Environmental and Social Impact	Primary health care - Mitigation Measures as included in the accreditation standards for hospitals
	requirements • Emergency flash sterilization policy and procedure is implemented • Reprocessing follows law and regulations and hospital policy. • Quality control processes are implemented using indicators as recommended by the manufacturer. • Results of sterilizer quality control tests are reported to the infection control committee at least quarterly. **Laundry and Linen** <u>Policy and procedure defines laundry and linen services and includes at least the following</u>: • Collection and storage of contaminated linen, including linens with bio- hazardous contamination and exposure • Cleaning of contaminated linen, including linens with bio-hazardous contamination and exposure • Storage and distribution of clean linen • Quality control program, including water temperatures • Policy and procedure for laundry and linen services are approved by the infection control committee. • Laundry and linen policy and procedures are monitored and implemented. • Contaminated linen is covered and is separated from clean linen. • There is at least one functioning washing machine. **Surveillance and Monitoring** • The organization has an infection control surveillance policy and procedure which includes all areas of the organization (Refer to standards IC.2) • The Infection Control surveillance and data collection policy has been implemented, and results are disseminated to the organization staff. • The surveillance data of organization acquired infections and the effectiveness of the program, are regularly aggregated and analyzed by the infection control committee. • Results of the surveillance program are reported at a minimum quarterly to the • Infection Control Committee and to the Leadership • The results are disseminated to practitioners, departments or units and, the quality committee when relevant, are utilized by them for improving the quality of care.

Potential Environmental and Social Impact	Primary health care - Mitigation Measures as included in the accreditation standards for hospitals
	• Results of the surveillance activities analysis are compared with internal and external benchmarks, if available. • All communicable diseases are reported to the appropriate agencies as required by law and regulation. • Organization acquired infection resulting in an adverse outcome of a patient or employee, is thoroughly investigated utilizing a process of intense analysis. - - **Facility and Environmental Safety** - **Planning and Implementation Activities** - • The organization follows laws, regulations, and facility inspection requirements that relate to management of the physical environment. • A designated qualified individual has responsibility for oversight of the facility maintenance and environmental safety. • An interdisciplinary Environment of Care committee has responsibility for monitoring and assuring compliance with facility requirements. • The Environment of Care committee meets at least monthly. • The Environment of Care committee has an ongoing process for addressing and resolving identified environment of care risks and issues. • Interior spaces, furnishings and equipment are appropriate to the care, treatment, and services provided, and appropriate to the age and specific characteristics of the patients. • The organization has a documented, current, and accurate inspection of the physical facilities. • Services are physically accessible for patients and families including the elderly and physically challenged. • Interdisciplinary hazardous surveillance rounds are conducted in patient care areas no less than twice a year and in non-clinical areas no less than annually. • Identified risks and hazards are eliminated when possible. • Clinical and diagnostic services have adequate space according to the requirements of law and regulation and scope of services provided.

Potential Environmental and Social Impact	Primary health care - Mitigation Measures as included in the accreditation standards for hospitals
	The physical location of the emergency room must support at least the following: • Designated access for ambulance, car, and walk-in patients • Signage both within and outside the organization that provide clear directions • A designated registration area • A designated triage area - - - **Safety and Security** • There is a safety and security plan that addresses the objectives, scope, performance, and effectiveness. • The safety and security plan includes monitoring of at least one performance improvement activity regarding actual or potential risk(s). • There are measures to protect against infant/child abduction and to protect patients, visitors, and staff from harm, including assault. • All organization staff can be identified at all times. • Individuals without identification are investigated. • Remote or isolated areas of the facility are monitored. • Action is taken to correct identified deficiencies in safety and security. • The safety and security plan is monitored with collection, aggregation, and analysis of data to identify areas for improvement. • Results of the identified PI activity, monitoring and analysis of the safety and security plan are submitted to Leadership at least every 12 months. • The safety and security plan is evaluated annually and updated as needed - **Emergency/Disaster Management** • There is an emergency/disaster management plan for internal and external emergencies that addresses the objectives, scope, performance, and effectiveness. • The emergency/disaster management plan includes monitoring of at least one performance improvement

Potential Environmental and Social Impact	Primary health care - Mitigation Measures as included in the accreditation standards for hospitals
	activity per year regarding actual or potential risk(s). • The plan for response to emergencies/disasters includes a personnel recall system; alternate care sites, if needed; and alternate sources of medical supplies, utilities, and communication. • The organization has tested the internal emergency/disaster plan at least annually. • There is an emergency/disaster management plan to respond to likely community emergencies, epidemics, natural or other disasters. • The plan for response to external emergencies/disasters is developed according to government guidelines relating to the responsibility of the organization in the event of an external emergency. • The organization participates in community-wide disaster planning at least annually, and this is documented and evaluated, with the data used for ongoing improvements. • The emergency/disaster management plan is monitored with collection, aggregation, and analysis of data to identify areas for improvement. • Results of the identified PI activity, monitoring and analysis of the emergency/disaster management plan are submitted to leadership at least once every 12 months. • The emergency/disaster management plan is evaluated annually and updated as needed. - - **Hazardous Materials and Waste** - <u>There is a hazardous materials and waste management plan for the use, handling, storage, and disposal of hazardous materials and waste that addresses at least the following</u>: • Safety and security requirements for handling and storage • Requirements for personal protective equipment • Procedures and interventions to take following spills and accidental contact or exposures • Disposal in accordance with applicable laws and regulation • Labeling of hazardous materials and waste • Monitoring data on incidents to allow corrective action • The hazardous materials and waste plan addresses the objectives, scope, performance, and effectiveness.

Potential Environmental and Social Impact	Primary health care - Mitigation Measures as included in the accreditation standards for hospitals
	• The hazardous materials and waste plan includes monitoring of at least one performance improvement activity per year regarding actual or potential risk(s). • There is current inventory of the types and locations of hazardous materials and waste including the interventions to take in the case of a splash or spill (material safety data sheets) • The hazardous materials and waste management plan is implemented. • The hazardous materials and waste management plan is monitored with collection, aggregation, and analysis of data to identify risk and areas for improvement. • Results of the identified PI activity, monitoring and analysis of the hazardous materials and waste management plan are submitted to Leadership at least every 12 months. • The hazardous materials and waste management plan is evaluated annually and updated as needed. **Fire Safety** There is a fire and smoke safety plan that addresses prevention, early detection, response, and safe exit when required by fire or other emergencies that addresses at least the following: • Frequency of inspecting fire detection and suppression systems, including documentation of the inspections • Maintenance and testing of fire protection and abatement systems in all areas • Documentation requirements for staff training in fire response and evacuation • The assessment of fire risks when construction is present in or adjacent to the facility • The fire safety plan addresses the objectives, scope, performance, and effectiveness. • The fire safety plan includes monitoring of at least one performance improvement activity annually regarding actual or potential risk(s). • Fire drills are conducted at least quarterly in different clinical areas and different shifts, including at least one unannounced annually. • The facility evacuation plan is tested annually. • The fire and smoke safety plan is implemented with documentation of all inspections, maintenance, testing, and training.

Potential Environmental and Social Impact	Primary health care - Mitigation Measures as included in the accreditation standards for hospitals
	• The law prohibiting smoking in the organization is enforced. • The fire and smoke safety plan is monitored with collection, aggregation, and analysis of data to identify risks and areas for improvement. • Results of the identified PI activity, monitoring and analysis of the fire and smoke safety plan are submitted to Leadership at least every 12 months. • The fire and smoke safety plan is evaluated annually and updated as needed. **Medical Equipment** <u>There is a plan for selecting, inspecting, maintaining, testing, and safe usage of medical equipment that addresses at least the following:</u> • Inventory of all medical equipment • Schedule for inspection and preventive maintenance according to manufacturer's recommendations and frequency of repair and breakdown • Testing of all new equipment before use and repeat testing, as part of the preventive maintenance • Testing of alarm systems including clinical alarm • Qualified individuals who can provide these services • Data monitoring for frequency of repair or equipment failure • Ensure only trained and competent people handle specialized equipment. • The medical equipment plan addresses the objectives, scope, performance, and effectiveness. • The medical equipment plan includes monitoring of at least one performance improvement activity annually regarding actual or potential risk(s). • There is a current list of all equipment in the organization. • All diagnostic equipment is calibrated, and maintenance records are maintained. • Water and machinery used in chronic renal dialysis are tested regularly as per manufacturer recommendations and hospital policy.

Potential Environmental and Social Impact	Primary health care - Mitigation Measures as included in the accreditation standards for hospitals
	• Temperature control for all refrigerators and freezers meet requirements of law and regulation, hospital policy and manufacturer recommendations for safe and appropriate storage of products stored in the refrigerators and freezers. • Policy and procedure defines the monitoring of refrigerators and freezers Available in the organization. • There is documented evidence of appropriate temperature storage for all refrigerators and freezers if used, but no less than every 24 hours. • Alarm system(s) are tested minimally at the frequency recommended by the manufacturer. • The medical equipment plan is monitored with collection, aggregation, and analysis of data to identify risks and areas for improvement. • Results of the identified PI activity, monitoring and analysis of the medical equipment plan are submitted to Leadership at least every 12 months. • The medical equipment plan is evaluated annually and updated as needed. **Utility Systems** There is a plan for regular inspection, maintenance, testing and repair of essential utilities. <u>The plan for regular inspection, maintenance, testing and repair of essential utilities addresses at least the following:</u> • Electricity, including stand-by generators • Water • Heating, ventilation, and air conditioning, including air flow in negative and positive pressure rooms, appropriate temperature, humidity, and eliminates odors • Medical gases • Communications systems • Waste disposal • Regular inspections • Regular testing • Regularly scheduled maintenance • Correction of identified risks and deficiencies • The utility systems plan addresses the objectives, scope, performance, and effectiveness.

Potential Environmental and Social Impact	Primary health care - Mitigation Measures as included in the accreditation standards for hospitals
	• The utility systems plan includes monitoring of at least one performance improvement activity per year regarding actual or potential risk(s). • The utility systems plan is implemented. • The utility systems plan is monitored with collection, aggregation, and analysis of data to identify risks and areas for improvement. • Results of the identified PI activity, monitoring and analysis of the utility systems plan are submitted to Leadership at least every 12 months. • The utility systems plan is evaluated annually and updated as needed.
Community Identification	The primary care Facility has defined the geographic region or community it will serve. The primary care Facility has data and information of the population for which it will provide services. There is a process in place to identify and update the health problems/needs of the Facility's community. The primary care Facility has identified its mission and scope of services based on community needs. The primary care center has identified sources of hospital care available within the community or a nearby community or region The primary care center has identified sources of transportation necessary to transfer patients to hospital or other facility. The primary care Facility has made contact with available hospitals and transportation sources and has developed a process for the efficient referral of patients. Complaints and suggestions from the community and external customers are addressed and efforts are made to resolve the issues.

Community Participation	The primary care unit/center includes community participants in its board or relevant committees. Community representatives and the facility work collaboratively to identify community health needs/problems and seek solutions. Community representatives and the facility work collaboratively to identify community health education needs and to provide education to the community as needed.
Health Education	The PHC unit/center has a health education program covering different local community strata that identify: • Heath education needs • Target groups for health education • Methods of health education • Health messages • Health educators and supportive groups • Time tables • Evaluation tools Health education needs have been identified based on health problems in the catchment area of the nit/center. The health education messages enhance healthy life styles that may include (according to community priorities): • Smoking cessation • Body fitness • Reproductive and sexual health • Addiction and drug abuse • Weight reduction • Promotion of breast feeding • Home accidents Personnel involved in health education are trained The Health education program is announced to the local community There is a designated education location with appropriate teaching tools inside (or outside) the organization for health education activities.

	The health education program is implemented and: • Covers all target groups • Responds to health education needs and problems • Be conducted inside and outside the organization The unit/center uses education materials that are in an Understandable language/symbols for target audiences
Safe Water Supply and Basic Environmental Sanitation	There is a qualified person responsible for environmental sanitation and safe water supply. Water samples, bacteriology and chemically, are collected periodically from public places and managed according to MOH and/or WHO recommendations. Water analysis reports are documented and reviewed by the manager of the center/unit. In case of positive water analysis results; appropriate actions are taken in collaboration with relevant sectors. Environmental Health problems in the catchment area of the center/unit are identified and managed in collaboration with relevant sectors.
Individual Rights and Responsibilities	There is a policy to define patient rights The Policy and procedure defines at least the following patient rights: • Rights as defined by laws and regulations • Right to access care if provided by the facility • Right to know the name of the treating, supervising and/or • responsible physician • Right to care that respects the patient's personal values and • beliefs • Right to be informed and participate in decisions relating to their • care

	• Right to security, personal privacy, confidentiality and dignity • Right to have pain assessed and treated • Right to make a complaint or suggestion without fear of • retribution • Right to know the price of services and procedures Patients are informed of their rights in a manner and language they can understand. Patients' rights are made visible to patients and staff. Patient's dignity, privacy and confidentiality are protected during all assessments, care and treatments.
General Patient Safety	There are Policies & Procedures related to patient's safety in the organization. The patient's safety policy define Egyptian and WHO Patient Safety recommendations and solutions that include at least the following: • Accurate standardized Patient Identification in all service areas • Standardized process for dealing with verbal or telephone orders • handling critical values/tests • Hand hygiene Throughout the organization • Prevention of patient's risk for falling The staffs are educated regarding the Egyptian and applicable WHO Patient Safety recommendations and solutions and the facility policy. At least two (2) defined and standardized ways are used to identify a patient when giving medicines, taking specimens for clinical testing; or providing any other treatments or procedures. MOH and/or WHO hand hygiene guidelines, laws and regulations are implemented to prevent health care-

	associated infections. Single use injection devices are discarded after one time use to prevent health care-associated infections. Process for taking verbal or telephone orders and for the reporting of critical test results, that requires a verification "read-back" of the complete order or test result by the person receiving the information is implemented. Each patient's risk for falling, including the potential risk associated with the patient's medication regimen is assessed during initial assessment and periodically reassessed according to the policy. Patient and his family are informed about actions to be taken to decrease or eliminate any identified risks for falling.
Invasive Procedure Safety	A process or checklist is developed and used to verify that all documents and equipment needed for invasive procedures are on hand, correct and functioning properly before beginning. There is a documented process just before starting an invasive procedure, to ensure the correct patient, procedure, and body part
Infection Control, Surveillance and Prevention Program Plan and Management	A qualified physician and/or a qualified nurse jointly oversee the infection control activities. There is a continuous program to reduce the risks of health care acquired infections that includes patients, staff, and accompanying persons. The infection control program is based on current scientific knowledge, accepted practice guidelines, and applicable laws and regulations. All areas of the facility are included in the infection control plan. The facility has identified those procedures and processes associated with increased risk of infection.

	Policy and procedure describes infection control practices and include at least the following: • Selection and uses of antiseptics and disinfectants • Hand washing techniques • All cleaning activities • Handling and disposal of sharps/needles and hazardous materials • Identification and management of health care-acquired infections. • Infection control monitoring and data collection and analysis • Reporting of patients with suspected communicable diseases as required by law and regulation • Management of outbreaks of infections inside and outside unit/center Gloves, gowns, masks, soap, disinfectants and washing detergents are available and used correctly when required. Hand washing and disinfecting procedures are used correctly throughout the facility House keeping and cleaning policy are implemented Approved policies and procedures are disseminated to all departments. Infection control policies and procedures are implemented. Infection control policies and procedures are reviewed and updated at least every two years Sterilization The facility has a designated sterilization area. The functions of cleaning, processing, and sterile storage and distribution are physically separated. There is at least one functioning sterilizer/autoclave/oven. There is documented evidence that sterilization has been accomplished.

	Policy and procedure guides each sterilization technique or device used, and includes the manufacturer's recommendations. Policy and procedure describes the processes including at least the following: • Receiving and cleaning of used items and disinfection. • Preparation and processing of sterile packs • Storage of sterile supplies • Inventory levels • Expiration dates for sterilized items Quality control processes are implemented using indicators as recommended by the manufacturer. Results of sterilizer quality control tests are reported to the appropriate committee at least quarterly. Policy and procedures are uniformly applied and implemented.
Laundry and Linen	Policy and procedure defines laundry and linen services and includes at least the following: • Collection and storage of contaminated linen • Cleaning of contaminated linen • Storage and distribution of clean linen • Quality control program, including water temperatures Policy and procedure for laundry are approved. Laundry and linen policy and procedures are implemented. Contaminated linen is covered and separated from clean linen. There is at least one functioning, full automatic, washing machine.
Monitoring	There is a mechanism for interdisciplinary Monitoring of infection control activities.

	Monitoring of the infection control activities is conducted at least quarterly documented and reported to an appropriate committee and leadership. The results are disseminated to whom relevant and utilized for improving the quality of care. Health care-acquired infections resulting in an adverse outcome of a patient or employee are thoroughly investigated utilizing a process of intense analysis.
Facility and Environmental Safety Planning and Implementation Activities	The facility follows laws, regulations, and facility inspection requirements that relate to management of the physical environment. A designated individual has responsibility for oversight of the facility maintenance and environmental safety. There is a mechanism for interdisciplinary review of environment of care activities. The facility structure/building and its surrounding grounds are suitable for services provided to patients Interior spaces, furnishings and equipment are appropriate to the care, treatment, and services provided, and appropriate to the age and specific characteristics of the patients. Services are physically accessible for patients and families including the elderly and physically challenged. The physical location of the emergency room must support at least the following: • Designated access(es) for ambulance, car, and walk-in patient • Clear signage both within and outside the facility that provide clear • directions • A designated registration area • A designated triage area • A telephone line/communication is available in the facility to contact the ambulance system
Safety and	

Security	There is a safety and security plan that addresses the objectives, scope, performance, and effectiveness. All facility staff can be identified at all times. Remote or isolated areas of the facility are monitored. Emergency/Disaster Management There is an emergency/disaster management plan for internal and external emergencies The plan for response to emergencies/disasters includes a personnel recall system; alternate care sites, if needed; and alternate sources of medical supplies, utilities, and communication. The facility has tested the internal emergency/disaster management plan at least annually.
Hazardous Materials and Waste	There is a hazardous materials and waste management plan for the use, handling, storage, and disposal of hazardous materials and waste that addresses at least the following: • Safety and security requirements for handling and storage • Requirements for personal protective equipment • Procedures and intervention following spills and accidental contact or exposures • Disposal in accordance with applicable laws and regulation • Labeling of hazardous materials and waste • Monitoring data on incidents to allow corrective action There is current inventory of the types and locations of hazardous materials and waste. The hazardous materials and waste management plan is implemented.
Occupational and Employee Health	The employee health program has a designated person to manage the program. The facility has an employee health program that is provided for all employees.

	The employee health program conforms to laws and regulations. The facility has completed and documented an occupational hazard/risk assessment. Action is taken on identified hazards, including needle sticks to decrease risk. Policy and procedure defines the extent and frequency of the employee health and physical assessment, testing, actions to be taken including the reporting of occupational hazards for staff. Periodic medical examination of employees is done and documented in their file. When screening results or investigations are positive, action is taken as per policy and the employee is made aware of these results and provided with counseling and intervention as might be needed. There is a process for communication between responsible personnel for Infection Control and Employee Health.