

---

# MERSIN INTEGRATED HEALTH CAMPUS PROJECT



## ENVIRONMENTAL AND SOCIAL MANAGEMENT AND MONITORING PLAN



---

NOVEMBER 2014  
ANKARA



## Table of Contents

1	General ESMMP Background .....	3
2	Measures of the Project Company .....	4
2.1	Organizational Set-up .....	5
2.2	Contractor Management Plan.....	6
2.3	Environmental and Social Management System .....	8
2.4	Annual ESMMP Performance Monitoring and Reporting .....	9
2.5	Communication and Grievance Procedure .....	10
3	Specific Mitigation Actions .....	11
3.1	Environmental Management and Monitoring Matrix .....	13
3.2	Social Management and Monitoring Matrix.....	21

## 1 General ESMMP Background

The Environmental and Social Management and Monitoring Plan (ESMMP) for the ESIA of this Project summarizes the organization requirements, actions and monitoring plans that must be carried out by the Project Company, or the Mersin Entegre Sağlık Hizmetleri Yatırım ve İşletme A.Ş., in order to comprise three goals. The aforementioned goals are as follows:

1. To prevent negative impacts from occurring,
2. To minimize the residual impacts to levels which are acceptable in terms of the environment, health, safety (EHS) and society, in the case that preventing negative impacts is impossible, and
3. To operate in conformance with Turkish legislation as well as the policies of the financial lenders, namely the EBRD and thus also the IFC.

The measures that are specifically outlined in this ESMMP are based upon the information gathered regarding the baseline conditions of the Project Site and the impact assessments that were described in the main text of the ESIA report. Additionally, discussions with stakeholders and the Project Company were taken into consideration while defining these measures.

An ESMMP is an all-inclusive strategy which takes into consideration the entire life-cycle of the Project. It is flexible, possessing the ability to evolve in scope and depth as needed during the two key stages of the project. These two stages include:

- Construction, and
- Operation.

An ESMMP is a well-rounded document, including operational policies, procedures and practices. The Project Company holds the ultimate responsibility for its implementation, yet many of the smaller actions will be carried out by third-party contractors. In order to ensure that these actions comply with this ESMMP, the Project Company will supervise the third-party contractors.

This ESMMP has drawn upon international standards and guidelines including the Performance Standards of the IFC, the Equator Principles and the Performance Requirements of the EBRD. These include, but are not limited to the following:

*From the Equator Principles:*

- Principle 4: Environmental and Social Management System and Equator Principles Action Plan.
- Principle 6: Grievance Mechanism
- Principle 9: Independent Monitoring and Reporting

*From the IFC's Performance Standards:*

- Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts
- Performance Standard 2: Labor and Working Conditions
- Performance Standard 3: Resource Efficiency and Pollution Prevention
- Performance Standard 4: Community Health, Safety, and Security

*From the EBRD's Performance Requirements:*

- Performance Requirement 1: Environmental and Social Appraisal and Management
- Performance Requirement 2: Labor and Working Conditions
- Performance Requirement 3: Pollution Prevention and Abatement
- Performance Requirement 4: Community Health, Safety and Security
- Performance Requirement 10: Information Disclosure and Stakeholder Engagement

## 2 Measures of the Project Company

Measures are to be taken by the Project Company throughout the entire life-span of the Project in order to ensure that the ESMMP is complied with. The measures that are to be taken have been broken down into four different categories: namely, organizational set-up, contractor management plan, annual ESMMP Performance Monitoring and Reporting and Communication and Grievance Procedure.

In order to determine whether the aforementioned measures are being taken and are generating effective responses, several key performance indicators have been established. All key performance indicators have been chosen according to the SMART Principle, where they are specific, measurable, available/attainable, relevant and timely.

These measures and their key performance indicators have been detailed in the sections that follow herein.

## 2.1 Organizational Set-up

During the construction phase, the Project Company will have the overall responsibility for environmental and social compliance, and will act as the coordinating body among its sub-contractors. In this regard, an **Environmental and Social Management System (ESMS)** will be established by the Project Company for the construction phase. The ESMS will include a Health, Safety and Environment (HSE) plan comprising the following aspects:

- HSE Scope
- HSE Policy
- HSE organization chart which will include an HSE Executive, HSE Chief and an HSE Engineer
- Safety Regulations
- Security Responsibilities (Site Entry Procedure, Restrictions, Exit Procedures, etc.)
- Accident and Incident Response and Reporting
- Site Layout Plan with Muster Points
- Material Handling and Storage
- Storage of Hazardous Waste
- Plan for Training and Toolbox talks
- Personal Protective Equipment (PPE)
- Fire Prevention
- Fall Protection
- Emergency Preparedness and Response Plan
- Vehicle Use and Maintenance Plan
- Archaeological Chance-find Procedure

During the operational phase, there will be a dual management system responsible for the proceedings of the health campus, in which the duties will be broken down into two separate main components. The MoH will be responsible for the assignment and management of doctors and nurses, while two companies under the Project Company (or the SPV) will be in charge of providing human resources. These companies, as described in the main report, are the General Services Company and the Clinical Support Services Company. The health campus manager will be assigned by the MoH.

The SPV will establish an **ESMS** for operational activities. In the ESMS, a director will be assigned by the SPV. In addition, each sub-contractor for support services, such as catering, cleaning, security etc., will have their own ES Manager. The ES Director of the SPV will prepare general guidelines for the implementation of the ESMS in compliance with this ESMMP. The ES manager of each sub-contractor will then prepare their own plans which are specific to their activities, and submit them to the ES Directorate for approval. The ES Directorate will act as a coordinating body among all ES managers in the health campus. Having a dual role with the SPV, the MoH will have the responsibility for managing certain social aspects of the Project such as doctors' and nurses' labor rights and patients' rights.

### Key Performance Indicators for Organizational Set-Up:

1. Zero or a low number of accidents and/or incidents reported over the course of each reporting period with mitigation measures being taken for each that did occur and, from the lessons which are learned from the occurrence of the aforementioned, with prevention measures being taken to stop their re-occurrence.
2. Confirmation of in-house training work-shops of Project employees with respect to social and environmental awareness as well as ESMMP implementation on a regular basis, with particular attention being paid to new employees.
3. Zero or low number of infractions handed down by the Mersin Provincial Directorate of the Ministry of Urbanization and Environment after each monitoring visit, followed by immediate action by the Project Company to mitigate these infractions and prevent future ones.

The Project Company will also prepare, implement and update where necessary, a **Contractor Management Plan**, which has been discussed in detail in the section that follows.

## 2.2 Contractor Management Plan

The Project Company will, at all times, retain the ultimate responsibility for the Project and implementation of the ESMMP. However, it is unable to complete all necessary actions without engaging various contractors. Contractors will be present during both the construction phase and the operational phase with various magnitudes of responsibility, yet the one with the greatest will be the Engineering, Procurement and Construction (EPC) Contractor during the Construction Stage. A Contractor Management Plan must be executed by the Project Company in order to

make certain that Contractors are fully aware and compliant with the specifics of the ESMMP. They must be as committed as the Project Company to implementing the ESMMP successfully.

**The main components of the Contractor Management Plan will include the following:**

- Assignment and designation of those responsible for the implementation of the Contractor Management Plan from the senior managers of the Project Company.
- Training sessions and awareness promotion activities for those in positions in the Project Company's Contracting/Procurement Department, focusing on the requirements of the ESMMP.
- The specific relevant ESMMP provisions (including requirements regarding occupational health and safety) will be included in the tender documents as appropriate.
- The bidding contractors' ability to fulfill the ESMMP requirements (i.e. sufficient skills and experience) will be examined as a main criterion and employed when awarding tenders.
- Each and every contract that is made will incorporate requirements regarding the relevant environmental and social risks and ESMMP requirements which are associated with the contract activities. Furthermore, they will incorporate non-compliance solutions and mitigation measures when deemed appropriate. Additionally, all contracts will stipulate that all sub-contractors will be held accountable to obligations which are similar to those of the main contractor.
- The contractor will be required to ensure that all staff members are trained and skilled in the appropriate EHS topics and that all activities are completed in accordance with both the Turkish EHS legislation and the international best practices (such as the IFC Performance Standard 2 on Labor and Working Conditions).
- The contractor will be required to demonstrate the skills, qualifications and/or working experience of his staff and subcontractors to the Supervisor (of the Project Company). The construction workforce and sub-contractors will receive comprehensive H&S training at the beginning of their

assignment, and then on a regular basis thereafter throughout the entire period of construction. Furthermore, special safety instruction will be given to those in the workforce who are temporary or young.

- In the event that international firms are contracted and significant numbers of foreign workers will be involved in the Project, special attention will be given to ensure that not only all Turkish labor laws and regulations are followed, but international ones as well. (e.g. the International Labor Organization (ILO) core labor standards such those regarding child labor, working hours, overtime compensation, etc).
- It is the duty of the Project Company to routinely monitor the performance of the contractors with respect to their fulfillment of the ESMMP obligations.

#### **Key Performance Indicators for Contractor Management:**

- Publication on the Project website of the delegation of roles and responsibilities within the Contractor Management Team (can be integrated with actions regarding Organizational Capacity)
- Written confirmation of in-house training sessions for Contract-Procurement specialists regarding ESMMP implementation.
- Written examples of tender specifics and contracts with specific reference to and requirements for ESMMP topics.
- Inclusion of contractor ESMMP performance in the ESMMP Audits
- Regular reports of in-house training workshops, accidents and mediation measures taken, lessons learned and updates to the ESMS on the Project website.

### **2.3 Environmental and Social Management System**

The Project Company will establish an **Environmental and Social Management System (ESMS)** for both the construction and operational activities. A director will be assigned by the Project Company to head the ESMS. In addition, construction sub-contractors and sub-contractors for support services such as catering, cleaning, security etc. will have their own ESMS Manager. The ESMS Director of the Project Company will prepare general guidelines for the implementation of the ESMS in compliance with this ESMMP. The ESMS manager of each sub-contractor will then prepare their own plans which are specific to their activities, and submit them to the



ESMS Directorate for approval. The ESMS Directorate will act as a coordinating body among all ESMS managers in the health campus. Having a dual role with the Project Company, the MoH will have the responsibility for managing certain social aspects of the Project such as doctors' and nurses' labor rights and patients' rights.

The following site-specific sub-plans will be prepared in the context of the ESMS. These plans will be living documents, and will be updated as necessary. The aforementioned include, but will not be necessarily limited to the following:

- Contractors monitoring and management,
- Emergency preparedness and response plan (including fire and life safety plan),
- Hazardous material storage plan,
- Air Quality management plan,
- Noise management plan,
- Spill response plan,
- Construction waste management plan (only for the construction phase),
- Archaeological chance find procedure (only for the construction phase),
- Traffic management plan,
- Waste management plan,
- Medical waste management plan (only for the operation phase),
- Occupational health and safety,
- Security plan,
- Waste management plan, and a
- Human resources and labor management plan.

#### **2.4 Annual ESMMP Performance Monitoring and Reporting**

The Project is considered as a “Category A” Project, and thus the Project Company is obliged to retain qualified specialists and to undertake periodic monitoring/audits throughout the period of investor involvement with the Project. Based upon previous project experience, an initial ESMMP Audit should take place within six months of the start of each new Project Stage (Planning, Construction, Operation & Maintenance, Decommissioning), and based on the results, the subsequent audit schedule can be agreed upon. However, it must be ensured that if in the case that any of the aforementioned Project Stages last longer than a year that an ESMMP Audit is conducted at least annually.

The ESMMP Audit results must be documented and forwarded for review to the senior responsible persons at the Project Company and the investor. Also, in accordance with IFC policy regarding Information Disclosure, the Audit results must be disclosed to the relevant parties/stakeholders affected by the ESMMP.

The ESMMP Audit Reports shall cover the status of EHS-related aspects like permits, status of compliance with obligations arising from such licenses or permits, non-compliance with regulatory environmental standards with root cause analysis, corrective measures, as well as conformance with the ESMMP. The Audits must address the performance of both the Project Company and any Contractors or Subcontractors. Depending on the findings, it may be necessary to revise the original ESMMP to better reflect the changing situation with the Project implementation, and/or the social, environmental or regulatory framework conditions.

**Key Performance Indicators for ESMMP Monitoring:**

- Engagement of a qualified external expert to undertake the initial and periodic ESMMP Audits.
- Submission to the investor of the initial ESMMP Audit Report will occur after about six months from the ESIA Report finalization, after which point the submission of (at least) annual ESMMP Audit Reports and its distribution to affected stakeholders. (e.g. by publication on the Project Company Project web-site)

## 2.5 Communication and Grievance Procedure

The Project Company will develop and implement a Public Communication Program to provide ongoing information to the affected Stakeholders and general public about the key relevant environmental and social aspects throughout the future Project execution (including both the construction and operational stages). This Program will build upon the Stakeholder engagement process and Stakeholder Engagement Plan (SEP) already established as part of this ESIA Report. The basis for this Program will be outlined on the Project Company Project website, supplemented with the use of mass media, bulletins, brochures, emails, direct mailings and other communication forms to reach the affected Stakeholders. The main actions of the Public Communication Program can be described as follows:

Of particular relevance will be the timely and appropriate provision of information to the local settlements and land users prior to and during the local construction activities (whether directly by the Project Company and/or through the Construction Contractors).

At a minimum, the Project Company will provide information on an annual basis to the local neighborhoods to keep them updated on the Project schedule and when, where and which activities are planned.

This provision of information will be coupled with the availability to the Stakeholders of the Grievance Procedure, as already begun to be implemented as part of the ESIA process (as described in the SEP).

The Grievance Procedure provides Stakeholders with a way to formally register any complaints/ grievances to the Project Company about any part of the process of the Project's implementation (incl. construction and operation).

The Grievance Procedure will be updated as appropriate during the course of the Project and subsequent operational stage. The Construction Contractor will also be required to implement a "Quick Response" procedure to react as efficiently and directly as possible to urgent Stakeholder concerns in the field; without necessarily having to first go through the formal grievance process with the Project Company. However, no matter whether a grievance is alleviated through a "Quick Response" procedure or through the more formal grievance procedures, each grievance solution must be addressed with a follow-up procedure to ensure that all issues regarding the grievance have been resolved.

Should the need arise, the Project Company will consider the establishment of a conflict resolution "committee" (comprising representatives of the Project Company and other persons as appropriate) for the management of complex grievance issues. The intent of the Grievance Procedures and the conflict resolution committee will be to quickly and effectively respond to Stakeholder and public concerns on a direct basis, thus avoiding the need for escalation of the issue which could have the issue brought to administrative-judicial bodies.

The Project Company will maintain a log of grievances received and the manner in which the issues have been handled, including the follow-up measures taken.

### **3 Specific Mitigation Actions**

The specific recommended mitigation measures for each Stage of the Project are given in the Environmental Management and Monitoring Matrix presented in Section 3.1 herein. For each item the following information is provided:

- Key activities/aspects (which result in a potential impact),
- Potential significant impacts of the activities (negative impact, unless stated otherwise),

- Recommended avoidance/mitigation measures, including a qualitative indication of implementation timing, where applicable,
- Key Performance Indicators (to show/confirm the mitigation measures are implemented), and
- The extent of any residual impacts (even if the avoidance/mitigation measures are implemented as planned).

Each of the described measures is based on the information gathered in the Baseline Assessment and the evaluation of impacts described in previous chapters.

In addition to the Environmental Management and Monitoring Matrix, a social management and monitoring matrix presents the key performance indicators, means of verification, mitigation and management measures and responsible parties for social issues faced throughout the Project lifetime. The Social Management and Monitoring Matrix is given in Section 3.2 herein.

### 3.1 Environmental Management and Monitoring Matrix

Activity/Aspect	Potential Impact	Mitigation / Management	Responsibility / Implementation	Monitoring Performance Indicators	Key Residual Impacts
<b>Construction Stage</b>					
Site preparation and excavation  Motor vehicles  Construction machinery	Dust and gaseous pollutants	<p>Inner roads and areas where trucks move including excavated and leveled areas shall be watered under warm, dry and windy weather conditions. Material shall be loaded and unloaded without excessive sluing. Furthermore, 30 km/hour speed limits shall be set on non-paved roads. The tops of trucks will be covered while carrying the excavation materials from the project area to the area of final disposal.</p> <p>Exhaust emissions of the heavy machinery shall regularly be measured, controlled and recorded by authorized institutions.</p> <p>The necessary permits must be taken from the Local Environmental Committee if 24-hour work is required.</p>	ENGINEERING PROCUREMENT CONTRACTOR	<p>Site observation and measurements with a PM<sub>10</sub> device:</p> <p>Quarterly measurements after the initiation of construction activities and during the activities that increase dust formation at the closest sensitive receptors, i.e. TOKI Housing and the nearest house in Korukent Mahalle (Measurements should be performed more frequently in the case of complaints from the public.</p>	In spite of the mitigation measures, low level dust and gaseous pollutants are expected, especially around service roads.
Concrete batching	Dust	<p>Pollution prevention measures pertaining to the concrete batching plant will be employed. These include the following:</p> <ul style="list-style-type: none"> <li>- All aggregate that is to be used in the concrete batching plant will be stored in stockpiles within three-walled, covered bunkers which must extend at least two feet above the top of the unload line.</li> </ul>	ENGINEERING PROCUREMENT CONTRACTOR	<p>Site observation and measurements with a PM<sub>10</sub> device:</p> <p>Quarterly measurements after the initiation of construction activities and during the activities that increase dust formation at the closest sensitive receptors, i.e. TOKI Housing and the nearest house in Korukent Mahalle (Measurements should be performed more frequently in the case of complaints from the public.</p>	

## Environmental and Social Management and Monitoring Plan

Activity/Aspect	Potential Impact	Mitigation / Management	Responsibility / Implementation	Monitoring Performance Indicators	Key Residual Impacts
Concrete batching	Dust	<ul style="list-style-type: none"> <li>- All equipment, especially dust/particulate collection equipment, will be maintained according to manufacturer's recommendations.</li> <li>- A totally enclosed system will be employed for the loading, unloading, handling, transfer or storage of all dusty materials.</li> <li>- A log will be kept on-site detailing the routine maintenance performed.</li> <li>- All free falling transfer points will be enclosed and dust suppression materials will be applied at these locations.</li> <li>- All airborne dust emissions generated by material loading/mixing operations will be vented to fabric filtering systems.</li> <li>- Dust tarps and other dust prevention materials will be used to prevent the escape of dusty materials from the loading bay.</li> <li>- All vehicles will be rinsed as they exit the concrete batching area.</li> <li>- The site will be swept regularly to remove dust buildup.</li> <li>- All spills and deposits of materials on</li> </ul>	ENGINEERING PROCUREMENT CONTRACTOR	<p>Site observation and measurements with a PM<sub>10</sub> device:</p> <p>Quarterly measurements after the initiation of construction activities and during the activities that increase dust formation at the closest sensitive receptors, i.e. TOKI Housing and the nearest house in Korukent Mahalle (Measurements should be performed more frequently in the case of complaints from the public.</p>	

## Environmental and Social Management and Monitoring Plan

Activity/Aspect	Potential Impact	Mitigation / Management	Responsibility / Implementation	Monitoring Performance Indicators	Key Residual Impacts
Concrete batching	Dust	<p>the ground will be cleaned up immediately.</p> <ul style="list-style-type: none"> <li>- Dry clean-up methods will be employed whenever practical (sweeping, dust collection, vacuum, wiping, etc.)</li> <li>- Staff and drivers will be instructed never to dump any materials in open areas, but only in designated covered areas.</li> <li>- With regard to fabric filters, the pressure drop, visual conditions of exhaust material and the incidents of filter media failure/replacement shall be recorded on a weekly basis in a maintenance log book.</li> <li>- Where it is not practical to pave a site, a number of alternatives will be employed such as vegetative barriers, the application of a thin layer of high quality pavement over the road surface and chemical suppressant products and water sprays.</li> <li>- Dust preventative barriers or vegetative buffers that are to be used should be at least 12 feet high along roads and other traffic/work areas within buffer zones that are specified.</li> </ul>	ENGINEERING PROCUREMENT CONTRACTOR	<p>Site observation and measurements with a PM<sub>10</sub> device:</p> <p>Quarterly measurements after the initiation of construction activities and during the activities that increase dust formation at the closest sensitive receptors, i.e. TOKI Housing and the nearest house in Korukent Mahalle (Measurements should be performed more frequently in the case of complaints from the public.</p>	

## Environmental and Social Management and Monitoring Plan

Activity/Aspect	Potential Impact	Mitigation / Management	Responsibility / Implementation	Monitoring Performance Indicators	Key Residual Impacts
Concrete batching	Dust	<ul style="list-style-type: none"> <li>- Aggregate material will be received in a damp condition.</li> <li>- All storage silos will be vented to a fabric, bag-house or cartridge filter system. These filter systems will be regularly monitored to determine when cleaning/replacement is necessary and in order to identify tears or leaks.</li> <li>- Audible and visual high-level alarms will be installed on all storage silos in order to avoid overfilling and possible filter damage.</li> <li>- The silo conveying systems will be totally enclosed.</li> <li>- Sufficient lighting will be provided near the cement and/or fly ash silo filter exhausts to observe visible emissions performance during fills that occurred during non-daylight hours.</li> </ul>	ENGINEERING PROCUREMENT CONTRACTOR	<p>Site observation and measurements with a PM<sub>10</sub> device:</p> <p>Quarterly measurements after the initiation of construction activities and during the activities that increase dust formation at the closest sensitive receptors, i.e. TOKI Housing and the nearest house in Korukent Mahalle (Measurements should be performed more frequently in the case of complaints from the public.</p>	
Handling and discharge of wastewater resulting from personnel, concrete batching and other construction activities (wash water)	Soil and groundwater contamination	<p>Wastewater will be discharged into the city sewer system [connection to the sewer system has been made in coordination with MESKI (the Mersin Water and Sewerage Authority).</p> <p>The wastewater from the concrete batching plant will be recycled within the system itself.</p>	ENGINEERING PROCUREMENT CONTRACTOR  SUBCONTRACTOR- DOGA BETON	<p>Visual observations of spills and stains on the surface of the ground.</p> <p>Environmental accidents log</p>	



## Environmental and Social Management and Monitoring Plan

Activity/Aspect	Potential Impact	Mitigation / Management	Responsibility / Implementation	Monitoring Performance Indicators	Key Residual Impacts
Storage and handling of fuels and chemicals  Handling of solid waste and hazardous waste	Soil and groundwater contamination	Proper temporary storage of hazardous waste in plastic containers placed on sealed concrete paved ground with secondary containment against leaks and spills from hazardous waste (in compliance with Hazardous Wastes Control Regulation, Waste Oil Control Regulation, Regulation on Control of Used Batteries and Accumulators).  Safety conditions maintained for storage of chemicals.		Waste Declaration Forms  National Waste Transportation Forms	
Earthworks	Vegetative top soil and excavation soil to be handled may become contaminated or lost	Vegetative top soil will be stripped prior to excavation works and will be stored in the construction site away from the other excavations to be used in landscaping.  Some portion of the excavated materials will be stored on the construction site to be used in construction activities. The remaining part will be transported and stored in storage sites determined by the Project Company in coordination with the Municipality after the necessary permits have been obtained. The excavated materials will be carried by trucks which have the necessary licenses.	ENGINEERING PROCUREMENT CONTRACTOR	Site observation and document review regarding whether or not the disposal area is approved by the PROJECT COMPANY and that the methods are approved on a daily basis.	
Earthworks (excavation and drilling) and construction activities  On-site and off-site	Nuisance of noise and vibration on nearby settlements	Possible receptors that may be subject to a temporary disturbance will be informed.  Heavy machinery will be maintained regularly.  Construction works will continue during	ENGINEERING PROCUREMENT CONTRACTOR	Noise measurement with a calibrated sound level meter are to be performed quarterly at the closest sensitive receptors, i.e. TOKI Housing and the nearest house in Korukent Mahalle, with particular attention to be paid to	

## Environmental and Social Management and Monitoring Plan

Activity/Aspect	Potential Impact	Mitigation / Management	Responsibility / Implementation	Monitoring Performance Indicators	Key Residual Impacts
traffic		evening and nighttime upon permission from the Local Environmental Commission through the Provincial Directorate of Environmental and Urban Planning (PDoEUP).		conducting them during activities that increase noise levels (measurements should be performed more frequently depending on the complaint of the public).	
Transportation of construction materials into the site and excavated materials out of the site.	Nuisance of increased traffic	<p>Drivers of the vehicles carrying materials to the construction site will obey a speed limit of 30 km/hour.</p> <p>There will be notice boards on the roads to warn inhabitants of the trucks.</p> <p>The construction site will be closed to public access.</p> <p>A traffic management plan has been created. It shall be followed at all times and updated when the need arises.</p>	ENGINEERING PROCUREMENT CONTRACTOR	Continuous visual monitoring.	
Ecology	Habitat loss and disturbance to fauna	<p>Landscaping with native species</p> <p>Monitoring of birds movements in April and October and wild life in June</p>	PROJECT COMPANY	Not applicable	Not applicable
<b>Operation Stage</b>					
Trigeneration plant	NO <sub>x</sub> and other emissions	Necessary precautions (e.g., Low-NO <sub>x</sub> burners) will be taken for minimization of NO <sub>x</sub> .	PROJECT COMPANY	<p>A monitoring station under the Ministry of Environment and Urbanization are operational for hourly monitoring of NO<sub>x</sub>.</p> <p>Stack gas emissions will be monitored in intervals set in the pertinent regulation, and an</p>	Not applicable.

## Environmental and Social Management and Monitoring Plan

Activity/Aspect	Potential Impact	Mitigation / Management	Responsibility / Implementation	Monitoring Performance Indicators	Key Residual Impacts
				Emission Report will be prepared. Environmental Permit <sup>1</sup> for the trigeneration plant will be renewed as necessary.	
Wastewater generation	Increased wastewater load on existing city sewerage network	Domestic wastewater and hospital wastewater, including body excreta and microbial waste, will be generated, and discharged to the municipal network. Rehabilitation of the sewer lines beneath the Site will be maintained if necessary.	PROJECT COMPANY	Not applicable.	Not applicable.
Solid waste handling and storage	Nuisance of insects and bad odor	Proper handling of solid waste in compliance with waste legislation and best practices (household waste stored in plastic containers, covered on the top, collected by the Municipality on daily basis	PROJECT COMPANY	Visual inspections and audits will be performed at temporary storage areas if any and final disposal sites.	Not applicable.
Hazardous waste handling	Soil and groundwater contamination	Hazardous wastes will be handled in compliance with the Hazardous Wastes Control Regulation, Waste Oil Control Regulation, Regulation on Control of Used Batteries and Accumulators (i.e., disposal of these wastes to a proper landfill or collected by a company certified by the MoEU for collection and disposal).	PROJECT COMPANY	Keeping copies of documents related to waste transportation  Environmental accidents log  Waste Declaration Forms  National Waste Transportation Forms	Not applicable.
Medical waste handling		Medical waste will be collected and stored separately in special containers which are designated by law. This waste will be			

<sup>1</sup> Environmental Permit will include the subjects “(air) emissions” and “noise control”.

## Environmental and Social Management and Monitoring Plan

Activity/Aspect	Potential Impact	Mitigation / Management	Responsibility / Implementation	Monitoring Performance Indicators	Key Residual Impacts
		stored separately from other waste and shall be transferred by a professional sub-contracted waste collector to the sterilization plant.			
Tri-generation Plant	Noise and vibration	Indoor isolation will be maintained for minimizing noise and vibration.	PROJECT COMPANY	Environmental Permit shall include noise control as well. Necessary noise measurements will be conducted and an acoustic report shall be prepared for application for permit.	Not applicable.
Transportation of staff, patients, visitors, contractor and subcontractors	Traffic congestion in nearby roads	<p>Planning of access/egress routes for emergency vehicles.</p> <p>Traffic management plans will be implemented and updated regularly as site demands change.</p>	PROJECT COMPANY	Grievances from visitors and staff.	

### 3.2 Social Management and Monitoring Matrix

Potential Impact	Activity/Aspect	Monitoring Performance Indicators	Mitigation/ Management	Responsibility / Implementation	Phase (Construction/Operation)
<b>Population/Demography</b>					
1) Out-migration of PAPs due to economic displacement of nomads	Grievances about displacement Consultation with PAPs.	Grievances database	Policy should be produced in consultation with PAPs by socio-cultural expert	MIHCP HR Manager	C+O
2) Out-migration of nomads	Consultation with nomads	Consultation records	Special assistance during the economic and physical displacement. With the participation of Ministry of Culture, Ministry of food, agriculture and livestock and the Municipality. SPV will monitor the progress and ensure that the nomads are properly managed.	Toroslar Municipality	Before Construction
2) MIHCP workers may be perceived as a threat to parish security and/or culture/privacy.	Grievances about workers' code of conduct	Grievance database	MIHCP Employee Induction and Training Plan with socio-cultural training and code of conduct for workers. <b>Effective Public Consultation:</b> Good Neighbour Policy should be produced in consultation with PAPs by socio-cultural expert	MIHCP HR & Communication Managers Social Scientist	C+O

## Environmental and Social Management and Monitoring Plan

Potential Impact	Activity/Aspect	Monitoring Performance Indicators	Mitigation/ Management	Responsibility / Implementation	Phase (Construction/Operation)
3) In-migration of workers may be perceived as an economic opportunity.	Increased sales of local goods. Buy Local' initiative communicated through MIHCP employee induction programme.	Employee Induction & Training Plan Induction records	Inclusion of 'Buy Local' initiative in MIHCP Business Ethics Policy/Good Neighbour' Policy. Marketing support training for PAPs (Regional Education & Training institutions). Effective Public Consultation to manage expectations	MIHCP HR Manager with Regional Education & Training institutions and Communications Manager	C+O
4) Special workers in the MIHCP may be perceived by some PAPs in order to take their help for the community to learn new skills and enable cultural exchange.	Increase of skills amongst local workers. Target numbers for on-the-job mentoring and apprenticeships for MIHCP & Contractor.	Employee Induction & Training Plan. Training Records.	Apprentice schemes and on-the-job mentoring systems as part of Employee Induction & Training Plan MIHCP to consider cultural exchange scheme	MIHCP HR Manager, Communications Manager with Regional Educators	C+O
5) Workers Camp may be perceived as an opportunity or threat by different parishes.	Workers camp will be located so as to minimise disruption to PAPs and maximise knock-on economic benefits (whilst being effective for Campus Construction). Consultation with Mahalles about location.	Consultation records. Grievance Register.	<b>Effective Public Consultation:</b> Consultations with Korukent Mahalle regarding expectations of camp location nearby with associated expected benefits.	MIHCP Construction & Communication Managers	C

Potential Impact	Activity/Aspect	Monitoring Performance Indicators	Mitigation/ Management	Responsibility / Implementation	Phase (Construction/Operation)
<b>Social Services and Infrastructure</b>					
6) <b>Roads:</b> Concern about traffic, with busier, faster roads.	Project and Contractor drivers should be familiar with transport rules Road warning signs All drivers should be familiar with transport rules and safety risks.  Furthermore, the traffic management plan will be implemented.	Education records Health Records Spot checks Grievance Record	Traffic Management Plan <b>Effective Public Consultation and Disclosure:</b> Road signs in key areas warning drivers and driver training (Regional Highways & Education Authorities).	MIHCP Communication and, HSS&E Construction Managers Regional Highways & Education	C+O
7) <b>Health - Accident Risk:</b> Construction activities and vehicles may be seen as potential danger.	The traffic management plan will be enforced.	Education Authority Grievance database CLO records Emergency preparedness plan	Safeguards/security around construction	MIHCP Communication and HSS&E Construction Managers with Education Authority	C+O
8) <b>Health provision:</b> PAPs will be beneficiaries of	Improving health service for PAPs	MIHCP Health records	<b>Effective Public Consultation</b> to manage expectation of improved access to health services	MIHC	O

## Environmental and Social Management and Monitoring Plan

Potential Impact	Activity/Aspect	Monitoring Performance Indicators	Mitigation/ Management	Responsibility / Implementation	Phase (Construction/Operation)
MIHC.		Corporate Social Responsibility Strategy  Public Consultation			
<b>Wealth, Economy, Livelihoods and Employment</b>					
9) <b>Wealth &amp; Regional economy:</b> Influential stakeholders in Toroslar may expect economic regeneration with a positive cycle of employment, investment, infrastructure development with longer-term improvements	Improving Regional economy  Increasing training by Regional providers	Regional Government	The MIHCP development is to be included in a broader economic regeneration programme for the Wider Project Area (Regional Govt.) To include the MIHCP employment & other stakeholder initiatives.	The MIHCP with the Regional Government	C+O
10) <b>Wealth &amp; Regional economy:</b> Stakeholders have concerns of negative downward spiral: increases in unemployment, outmigration.	As above	As above	Regional Government to consider an economic regeneration programme for the Wider Project Area.	MIHCP with Regional Govt.	C+O



## Environmental and Social Management and Monitoring Plan

Potential Impact	Activity/Aspect	Monitoring Performance Indicators	Mitigation/ Management	Responsibility / Implementation	Phase (Construction/Operation)
11) <b>Regional economy:</b> Health tourism may increase in Region.	Increasing tourism	MoH's plan.	Regional health programme.	MIHCP Communication Manager with MoH.	C+O
12) <b>Regional economy:</b> expectations of the community investment by MIHCP.	MIHCP plans for infrastructure might upgrade in the area.	PCD Performance monitoring surveys	MIHCP to understand/ compliment Regional Govt. economic regeneration programme (Corporate Social Responsibility Strategy); <b>Effective Public Consultation:</b> at Regional Government level	MIHCP Communication Manager with Regional Govt	C+O
13) <b>House and Land prices:</b> may increase due to improved micro-economy and/or due to less land from inundation and/or due to in-migration			Regional Government to consider cumulative impacts of all regions	Regional Govt	C+O

## Environmental and Social Management and Monitoring Plan

Potential Impact	Activity/Aspect	Monitoring Performance Indicators	Mitigation/ Management	Responsibility / Implementation	Phase (Construction/Operation)
14) <b>Employment:</b> Campus construction provides 2 year employment opportunity and much longer period (c.25 years) of employment for large number of people with different qualification throughout the operation.	Sustainable employment levels Local employees on campus construction find employment at end of contracts.	Regional Govt unemployment records. Skills Audit Baseline	Longer-term economic sustainability strategy (Regional Govt). Employment advice to workers to maximise training opportunities and preparation for onward employment applications.	MIHCP with Regional Education & Trg institutions HR Manager	C+O
<b>Quality of Life/Environment</b>					
15) <b>Noise and dust from construction</b> perceived as likely to cause a nuisance and disturbance.	Number of grievances about noise and dust Timely disclosure or particular disturbances e.g. hauling of excavated material from the site to the final disposal.	Grievance database PCD Consultation Records	Construction Related Management plan; <b>Effective Public Consultation:</b> to gather early warning of potential difficulties & for disclosure. MIHCP to consider partnerships with parishes most impacted by construction nuisance so 'gain' is realised to compensate for disturbance. "Good neighbour" construction policies regarding noise abatement and dust minimisation.	MIHCP Communication and Construction Managers  Public Consultation	C

## Environmental and Social Management and Monitoring Plan

Potential Impact	Activity/Aspect	Monitoring Performance Indicators	Mitigation/ Management	Responsibility / Implementation	Phase (Construction/Operation)
16) Construction sites regarded as potential hazards, e.g. noise blasts, child safety.	Number of grievances about accidents, hazards or adverse impact of blasting.	Grievance database. PCD Consultation Record Safety Signs & Safety Materials	Construction Related Management plan; MIHCP to publicise explosion schedules so PAPs can be prepared;	MIHCP Communication and HSS&E Construction Managers SMP Specialist with Education Authority	C
17) Social harmony disrupted due to differences in culture/behaviours between outside workers and neighbourhoods.	Number of grievances about workers' conduct Number of workers trained Socio-cultural training programme/induction.	Grievance database Training records	MIHCP to include socio-cultural training and code of conduct in Employee Induction and Training Plan for new staff.	MIHCP Communication and HR Managers will be guided by SMP Specialists	C+O
18) Cultural Heritage and Sites might be at risk from construction works, changes to roads/surrounding environment.	Any sites of social importance/ cultural heritage lost due to inundation are relocated. Clear communications and consultation regarding relocation.	Public Consultation Grievance Register	MIHCP to appoint expert to assess the significance and mitigations for sites. <b>Effective Public Consultation:</b> of MIHCP's policy to protect sites of importance inclusive of opposition groups/NGOs with interest	MIHCP Communication Manager	C+O

Environmental and Social Management and Monitoring Plan

Potential Impact	Activity/Aspect	Monitoring Performance Indicators	Mitigation/ Management	Responsibility / Implementation	Phase (Construction/Operation)
<b>Community Involvement and Representation</b>					
19) Access to Decision Making, may increase social exclusion of marginalised/vulnerable groups.	Public Hearing to feedback Social Impact Assessment/Mitigation report. Face-to-face consultation with each community Leaders.	Consultation meeting attendance sheets Consultation Records	<b>Effective Public Consultation:</b> to include stakeholder engagement strategy.	MIHCP Community Relations and Communication Manager Public Consultation	C+O