SOCIAL IMPACT ASSESSMENT (SIA)

The technical assistance operation is financed by the Neighbourhood Investment Facility. This Facility is a financial mechanism aimed at supporting the partner countries in their efforts towards better governance and economic and social development, through matching loans from the European public Finance Institutions (including the EIB) with Community grants and direct contributions from the Member States for investments in sectors such as transport, energy, the environment and social issues.

CONTRACTING AUTHORITY	EUROPEAN INVESTMENT BANK (EIB)
BENEFICIARY	NATIONAL ELECTRICITY POWER COMPANY (NEPCO)
CONTRACT No.	TA2015057 JO NIF
CONTRACT	Environmental and social impact assessment for the reinforcement of a Jordanian power transmission corridor; New Ma'an substation and line turn-in
SUBJECT	SOCIAL IMPACT ASSESSMENT (SIA)
DATE	02/09/2017
DISTRIBUTION	EUROPEAN INVESTMENT BANK (EIB) NATIONAL ELECTRIC POWER COMPANY (NEPCO) INGENIERÍA, ESTUDIOS Y PROYECTOS NIP, S.A. (NIPSA)
SUBMITTED TO	EUROPEAN INVESTMENT BANK - THE MINISTRY OF ENVIRONMENT
LICENSED CONSULTANT	AL SHAMIL ENGINEERING

INDEX

ACRONYMS

AP	Affected Person
AAC	Agreed Amount of Compensation
DLS	Department of Lands and Survey
EP	Entitled Person
EIB	European Investment Bank
EC	Economic Community
EU	European Union
EMFs	Electro Magnetic Fields
ERC	Electricity Regulatory Commission
ESIA	Environmental and Social Impact Assessment
IEC	International Electro-Technical Commission
IFC	International Finance Corporation
MEMR	Ministry of Energy and Mineral Resources
MoA	Ministry of Agriculture
MoEnv	Ministry of Environment
MWI	Ministry of Water and Irrigation
NEPCO	National Electricity Power Company
NOx	Nitrogen Oxides
PAP	Project Affected People
RP	Resettlement Plan
WB	World Bank

1. PRELIMINARY CONSIDERATIONS

To facilitate the review exercise, the Consultant has segregated the Social Impact Assessment part from the Environmental one as far as possible. This was done in view of the fact the ESIA would include the Social Impact Assessment information in a scattered manner throughout the report.

The Consultant has included various elements of a proposed RP/ARP in this Social Impact Assessment. This has been deliberately done in view of the fact that no RP will be required for this Project. The compensation will be on the basis of an Agreed Amount of Compensation Method. Land around the Substation (10.8 ha) is Government Land.

The Consultant visited the Land Survey Department to collect the available information on affected land (by acquisition and through negotiated arrangement, cost involved and number and other details of the likely affected persons).

The Consultant conducted a Community consultation in order to accommodate the varying needs of stakeholders, particularly the local community of Ma'an interested and affected people (I&APs). The consultation was carried out through interviews with random sample in Ma'an city from the different sectors in Ma'an community and considering the gender issue.

2. INTRODUCTION AND BACKGROUND

National Electricity Power Company NEPCO, which is Jordanian governmental company, intends to reinforce the Jordanian Power Transmission Corridor, new Ma'an power substation and the line turn-Inns, and the Extension of Qatraneh and Queen Alia Airport (QAIA) power substations (herein is the proposed project).

This project will be a part of the green corridor project that will play a vital role in promoting renewable energy exploitation in Jordan through building human resources capacity in this field. Additionally, this project will be a role model for encouraging investment in the renewable energy fields and boost the interest of public sectors in renewable energies technologies suitable for Jordan.

The reinforcement of the Jordanian power transmission network becomes paramount, when considering the significant amounts of new power generation coming on line in Jordan over the coming years.

EU and EC policy and cooperation objectives for the relations with the neighbourhood countries overall and individually are set by the European Neighbourhood Policy (ENP), a key external relations priority of the European Union.

Within the framework of this Policy, the overall policy objectives of European Investment Bank lending under its 2014-2020 External Mandate for the Neighbourhood countries will focus on key priorities such as (a) the expansion of Neighbourhood infrastructure networks in transport, energy

and telecommunications, including their connection with EU networks, (b) financing of environmental projects and (c) private sector development in the Neighbouring countries, including support for structural projects in the banking sector and in long-term credit and equity markets for private investors, and support for privatization and restructuring of public enterprises.

In this context, the Union has established a financial instrument – the Neighbourhood Investment Facility (NIF) – aimed at supporting the partner countries in their efforts towards better governance and economic and social development, through matching loans from the European public Finance Institutions (including the EIB) with Community grants and direct contributions from the Member States in order to generate a substantial leverage effect. In particular, technical assistance grants will be used to improve the implementation of EFI financed projects, thereby enhancing policy coherence between such project decisions, country and sector economic reforms and ENP overall policy objectives. This Technical assistance operation for the government of Jordan is funded through a grant from the Neighbourhood Investment Facility (NIF).

The National Electricity Power Company (NEPCO) for this study is a Jordanian governmental company that is licensed by the Electricity Regulatory Commission (ERC), in accordance with the electricity low no. 64 for the year 2002, to be responsible for the electric power transmission at 400 & 132 KV voltages and supervising and dispatching the electric energy from the different generating units to the bulk – supply points for the electricity, energy distribution companies in Jordan and some large industrial consumers.

NEPCO is responsible for design, construction and the safe operation of the national transmission grid in Jordan, in addition to the trading in electric energy utilizing the single buyer model, buying it from different suppliers inside Jordan and abroad through 400 kV tie lines with Egypt and Syria. The whole electric power system in Jordan is operated through the national control center in Amman.

2.1. BACKGROUND

NEPCO intends to reinforce the Jordan transmission networks from Aqaba to Amman including power substation in Ma'an area with three overhead transmission line turn-ins which are; two parallel 400 kV OHTL and Three 132 kV OHTL. The beneficiary country is the Hashemite Kingdome of Jordan, the promoter is National Electric Power Company (NEPCO) and the contracting authority is the European Investment Bank, as the funding agent.

The proposed project has three components are located in the south of Jordan between Ma'an city and QAIA, where the Ma'an new substation is located to the north of Ma'an city at a distance of 9 km, with three transmission turn-ins, Qatraneh power substation which is located at main Amman – Aqaba street and Queen Alia Airport (QAIA) electrical substation which is located at 35 km south of Amman city.

To be licensed from (EMRC) for the implementation of the above aforementioned project, NEPCO together with the Consultant has to meet the requirements of Jordanian environmental regulations

particularly the environmental protection law No. 52/2006 and the environmental impact assessment by law No. 37/ 2005. Furthermore, for the purpose of the financing, the requirements of EIB have to be met.

To meet these requirements, NEPCO and the Consultant should prepare an Environmental and Social Impact Assessment (ESIA) study for the above said project through a qualified consulting firm specialized in conducting Social and Environmental Impact Assessment studies. For this study, Al Shamil Engineering is hired to be the Local Licensed Consultant.

The ESIA study will be carried out in order to ensure that significant impacts in the environment are taken into consideration at the construction and operation and maintenance phases of the proposed project's three components. The goal of this assignment is to ensure that any potentially adverse environmental and social impacts can be minimized to the extent feasible, and the positive impacts can be enhanced.

From socio-cultural point of view and in consideration of good governance, the principal objective, therefore, of this assignment is to carry out an ESIA to ensure that any potentially adverse environmental and social impacts arising out of the execution of the project need to be minimized and the positive and beneficial impacts, if any, enhanced and consolidated on a sustainable basis for future gains.

Furthermore, from policymaking and administrative point of view, one main objective of undertaking the Environmental and Social Impact Assessment of the Project Influence Areas (PIA), centering around the RoW of the Line Route project, will be to provide to the relevant Jordanian authorities and to the Project Financiers detailed information on the proposed Line Route and the Environmental and Social Impact of the project to assess its viability.

Out of the ESIA, Social Impact Assessment (SIA) is expected to discern the need, if any, for the preparation of Social Impact Assessment Plan (SIMP), a Resettlement Management Plan (RMP) and appropriate Resettlement Plans (RPs) as the principal Safeguard Instrument of the Banks to mitigate the losses of the impacted persons, if any, due to the execution of the project. In such exercise, EIB and WB Involuntary Resettlement Policy and Guidelines will be followed.

The Environmental Impacts anticipated within the Project Areas include impacts on the biodiversity, occupational and public health, and natural resources in addition to the socio-economic condition. Although the Environmental and Social Impact Assessment of a project may be seen as an integrated whole and treated in a holistic manner, the embedded two impact assessments require to be separately treated in the interest of good project implementation. Since the environmental aspects of the project have already been covered and the social aspects need to be focused on, efforts will be made in this Report to assess the social and economic impacts of the project to ascertain whether or not any adverse social impact of the project will trigger the need for the preparation of a Resettlement Management Plan (RMP) leading to the preparation of a Resettlement Plan (RP) or Instrument in accordance with the EIB and WB Involuntary Resettlement Policy and Guidelines as applicable to the socio-cultural and socio-economic settings of the Project Influence Area (PIA) and in Jordan as a whole.

2.2. PROJECT OBJECTIVE AND PURPOSES

The Green Corridor program consists of five power transmission lines, one new substation and extension of two existing substations to strengthen the internal backbone network of Jordan. The purpose of the program is that renewable energy facilities (wind and solar) that are planned in the central Jordan desert area can be transmitted to the load centre of Amman.

Within this framework, the objectives of this project include the followings:

- Support to a sustainable socio-economic development with due respect to a comprehensive protection of the environment for the energy sector through the upgrading of key economic infrastructure (Namely completion of the 2030 NEPCO Expansion Plan through the construction of planned corridor links and substations for the southern section of the country and for better services of Amman Region key load centers).

- Support of the EU/Jordan Joint Action Plan through the EU in Amman and the EIB in Luxemburg in regards to European Neighbourhood Policy, EIB priority plan focusing on the EIB Bank External Mandate to deepen its policy with Jordan in relation to Energy and Environment.

- Support to EU and EIB open new partnership perspectives for the financing of key economic infrastructures in Energy enabling Jordan to participate in key aspects of EU Policies and Programs insuring NEPCO-EU access to credit and grants lines from EIB and the EU enhancing the thematic of strengthening cooperation through Energy Policy exchanges, gradual convergence of policy in the energy and environment sector in full consistence with Jordanian National Laws and legislation.

- Support Protection of the environment both at the policy level and for sector Specific projects and Program for the electrical sector in line with the MoEnv., MEMR, EIB, EU and IFC positions in terms of strong Stakeholders engagement in regards to the key issues clearly spelled out in the EIB instructions for tenders on environmental package issue, content, depth of studies in with due acceptance of the environmental Licensing, screening and scoping process enforced by the MoEnv. on the EIS ,ESIA, ESMP and environmental mitigation budgeting.

- Support of strategic environmental and social assessment.

- Support of the Jordanian Energy Policy in regards to the improvement of environmental performance, environmental governance in line with EIB External mandate for neighbouring countries and expansion of Infrastructure.

- Support and reinforce strategic measures for the enhancing and implementing national priorities in the field of environmental protection focusing on sector specific environmental issues for lines and substations in line with the MEMR, MoEnv. and NEPCO Policy.

- Support NEPCO present Strategic line and substation Study for the southern Section and Amman loan centers viewing the present project as key component of the NEPCO expansion Plan, part of

the completion of the National Network plan for ensuring an appropriate reliability and security throughout Jordan in full accordance with the standards established in the Grid code.

2.3. SCOPE OF THE ESIA

This study is foreseen as a series of interrelated tasks forming Environmental and Social Impact Assessment. The scope of the Environmental and Social Impact Assessment ESIA of the proposed project is to:

- Prepare an Environmental and Social Management Plan which details the measures to avoid, mitigate or compensate the identified environmental and social impacts of the Project.
- Allow the stakeholders to be informed and arrange actively the meetings.
- Scoping ESIA survey for extensions of Qatraneh and QAIA substations; the scoping is required mainly to provide environmental and social guidance to substation Contractor, which will be same for New Ma'an, Qatraneh and QAIA sub substation.
- Full ESIA study of Ma'an substation and line turn-ins, including public consultation, in line with EIB, Jordanian and EU requirements.

2.4. ESIA OBJECTIVES

The main objective of the ESIA is to identify the environmental and social impacts of the proposed project and to develop measures to ensure that project activities take into consideration the appropriate measures to mitigate/minimize any adverse impacts through all phases of project implementation. The specific objectives of the ESIA are to:

- Identify all potential significant adverse environmental and social impacts of the project and recommend measures for mitigation.
- Identify and assess all potential positive environmental and social impacts of the proposed project.
- Comparison of the impact with relevant national and international guidelines.
- Generate baseline data that will be used to monitor and evaluate the mitigation measures implementation during the project cycle.
- To ensure that the key environmental concerns are taken into account by the decision makers regarding all development activities and phases within the zone.
- Prepare an environmental and social management plan for the project cycle.

3. PROPOSED PROJECT DESCRIPTION

The Project is a low risk project. Execution of the project is expected to benefit the people of Jordan. The project execution is not likely to give rise to any major adverse environmental and social impact for Jordan.

This section provides an overview of the proposed project components, which are:

I. The New Ma'an power substation with transmission line turn-ins.

II. The Extension of Qatraneh power substation.

III. The Extension of Queen Alia International Airport power substation.

In order to have the data needed for conducting the ESIA study for the proposed project components, the Consultants visited the project components sites and collected all documents related to each component, requirements and other available data (project design, Physical environment, biological environment and Socio cultural environment).

In this chapter, the project description will be divided into three sections; one for each component.

Component One: The New Ma'an power substation with transmission line turn-ins

3.1. PROJECT LOCATION

Three alternatives to select the new Ma'an substation site were considered by NEPCO and referred to NIPSA for finalization. This was done in accordance with relevant EIB regulations requiring minimum environmental and social impact in designing an EIB funded project.

Concerned experts examined these alternatives and selected the appropriate alternative for the approval of NEPCO. The selected alternative was considered appropriate Project Site to meet the project objectives and need. Such selection was considered important in assessing their respective level and degree of Environmental and Social Impact to ensure minimum negative impact of the project.

Reasonable alternatives are those that are technically and economically feasible to meet project objective and the need for avoiding potentially significant impacts on valuable resources.

Accordingly, each of the three alternatives was evaluated from its respective economic feasibility (i.e.: calculating respective Internal Rate of Return or IRR/ERR) and potential temporary and permanent impacts on private property, land use, grazing, recreation, visual resources, cultural

resources, social and economic values, water resources, vegetation, special status plant and animal species, areas of critical environmental and social concerns, public health and safety, air quality and noise and so forth.

The proposed new Ma'an substation is 400/132 kV type with capacity of 800 MVA (2x 400 MVA) transformers and third transformer is a standby, the substation will include the feeders 400 kV coming from Aqaba substation and Qatraneh power substation, the 132 kV out lines will be to existing Ma'an substation, Al Hussein substation and Al Fujiji substation.

The New Ma'an electric substation with three high voltage transmission line turn-ins, will be located at a distance of about 9km to the north of Ma'an city. Figure (3.1.1) shows the location of this part on a Google earth map. From the site investigations and layout plan of the substation with transmission line turn-ins, the site of new Ma'an power substation can be identified by the following features:

- Hijazi Railway is located to the West of the electric substation at a distance of about 0.75 km;
- Desert Highway is located to the West of the electric substation at a distance of about 1.64 km;
- Ma'an city is located to the South of the electric substation at a distance of about 9.00 km.

Table 3.1.1 shows the coordinates of the New Ma'an power substation and turn-ins, and figure 3.1.2. shows the location of New Ma'an power substation on a Map.

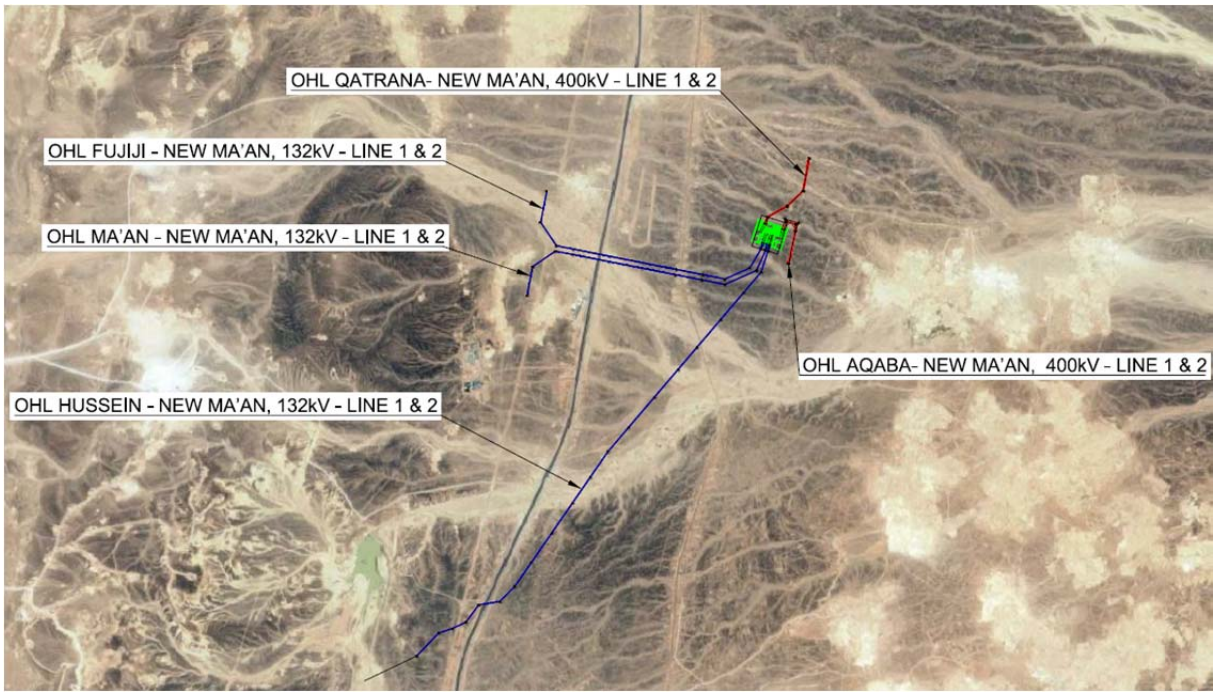


Figure 3.1.1: Map that shows the location of the New Ma'an power substation and the transmission line turn-Ins.

Table 3.1.1: Coordinates of the New Ma'an power substation and turn-ins.

Point	WGS84		JTM	
	Latitude	Longitude	North	East
1	30.312536°	35.776644°	354893.88	382374.37
2	30.311767°	35.779631°	354805.54	382660.73
3	30.308658°	35.778543°	354462.04	382552.38
4	30.309430°	35.775558°	354550.71	382266.21

3.2. PROJECT COMPONENTS

The Electric Components of Ma'an substation and turn-in are:

- 400 kV section; equipped with a double 400 kV bus bar system, six (6) 400 kV incoming lines bays (Aqaba 1 &2 , Qatraneh 1&2 and Qatraneh 3 & 4), two (2) transformers bays, one (1) bus coupler bay, main and reserve bus section bays, three (3) skeleton bays (bus bars and disconnecting switches for the future extension of two (2) additional line bays (expected to MDA2 1&2) and one (1) additional bay for the transformer 3.

- 132 kV section, equipped with a double 132 kV bus bar system, six (6) 132 kV incoming line bays (Ma'an 1 & 2, King Hussein 1 & 2 and Fujiji 1&2), two (2) transformer bays, one (1) bus coupler bay, main and reserve bus section bays, three (3) skeleton bays (bus bars and disconnecting switches) for the future extension of one (1) transformer bay and two (2) additional line bays.

- The substation auxiliary equipment consisting of all LVAC and DC power supplies for the substation. The main LVAC supply shall be obtained from two 33/0.40 kV auxiliary transformers. The Standby LVAC supply shall be obtained from a diesel generator. The supply, installation and commissioning of the associated 33 kV connections and LV power cables will be further discussed in the ESIA study report.

- The substation protections and SAS for the local control of the substation and the connection to SCADA for remote transmission of the signals to the remote National Dispatching Centre.

- The civil works consisting of soil investigation, site preparation, access road from the main road Ma'an – Amman, electrical control building, equipment foundations, transformers foundations, road and fencing.

- The in-out connection to the New Ma'an substation of the two existing 400 kV lines Aqaba – Qatrana 1 & 2 which runs close to the substation; the works will include the necessary towers, conductors, insulators, clamps and foundations from the substation gantries to the lines.

- The in-out connection to the New Ma'an substation of the Two circuit in-out connecting new Ma'an with existing line 132 kV Fujij-Hussein ,the final connection will be two circuit Fujij-new Ma'an (2.6 Km), and two circuits Hussein-new-Ma'an (2.6 Km); and In-out connection new Ma'an with existing 132 kV Fujij-Ma'an, the final location will be two circuit Ma'an-new Ma'an (5.7 Km); it will include the necessary towers, conductors, insulators, clamps and foundations from the substation gantries to the lines.

Component Two: The Extension of Qatraneh power substation

3.3. PROJECT LOCATION

Qatraneh power substation is located at Karak Bridge intersection with the desert highway. From the site investigations and layout plan of the substation, the site of electric substation can be identified by:

- Desert Highway is located to the East of the electric substation at a distance of about 0.73 km;
- Hijazi Railway is located to the East of the electric substation at a distance of about 1.40km;
- Qatraneh – Karak road which next to the electric substation.
- Qatraneh Village is located to the North of the electric substation at a distance of about 1.70 km;
- Qatraneh Dam is located to the North of the electric substation at a distance of about 2.43 km.

Table 3.3.1 shows the Coordinates of the Qatraneh power substation, and figure (3.3.1) shows the location of Qatraneh power substation on a Google Earth Map.

Table 3.3.1: Coordinates of Qatraneh power substation.

Point	WGS84		JTM	
	Latitude	Longitude	North	East
1	31.220716°	36.015972°	455343.15	406275.70
2	31.219481°	36.019307°	455203.41	406592.21
3	31.216958°	36.018035°	454924.79	406468.54
4	31.218268°	36.014654°	455072.88	406147.71

Figure 3.3.1: A Google Earth map that shows the location of Qatraneh power substation.

3.4. PROJECT COMPONENTS

There will be an extension of 400/132 kV sections of Qatraneh AIS substation, one and half circuit breaker bus bar system on 400 kV and double bus bar on 132 kV. The main components of the extension of this substation are:

- Extension of the bus bar system, addition of the equipment for Diameter 5 to connect two (2) 400 kV incoming lines (New Ma'an 3 & 4).
- Addition of two (2) 132 kV line bays to connect two (2) 132 kV incoming lines (Queen Alia 3 & 4).

- Extension of the substation auxiliary equipment, protections, SAS (on 400 kV) and control system (on 132 kV) as necessary to serve the new bays.
- The civil works related to the extended works like site preparation, equipment foundations, road, and fencing.
- Shifting of connections of 400 kV lines Qatraneh-Amman West from existing Diameter 4 to Diameter 5. New lines New Ma'an - Qatraneh 3 & 4 will be connected to Diameter 4.
- The work also will include the re-arrangement of the communication system.

Component Three: The Extension of Queen Alia International Airport (QAIA) power substation

3.5. PROJECT LOCATION

The extension of 132 kV existing Queen Alia International Airport AIS substation, double bus bar, which is located in the vicinity of Queen Alia International Airport at a distance of about 35km south of the capital city of Amman. Table 3.5.1 shows the coordinates of the QAIA power substation and figure (3.5.1) shows the location of QAIA electric substation on a Google earth Map. From the site investigations and layout plan of the substation, the site of Q.A.I.A electric substation can be identified by:

- Desert Highway is located to the East of the electric substation at a distance of about 0.40 km;
- Queen Alia Airport is located to the East of the electric substation at a distance of about 2.5 km;
- Hijazi Railway is located to the East of the electric substation at a distance of about 1.60km;
- Jiza village is located to the East of the electric substation at a distance of about 1.40km.

Table 3.5.1: Coordinates of QAIA power substation.

Point	WGS84		JTM	
	Latitude	Longitude	North	East
1	31.718158°	35.941603°	510557.20	399722.32
2	31.718637°	35.943871°	510608.22	399937.78
3	31.717389°	35.944051°	510469.69	399953.49
4	31.716953°	35.941966°	510423.27	399755.43

Figure 3.5.1: A Google Earth map that shows the location of QAIA power substation.

3.6. PROJECT COMPONENTS

The Electric Components of QAIA substation are:

- Addition of two (2) 132 kV line bays to connect two (2) 132 kV incoming lines (Qatraneh 3 & 4).
- Extension of the substation auxiliary equipment, protections, control system as necessary to serve the new bays.
- The civil works related to the extended works like site preparation, equipment foundations, road, and fencing.
- The scope also includes the re-arrangement of the communication system.

4. SOCIO-CULTURAL SETTING AT COUNTRY/GOVERNORATE LEVEL

Jordan is a land of ancient civilization, having many archaeological sites. Jordan Government has passed a number of laws and ordinances for the protection of the country's archaeological sites, culture and traditions. All these laws and regulations match the International Covenants for the Protection and Maintenance of Archaeological and Cultural Sites and Resources at global level. The execution of this Project will not affect any such Sites and Resources.

Although incidences of looting and plundering of archaeological and cultural artefacts have been reported, both official agencies and the people in general strictly comply with such laws and regulations and jealously guard their archaeological and cultural resources against such looters and plunderers. Details are provided in this regard in the ESIA Report.

Jordan is an Arab Muslim country; society is composed mainly of Sunni Muslims. A few Bedouin (nomad) families are found on a scattered basis in the desert areas and adjacent West Bank.

The urban areas are cosmopolitan in nature. In view of its many archaeological and tourist resorts like the Dead Sea, Petra and Jarash, to name a few, many foreign tourists throng to Jordan every year to visit such areas. Tourist turnouts form important component of Jordan's Service Sector, earning large amount of foreign exchange every year needed for the social and economic development of the country.

The Health and Medical System of Jordan has earned international reputation. The Law and Order situation in Jordan is equally admirable, having a 2 to 3 % crime rate. Jordan is considered a Safe Country for the Jordanian citizens as well as foreign visitors.

5. SOCIO-ECONOMIC SETTING AT COUNTRY/GOVERNORATE LEVEL

The Hashemite Kingdom of Jordan is a small, largely land-locked country. It has a territory of 89,000 km2 having common borders with Egypt, Iraq, Syria, Saudi Arabia, Israel and the Palestinian Authority Territory. Jordan has a population of approximately 6.3 million. Almost 40 % of the population lives in the governorate of Amman. The remaining 60 % lives in the other main northern governorates of Irbid and Zarqa.

Jordan is a lower-middle income country with a GDP per capita of USD 5,180. Social indicators such as life expectancy (73 years) and adult literacy (91 percent) characterize Jordan as a high human development country. The Kingdom is one of the few economies in the Middle East with relatively scant natural resources, phosphates being its only extensive natural deposit. The country has no oil and lacks water. Its geopolitical situation makes it vulnerable to the tenuous and turbulent environment of the region.

The Jordanian economy performed strongly in the period preceding the global financial crisis, with average annual growth of 6.7 % over the period 2000-2008. However, the global financial crisis led to a sharp downturn: in 2009, real GDP growth reached only 2.3 % and around 2,5% 2010 onwards. The current political turmoil in the region as well as the difficult global economic situation are putting a strain on the Jordanian economy. As Jordan is heavily dependent on commodity imports, high food and energy prices are expected to lead to a widening of the current deficit to 9.3%, compared to a deficit of 5.4 % in 2010.

The Health and Medical Indicators of the four Governorates studied indicate that Jordan has a strong Health and Medical System. Within the Governorates at Local Government Level such indicators are equally strong suggesting that people at grass root level in general also have meaningful access to the benefits offered by such Health and Medical Systems, provided by both public and private sectors of the country. Other significant social and economic indicators (at Governorate level) e.g., Food Security/Right of Living; Agriculture; People's Access to Justice; Law and Order; Good Governance and Service Sector Services; Access to Credit; etc. as provided in the ESIA suggest that the Jordan Government, backed by its private sector, has embarked upon comprehensive Human Resource and Social Development Programs (comprising, among others, provisions of Food Security, Shelter, Health and Education) for the people of Jordan (see DESIA PP. 87- 121).

Execution of this project is therefore expected to positively contribute to the efforts of the Jordan Government to achieve its Millennium Development Goal of Poverty Reduction accompanied by equity with growth and sustainable developmental benefits for the people of Jordan.

5.1. SOCIOECONOMIC CONDITIONS

5.1.1. Area of the "New Ma'an power substation with transmission line turn-ins"

5.1.1.1. Populations Characteristics in Ma'an Governorate

The population characteristic by sex, rural, urban, administrative division, and population density are presented in the following tables.

Estimated Population in Ma'an by the sex at the end of 2015.

Male	Female	Total	% to the Kingdome
75600	68900	144500	1.5

Estimated Population in Ma'an by the Urban and Rural at the end of 2015.

Urban	Rural	Total
78100	66400	144500

Estimated Population in Ma'an by the Administrative Division at the end of 2015.

Administrative Division	Population
Ma'an Qasabah District	87910
Ma'an Sub District	41750
Iel Sub District	15180
Jafer Sub District	7830
Mraighah Sub District	14750
Athroh Sub District	8400
Betra Shamaliyah District	19890
Shobak District	19330
Huseiniya District	17370
Ma'an	**144500**

Estimated population in Ma'an by area and population density at the end of 2015.

Population	Area		Population Density
	Km^2	%	
144500	32832	36.98	4.4

5.1.1.2. Education

The education system demonstrates significant improvements at all levels including the growth of educational organizations. The following tables present the educational indicator for Ma'an governorate for the year 2015.

No. of schools and class units by directorate and sex, 2015.

directorate	Schools				Units			
	Male	Female	Co-edu.	Total	Male	Female	Co-edu.	Total
Ma'an	13	3	38	54	138	163	196	497
South Badia	29	6	58	93	277	313	227	816
Petra	12	4	38	4	107	137	213	457
Shobak	14	2	26	42	86	97	108	291
Total	68	15	160	243	608	710	744	2061

No. of Students and teachers by directorate and sex, 2015.

Directorate	Students			Teachers		
	Male	Female	Total	Male	Female	Total
Ma'an	5276	5106	10382	265	295	860
South Badia	7227	6726	13953	549	826	1375
Petra	4343	4504	8847	224	563	787
Shobak	1705	1722	3427	183	353	536
Total	18551	18058	36609	1221	2337	3558

No. of under graduate students by sex, and post graduate students by degree at Al – Al Hussien Bin Talal University in Ma'an, 2015.

Under graduate students			post graduate students			
Male	Female	Total	H.Dip.	M.A./ M.Sc.	Ph.D.	Total
2392	2842	5234	0	0	0	0

No. of Academic staff at Al Hussien Bin Talal University by education level, 2015.

B.Sc.	H.Dip.	M.A./ M.Sc.	Ph.D.	Total	Female
2	0	77	226	305	40

5.1.1.3. Health

Employees at the ministry of health at Ma'an by position and directorate.

Physicians					Pharmacist	Nurse (F&M)	Midwife	Others	Total
Specialist	General	Resident	Dentist	Veterinary					
5	0	65	19	0	14	55	17	344	519

Ministry of Health's centers, clinics and Pharmacies at Ma'an, 2015.

Health centers	Village centers	MCH centers	TB centers	Dental centers	Pharmacies
25	14	19	1	19	18

No. of Hospitals and beds at Ma'an by Health sector, 2015.

Ministry of Health		Private Hospitals		Other Gov.		Total	
No. of Hospital	No. of Beds	No. of Hospital	No. of Beds	No. of Hospital	No. of Beds	No. of Hospital	No. of Beds
2	203	0	0	0	0	2	203

Number of Employees at Ma'an Hospital by Profession, 2015.

Physicians					Pharmacist	Nurse (F&M)	Midwife	Others	Total
Specialist	General	Resident	Dentist	Veterinary					
7	28	11	1	0	8	214	12	135	416

5.1.2. Socioeconomic Conditions of Qatraneh power substation Area

This section discusses the socio economic indicators of Karak governorate, where the proposed "The Extension of Qatraneh power substation" is located, the source of socio economic data is mainly the Department of Statistics.

5.1.2.1. Population

The following tables represent the population indicators of Karak governorate according to the department of Statistics for the year 2012.

Estimated Population in Karak By Sex at the End Of 2015.

Male	Female	Total	%
165900	151600	317500	3.3

Estimated Population in Karak by Urban and Rural at the End of 2015.

Urban	Rural	Total
187800	129500	317500

Estimated population in Karak by Administrative Division at the end of 2015.

Administrative Division	**Population**
Karak Qasabah District	**101650**
Mazar Janobee District	**95390**
Mazar Sub- District	80710
Mo'aab sub- district	14680
Qasr District	**29490**
Qasr sub_ District	21610
Mowjeb sub- district	7880
Aghwar janoobiyah District	**55020**
Safi Sub- District	33600
Ghawralmazra'a sub District	21420
Ayy district	**8170**
Faqo'e district	**16850**
Qatraneh District	**10930**
TOTAL	**317500**

Estimated Population Density of Karak at the End of 2015.

Population	**Area**		**Population Density**
	Km^2	%	
317500	3495	3.94	90.9

5.1.2.2. Education Indicators

The following tables represent the education indicators in Karak governorate as given by DOS.

Number of Students and Teachers by Directorate and Sex 2014/2015.

Governorate & Directorate	Students			Teachers		
	Male	Female	Total	Male	Female	Total
Karak Qasabah	14262	13300	27562	768	1654	2422
Mazar janoobi	9838	9779	19617	532	1280	1812
Qasr	6091	5720	11811	419	825	1244
Aghwar janoobiyyeh	6970	7005	13975	321	579	900
TOTAL	37161	35804	72965	2040	4338	6378

Number of Schools and Class Units by Directorate and Sex 2014/2015.

Governorate & Directorate	Schools				Class Units			
	Male	Female	Co. edu	Total	Male	Female	Co. edu	Total
Karak Qasabah	42	14	95	151	398	413	558	1369
Mazar janoobi	25	8	88	121	304	299	447	1049
Qasr	21	6	47	74	184	196	272	652
Aghwar janoobiyyeh	15	3	28	46	197	206	134	537
TOTAL	103	31	258	392	1083	1114	1411	3607

Number of Undergraduate students at Jordanian Universities in Karak by university and sex 2013/2014.

University	Male	Female	Total
Mu'tah university	8985	8773	17758

Number of Academic Staff at Jordanian Universities in Karak by university and Education level 2013/2014.

University	B.Sc.	H.Dip.	M.A	Ph.D	Total	Female
Mu'tah university	0	0	79	475	554	76

5.1.2.3. Health Indicators

The following tables represent the health indicators in Karak governorate as given by DOS.

Number of Hospitals and Beds in Karak by Health Sector 2015.

Ministry of Health		Private Hospital		Other government		Total	
No. of hospital	No. of Beds	No. of hospital	No. of Beds	No. of hospital	No. of Beds	No. of hospital	No. of Beds
2	247	3	98	1	126	6	471

Ministry of Health Centers, Clinics and pharmacies In Karak Governorate, 2015.

Directorate	Health Centers	Village Centers	MCH Centers	T.B. Centers	Dental Clinics	Pharmacies
Karak	38	17	38	1	34	54
Ghor Janoubi	5	2	3	0	3	

Employees at Ministry of Health hospital by profession at Karak, 2015.

Specialist	General	Resident	Dentist	Veterinary	Pharmacist	Nurse (M&F)	Midwife	Others	Total
3	1	85	45	2	22	163	44	920	1315

5.1.2.4. Agricultural Indicators

The following tables represent the agricultural indicators in Karak governorate that include planted areas, crops, productivity, in addition to animal production as given by DOS. The main agricultural activities are within the areas of south Karak; these activities are irrigated and rain-fed agriculture.

Planted Area by Crops and their Productivity at Karak 2010.

Vegetables		Winter Cereals		Summer Cereals		Citrus	Total products
Areas (dunum)	Production Ton	Areas (dunum)	Production Ton	Areas (dunum)	Production Ton	Product ton	
11548	8204	305495	24264	1669	179	43	318796

Number of Sheep, Goats and Cattle in (thousand Head) at Karak.

Sheep	Goats	Cattle
1/April/2015		
350.2	111.1	0.70
1/November/2015		
312.1	102.0	0.60

5.1.2.5. Water Supply Indicators

These indicators include water supply for household and municipal purposes.

Water Supply for Household & Municipal purpose (million cubic meters) 2009-2014.

2009	2010	2011	2012	2013	2014
14.6	15.4	15.2	15.4	17.0	20.5

5.1.2.6. Roads Indicators

These indicators represent the type of roads, the lengths of road networks.

Length of Road networks by type of road, 2015 (km).

Rural Roads	Secondary Roads	Highway roads	Total	%
234	164	298	696	9.5

5.1.2.7. Tourism Indicators

These indicators show the hotels with rooms, beds as well as the apartments and suite hotels.

Classified Hotel at Karak 2015.

Hotels	Rooms	Suites	Beds	Employees
3	46	0	100	12

Unclassified Hotel at Karak 2015.

Hotels	Rooms	Beds	Employees
3	27	59	4

5.1.2.8. Economic Indicators

Refined economic activity rates by sex at Karak 2015.

male	Female	Total
64.2	22.6	43.1

Unemployment Rates by Sex at Karak 2015.

male	Female	Total
13.5	18.7	14.9

Main results of the construction contractors survey at Karak 2014 (000JD).

No.of establishment	No. of employees	Gross output	Intermediate consumption	Gross value added	Compensation of employees	Taxes on production	depreciation	Total fixed capital formation
211	849	19861	14751	5110	2650	252	1826	998

Buildings of private sector that are completely constructed at Karak 2014.

No. of completed buildings	**Total buildings**	**Average building**	**Total cost**	**Average cost m^2 (JD)**	**No. of completed dwellings**
361	64	177	10680	167	426

Gross output of the major activity and secondary activities at karak 2014(000JD)

Gross output	**Gross output of the major activity**		**Gross output of the secondary activity**		
	Main contraction	Sub- contraction	Industry	Trade	other revenues
19861	19861	0	0	0	0

Qatraneh District where the proposed substation is located is characterized by poor soil and low annual precipitation that are determinants for the agricultural activities. The agricultural activities in Qatraneh district are limited to public agricultural developments (governmental) that have limited surface areas, such as:

- Qatraneh irrigated agricultural areas project; which is operated by the ministry of agriculture and the ministry of water and irrigation /Water Authority. This project is one of the important projects for Beduin Settlement, it comprises few hundreds dunums, which are irrigated by groundwater and the surface water of Qatraneh dam which has a capacity of 1 MCM.

- Al Abiyad irrigation project; which is another public irrigation project (governmental) project in Qatraneh district. It also comprises hundred dunums of land that are irrigated from Al Abiyad dam and the groundwater well. This project is operated by the ministry of water and irrigation/ Water Authority.

- Qatraneh district has an important mining projects such as the Jordanian phosphate mines operations in Wadi Al Abiyad that produce an annual average of 3 million ton of phosphate.

- Oil shale; Qatraneh governorate has locations that are rich in oil shale and ongoing development projects for the approved quantities of the oil shale.
- Pure Limestone in Sultani, Abiyad and Mutarammil areas of Qatraneh district.
- Cement industry; there are two cement plants in Qatraneh district, which together produce about 3 million ton a year.
- Poultry farms.

5.1.3. Socioeconomic Conditions of the QAIA power substation area

This section discusses the socio economic indicators of Amman governorate, where the proposed "The Extension of QAIA power substation" is located, the source of socio economic data is mainly the Department of Statistics. The area of the capital city of Amman is around 7579 km2, and is divided to 9 Districts. Following are the socio economic indicators that are discussed in this section.

5.1.3.1. Population

The following tables represent the population indicators of Amman governorate according to the department of Statistics for the year 2015.

Estimated population in Amman governorate by sex at the end of 2015.

Male	Female	Total	%
2157700	1861400	4019100	42.0

Estimated population in Amman governorate by Urban and Rural at the end of 2015.

Urban	Rural	Total
3907200	111900	4019100

Estimated population in Amman governorate by Administrative Division at the end of 2015.

Administrative Division	Population			
	Male	Female	Total	Households
Amman Qasabah District	459646	396309	855955	188194
Marka District	501732	454372	956104	202417
Quaismeh District	313489	269170	582659	117598
Al Jami'ah District	398440	345540	743980	174764

Wadi Essir District	195294	172076	367370	86516
Sahab District	99477	69957	169434	32222
Jizah District	70225	47779	118004	20657
Jizah Sub- District	62874	41291	104165	18110
Um Rassas Sub- District	7351	6488	13839	2547
Muaqqar District	45490	38880	84370	15746
Muaqqar Sub- District	26323	21430	47753	8692
Raj al Shami Sub- District	19167	17450	36617	7054
Na'oor District	67776	61874	129650	27225
Na'oor sub- District	41158	37834	78992	16954
Um Elbasatien Sub- District	10439	9087	19517	3878
Hosban Sub- District	16179	14962	31141	6393
Aman governorate	2151569	1855957	4007526	865339

Estimated population Density of Amman governorate at the end of 2015.

Population	**Area**		**Population Density**
	Km2	%	
4019100	7579	8.54	530.3

5.1.3.2. Education indicators

The following tables represent the education indicators in Amman governorate as given by DOS.

Number of Students and Teachers by Directorate and Sex 2014/2015.

Governorate & Directorate	**Students**			**Teachers**		
	Male	**Female**	**Total**	**Male**	**Female**	**Total**
Amman	348579	343468	692047	10866	29782	40648
Amman qasbah	80079	81644	161723	2601	6521	9122
Aljamaah	60517	56617	117134	1855	6481	8336
Sahib	12795	12683	25478	360	966	1326
Al_qwesmeh	56355	56806	113161	1244	4159	5403
Marka	85637	83294	168931	2436	6246	8682
Wadi alseer	27305	26274	53579	853	2734	3587
Naaor	11789	11892	23681	462	1170	1632
Badiyyeh wosta/mwagar	6548	6468	13016	411	574	985
Badiyyeh wosta/jezah	7554	7190	15344	644	931	1575

Number of Undergraduate students at Jordanian Universities in Amman governorate by university and sex 2014/2015.

University	Male	Female	Total
University Of Jordan	12271	24428	36699
Al Isra'a University	3798	1800	5598
Applied Science University	4167	2235	6402
Petra University	3195	3164	6359
Princess Somayya university for technology	1599	1122	2721
Jordanian Academy for Music	55	43	98
Zaytooneh University	4803	2969	7772
German Jordanian University	1954	1309	3263
Jordan Applied University Collage	212	56	268
Amman Arab Uni. for Graduate Studies	373	170	543
Middle East Uni. for Graduate Studies	1788	687	2475
Arab open University	1483	1171	2654

Number of Academic Staff at Jordanian Universities in Amman governorate by university and Education level 1014/2015.

University	B.Sc.	H.Dip.	M.A	Ph.D	Total	Female
University Of Jordan	4	0	193	1151	1348	372
Al Isra'a University	0	8	38	222	268	62
Applied Science University	89	0	82	247	418	172
Petra University	0	0	61	227	288	115
Princess Somayya university for technology	0	0	15	102	117	21
Jordanian Academy for Music	8	0	8	7	23	7
Zaytooneh University	0	0	76	255	331	106
German Jordanian University	25	0	120	136	281	119
Jordan Applied University Collage	4	1	10	6	21	11
Amman Arab Uni. for Graduate Studies	0	0	9	89	98	17
Middle East Uni. for Graduate Studies	0	0	23	147	170	37
Arab open University	0	0	9	40	49	16

5.1.3.3. Health indicators

The following tables represent the health indicators in Amman governorate as given by DOS.

Number of Hospitals and Beds in Amman governorate by Health Sector 2015.

Ministry of Health		Private Hospital		Other government		Total	
No. of hospital	No. of Beds	No. of hospital	No. of Beds	No. of hospital	No. of Beds	No. of hospital	No. of Beds
5	1873	38	3245	7	1927	50	7045

Ministry of Health Centers, Clinics and pharmacies In Amman governorate, 2015.

Health Centers	Village Centers	MCH Centers	T.B. Centers	Dental Clinics	Pharmacies
48	10	42	1	36	1348

Employees at Ministry of Health by profession at Amman, 2015.

Physicians					Pharmacist	Nurse (M&F)	Midwife	Others
Specialist	General	Resident	Dentist	Veterinary				
66	41	317	159	0	53	286	115	1236

5.1.3.4. Agricultural indicators

The following tables represent the agricultural indicators in Amman governorate that include planted areas, crops, productivity, in addition to animal production as given by DOS. The main agricultural activities are within the areas of south Amman; these activities are irrigated and rain-fed agriculture.

Planted area by crops and their productivity at Amman governorate 2010.

Vegetables		Winter Cereals		Summer Cereals		Citrus	Total products
Areas (dunum)	Production Ton	Areas (dunum)	Production Ton	Areas (dunum)	Production Ton	Product ton	
11548	8204	305495	24264	1669	179	43	318796

Number of Sheep, Goats and Cattle in (thousand Head) at Amman governorate.

Sheep	Goats	Cattle
1/April/2015		
553.4	122.3	8.5
1/November/2015		
164.5	91.2	3.3

5.1.3.5. Water Supply Indicators

These indicators include water supply for household and municipal purposes.

Water Supply for Household & Municipal purpose (million cubic meters) 2009-2014.

2009	20010	2011	2012	2013	2014
129.0	134.2	132.2	136	151.8	180.0

It's expected that the water supply during the period (2011-2015) has increased by (20-25) % to cover the needs of the Syrian refugees.

5.1.3.6. Tourism Indicators

These indicators show the hotels with rooms, beds as well as the apartments and suite hotels.

Classified Hotel 2015.

Hotels	Rooms	Suites	Beds	Employees
140	10778	1071	19453	8883

Unclassified Hotel 2015.

Hotels	Rooms	Beds	Employees
72	955	2125	152

Apartments and Suit Hotels 2015

App. & Suit	Rooms	Suites	Beds	Employees
158	5331	3383	10112	2525

6. THEORETICAL FRAMEWORK FOR THE SOCIAL IMPACT ASSESSMENT

Social Impact Assessment (SIA) is a due diligence process carried out by the EIB staff and Consultants to (1) systematically screen projects regarding social issues, and (2) recording of this process to assess which policies and requirements apply to a particular project. As such, SIA is an analysis of relevant social issues and factors within the project context. It may vary from project to project, is context bound and dependent and includes both positive and negative aspects. From Environmental

point of view per se, it appears that the New Ma'an substation and line turn-in Project is to be considered as a Category A Environment Project. Considering the Social Impact within the PIA, the Project is a Low risk Project and can also be considered as a Category A Social Project for the consideration of both the Donors and the Recipient.

6.1. LEGAL FRAMEWORK

Social Impact Assessment has been carried out in compliance with the relevant national laws. During the implementation phase of the project, if any, a Covenant will be signed between the Project Management, representing the National Government and the Donor Agencies (e.g., EIB/FIB/WB) which require that the project management will follow the EIB/WB Involuntary Resettlement Policy and Guidelines in case the project execution triggers the Bank' Safeguard Requirements. Among others, Bank's Health and Safety (EHS) Guidelines, as envisaged in OP 4.04, Natural Habitats and Pasture Land Protection Guidelines, and OP 4.11 on the Protection of Archaeological and Cultural Resources concern the Environmental Impact Assessment of the project.

In the Social Context of the Project, issues of Land Acquisition, Involuntary Resettlement of Displaced Persons, if triggered, will be required to be appropriately addressed in accordance with the provisions of the EIB Involuntary Resettlement Policy and Guidelines and WB OP 4.12 on Involuntary Resettlement Policy and Guidelines. Along with relevant national laws, all relevant EIB and other internationally respected procedures are required to be followed in the execution of such projects.

WB OP 4.12 requires, among others, to ensure:

- Meaningful Consultations with various stakeholders are made before and during project planning and implementation throughout the project cycle on a regular basis;
- Disclosure of relevant resettlement information is made to the APs/other stakeholders. The likely APs and other stakeholders in a project are to be provided meaningful access to such information;
- In case of land acquisition, affected people living on and using such land for various economic and social activities, appropriate Safeguard Requirements are put into operation to protect the interest of the affected persons and consequently prepare Safeguard Documents like the RPs;
- Ensure/set up Institutional Arrangements in the RPs;
- Establish Cut Off Date for determining compensation eligibility criterion (at the time of Census Survey);
- Set up Grievance Redress Mechanism in the RPs;
- Ensure arrangement of necessary budgetary provisions for the implementation of the RPs;
- Ensure regular Cash Flow for compensation payment;
- Ensure Compliance Monitoring and Evaluation of progress in project implementation;

- Ensure Reporting of such progress on regular basis and last although not the least;
- Non-compliance of the Safeguard Requirements of the Banks on the part of the concerned project management may result in the cancellation of the Loan/funding of the Project. EIB Policy and Guidelines in this respect are almost similar if not identical.

6.2. SOCIAL AND ECONOMIC CHARACTERISTICS OF THE PROJECT INFLUENCE AREAS

Although governorate level social and economic characteristics in detail were presented in various Indicators of the ESIA Report, project specific level data collection is yet to be completed. Baseline empirical (primary source) data can be derived only from ground surveys like the Census Survey (CS), Social and Economic Impact Survey (SIA), Land Market Price Survey, Property and Asset Valuation Survey, Gender Analysis, HIV/AIDS/Human Trafficking (Abuse and Violation of Human Rights), Poverty Analysis/Right of living, and so forth. All these assume great importance in view of the fact that a number of private households, however sparsely scattered are they, will fall within the project influence areas in different segments of the project. All these survey findings are required for the preparation of Social Impact Management Plan (SIMP) leading to the preparation of a Resettlement Plan (RP)/Instrument to mitigate/compensate the losses to be suffered by the likely APs within the PIA in accordance with the EIB/other Donor Agencies Involuntary Resettlement Policy and Guidelines. However, the NEPCO Agreed Amount of Compensation Payment nullifies such requirements.

The geographical features of the areas have been well reflected in the project site selection process. The study focuses on the Area of the "New Ma'an power substation with transmission line turn-ins". The Consultant has selected the Route Line avoiding all major obstacles and significant Environmental and Social Impacts. The Survey Reports corroborates the above.

6.3. POVERTY ANALYSIS

Long ago Aristotle said: "Poverty is the Parent of Revolution and Crime". As at present, poverty certainly is the root cause of all social tension, unrest and upheavals. Over a billion people around the World are living at 1.90 USD per day income. In other words, they lack all the minimum basic needs to lead a reasonably satisfactory (if not good and acceptable) standard of living although with an unsatisfactory quality of life. In Jordan, according to official figures, minimum income level per day is 14.4 USD. Poverty Line as set is at 3.58 USD per day (2015); in other words, any citizen of Jordan whose income is below the poverty line is to be considered poor and vulnerable for all practical purposes.

Initial Poverty and Social Analysis information is taken into consideration in the grant and loan negotiation process in a donor funded project. Poverty Analysis data help concerned policy makers and the Donor Agencies firm up their Poverty Reduction Strategy in order to reach the Millennium

Development Goal of Poverty Reduction. Poverty Analysis along with Social Analysis is carried out during the Survey and Feasibility Study Phases. In the absence of Social Analysis backed by Poverty Analysis in the PIA, it is problematic to determine the poverty line in the area affected.

6.4. GENDER ANALYSIS

Gender includes both men and women. Gender Analysis in infrastructure development projects assume special importance in view of differential project execution impacts on men and women in the project influence areas rendering the weaker groups (women) still weaker and more impoverished than their pre-project level conditions. Gender Analysis thus concerns the relationship between men and women, and the issues of decision making power and overall empowerment of women in the society at large. If the project adverse impact, if any, affects people and their land and property/assets, mitigations measures to compensate such impact needs to ensure that the affected women are not in a disadvantageous condition and that developmental benefits out of project execution is equally distributed among both men and women. Gender Analysis therefore forms an important component in the Social Surveys of the PIA.

6.5. AIDS AND HIV AWARENESS CAMPAIGN

Infection of HIV/AIDS and other sexually transmitted infections (STIs) have been related to infrastructure development activities resulting in mobility of labour pouring into constructions sites in search of work and employment. Such labour mobility also results in uncontrolled mixing of heterogeneous population giving rise to unsafe human behaviour including sexual activities. Risks of STIs including HIV/AIDS are likely to affect the poor and vulnerable groups in the PIA and even beyond during the construction phase of the project when large number of non-local and immigrant people work in the project sites for longer period.

Infrastructure development project management and contractors should, therefore, need to keep under control the sexual habits of the construction labour forces as well as the poor and vulnerable women in the PIAs in accordance with relevant national policy and international concerns in this respect. Although Jordanian women belong to a conservative society, poverty among them, if any, may force them to fall preys to men's uncontrolled sexual behaviour. It is therefore recommended that an AIDS and HIV Awareness Campaign is organized in the project site areas to enlighten such poor and vulnerable groups as well as the migrating labourers about the risks of AIDS and HIV infections, a highly contagious disease, which inevitably results in death. In addition, the project management and the concerned contractors should carefully guard the project areas against any possible human trafficking crimes likely to be committed by individual criminals and syndicated crime gangs engaged in human trafficking. Social Impact Assessment within the Project Influence Areas (PIAs).

7. SOCIAL IMPACT ASSESSMENT WITHIN THE PROJECT INFLUENCE AREAS (PIAS)

7.1. A NON-TECHNICAL SUMMARY

Screening of the project from its social impact assessment process poses problematic in as much as application of relevant EIB/WB and other Donor Agency social policies and requirements has become subject to interpretations. This is because the method of compensation payment as planned by the EA to mitigate the losses of the likely Affected Persons (APs) eludes relevant EIB/WB and other similar Donor Agency Safeguard Policies and Requirements generally applied to protect their interests. The total quantum of private property required to be acquired and used is not high.

Besides these land owners, it seems likely that not a significant number of non-title holders using the land for various purposes will be affected. Very few vulnerable people are likely to be among them. Design Engineers have designed the project by avoiding the need for acquisition of large quantum of private land and significant number of human settlements, minimizing environmental and social impacts of the project. In the process, the design of the Line Route Transmission Line will also exclude major constructional obstacles and impediments in order to facilitate the execution of the project in a cost effective manner. The ERR/IRR of the project is likely to show project income and benefits justifying the project investment. Such inference can be drawn by the analysis of the Environmental and Social Impacts of the project, and the nature of required private land without adversely affecting human settlements and avoiding their physical and economic displacements. Judging, therefore, by the EIB parameters (as enumerated in its relevant Environmental and Social Impact Templates) of information as could be derived from different sources of both empirical nature and secondary sources provided in the different sections of this report, support the above statements and inferences drawn from such information leading to the conclusion that this is a Low Risk Project and can be undertaken for due execution.

7.2. CONSULTATION AND DISCLOSURE

A public scoping session was held on Feb. 26th, 2017 at NEPCO forum (Amman) in coordination with the Ministry of Environment, NEPCO and the Consultant. The meeting was of representative nature. Several stakeholders from the governmental and non-governmental organizations, including some from local communities of the project areas, participated in the meeting. The objective of this session was to collect the stakeholders view on the proposed project and to evaluate in depth the proposed project site impacts and to prepare the project environmental plan including the mitigation measures for the project impacts. However, Consultation and Disclosure process in carrying out Environmental and Social Impact Assessment necessarily demands organization of consultation meetings and similar other activities with the likely APs in the very project influence areas. Consultation and Disclosure in a Social Impact Assessment is of a qualitative nature of activity and hence needs several grass root

level meetings to assess the reactions, orientations and sentiment of the likely APs towards the project. Focus Group Discussion (FGD) method has proved an effective method of assessing the minds and attitudes of the likely affected APs. It has proved to be all the more effective in view of the fact that attachment to land and private property of the rural people in Jordan is very intimate with heavily value laden sentiment.

Consultation is an ongoing process that should start from project identification phase to its planning and implementation. Consultation will involve public participation as a continual process throughout the project cycle that enable the stakeholders understand the likely impacts of the project and the safeguard measures to be undertaken in neutralizing such impacts. It also gives the stakeholders and likely APs the opportunity to express their ideas, apprehensions, reactions about the project. Consultation can create effective rapport between the field investigators or the change agents and the likely APs regarding project intention. This way social mobilization of the APs can take place. In fact, many suggestions of the participating APs can be considered by the project planners with regard to suggested alternative project designs, if any, in their planning exercise. This also amounts to some kind of bottom up approach to planning as per the Bank Safeguard Documents like the RP (if it is needed). The most effective method of consultation in such infrastructure development project is that of Focus Group Discussion (FGD). FGDs can play an effective role to assess public views and sentiments. Bank Policy and Guidelines require the project management to undertake FGDs in each vantage points of possible project impact.

Disclosure of relevant information to the likely affected persons can enable them to share relevant project information so that confusions in their minds, if any, are removed in a meaningful way. Disclosure allows the likely APs and other stakeholders to have access to relevant project information (e.g., AP Entitlements, etc.) in the context of land and property/asset losses. As in consultation, disclosure of project related information encourages the APs to participate in the project planning process and develop a sense of ownership of the project into their minds. By consultation and disclosure, APs are also discouraged to go to the courts of law to settle their compensation claims as a routine practice. The APs are informed of the provisions of Grievance Redress Mechanism in the RPs (in case of land acquisition) through which they can resolve most of their grievances. During implementation stage, documents like the RPs need to be posted on the websites of the partner country and the Banks. Brochures and leaflets containing relevant information on mitigations measures to compensate losses of different kinds are required to be prepared in Arabic language which the stakeholders will easily understand. Such information documents should be distributed among the APs and other stake holders and also hung/posted at different vantage points accessible to them.

The Consultant conducted a Community consultation on 18th, 19th May, 2017, in order to accommodate the varying needs of stakeholders, particularly the local community of Ma'an interested and affected people (I&APs). The consultation was carried out through interviews with random sample in Ma'an city from the different sectors in Ma'an community and considering the gender issue. Selected people were consulted representing educational, industrial and citizens of Ma'an. Accordingly, the study team had randomly contacted 9 persons from Ma'an community to

consult them about the proposed project through personal contact. More detail is annexed to this document (Annex 1).

The followings are concluded from the interviews with the random sample in Ma'an:

- The consulted people expected the project will create job opportunities for Ma'an community;
- Most of the consulted people see that the project will not affect the residential area as the project is away from Ma'an city boundaries and even from the planning areas;
- The project is very important for the electricity sector on the country level and Ma'an governorate;
- Increase the electricity availability for Ma'an area;
- The project gives opportunities to more investments in renewable energy in South Jordan;
- It helps females have their own small businesses.

7.3. LAND TAKE REQUIREMENT OF THE PROJECT

The designed Line Routes mainly crosses through desert land having sparsely populated areas without significantly impacting any agricultural and commercial land.

A detailed breakdown of likely impacted Government Land and Private Land can be shown in the following Table 7.3.1.

Line/ST	Section	Length (m)	Government Owned (%)
New Ma'an ST	Land		100.0
New Ma'an - Qatrana	New Ma'an-QA01	947	100.0
New Ma'an - Aqaba	New Ma'an-AQ01	736	100.0
New Ma'an – Ma'an	New Ma'an-MA11	3,268	100.0
New Ma'an – Fujiji	New Ma'an-FJ11	3,202	100.0
New Ma'an – Hussein	New Ma'an-HN20	6,168	68.0

Table 7.3.1: Price and Government-owned land percentage.

10.8 ha is governmental land at the New Ma'an substation. In addition, 2,700 m2 of land will be required for the development of about 48 Tower Bases and the respective Sanitary Areas. This land includes both governmental and private land. In Table 2 above, details in this regard have been provided. Number of owners of the land for Tower Bases has been determined along with the breakdown of private and public land take components.

The survey identified the absence of households. Accordingly, there are not families or people to be impacted by the project execution. Therefore, there are not Project Affected Persons or APs to be both physically and economically displaced.

It may be noted that in analyzing the aerial view findings, the PIA was assumed to have a 300 m land area of each side of the 20 m broad RoW. On the basis of such survey, impacted households were not found.

In addition, information derived from the discussions with the NEPCO, Land and Survey Department and others, total quantum of private land was calculated either by Acquisition under Law or by any other method like Negotiated Purchase/Compensation Payment by Agreement on Voluntary Basis (as in the present case) or Lease. Along with this, total cost involved in such acquisition was also estimated. The total nos. of APs and EPs as well were estimated/calculated on the basis of such exercise.

Analysis of the Aerial View of the Project Influence Areas (PIA) this way thus shows that the PIA may involve a total 300 m land (150 m each side of the 20 m RoW) (being in the centre of the PIA).

7.4. COMPENSATION AS PER LAND ACQUISITION LAW

According to Jordanian tradition, Land Acquisition by applying the relevant state instrument is discouraged. Land Acquisition under law is a very time consuming process requiring the approval of the Prime Minister. In many developing countries, land acquisition process to complete requires minimum 12 to 18 months time. Jordan may not be an exception. This is more so in view of the fact that people in Jordan has very strong attachment to their private property and their sentiment regarding such property can hardly be valued in quantitative terms.

If private land would be acquired under the Land Acquisition Law of Jordan, besides the concerned owners of the land, the process should ascertain the total number non-title holding land users. The title holders would be paid compensation in accordance with the laid down provisions and procedures of the Land Acquisition Law for the purpose.

Since, it is assumed, compensation payment for the affected non-title holding land users would not be covered under relevant provisions of the Jordan Land Acquisition Law, the concerned APs would be required to be compensated by the Project in accordance with the relevant EIB/WB Policy and Guidelines. Depending on the nature of the impact, Bank Safeguard Measures would be triggered. If the impact was of significant nature a Full/Long RP would be required to safeguard the interests of the APs. If it was a case of not very significant impact, but affecting the vulnerable groups, an Abbreviated/Short RP could be required to include them in a Social and Economic Safety net of the project. In case of insignificant impact, no such measures would be required. In the present case, however, the impact being of insignificant nature, no Bank Safeguard Requirements would be triggered and hence no RP would be required.

In any case, this land acquisition process is not going to be used.

7.5. NEGOTIATED AGREED AMOUNT OF COMPENSATION PAYMENT METHOD

7.5.1. Land Take by Voluntary Negotiation

In all other cases of Land Take, where Land Acquisition Law will not be applied, the affected Land Owners will be compensated for the reduced value of their land on an agreed basis without affecting their title or ownership of the land and property in question. Since such Land Take or Transfer will be on an Agreed Basis and of Voluntary Nature, no Safeguard Requirements of the EIB/WB will be triggered and as such no RP will be necessary.

The Project Management (NEPCO) has planned for adopting an Agreed Compensation Payment Method to compensate the Land Owners. In this method the land owners can retain the ownership of their land and still get the compensation in full agreement with NEPCO on the respective amount of Compensation.

However, it is not clear how the land users not owning the land (of the compensated land) will be compensated for their physical and economic displacement.

Alternative ways of private land expropriation includes, inter alia, Direct Purchase or Negotiated Purchase Method and Leasing of Land Method. Of the three, Direct Purchase or Negotiated Method of private property acquisition may be taken into consideration on the ground that the quantum of private land take may not be large in the present case. Acquisition of private property this way, as in the case of land acquisition, will vest the ownership of the land in question in the project authorities. Negotiated land purchase or negotiated settlement is normally achieved by providing fair and appropriate compensation and other incentives to the willing seller, negotiated through meaningful and well documented consultations. To the extent negotiation is based on the concept of willing buyer and willing seller, negotiated settlement is voluntary. In cases where negotiation over land acquisition ends up with a willing seller and a willing buyer, the price negotiated is acceptable to both parties. Such transactions will not trigger EIB/WB involuntary resettlement policy and guidelines. Negotiated settlement is normally a faster and more effective arrangement than expropriation of private land under law. In case such negotiation results in failure, expropriation through eminent domain is resorted to regardless of the owner's decision to sell or not, Bank Involuntary Resettlement Policy will be triggered and the Safeguard Requirements will apply, including preparation of a Resettlement Plan or Instrument and its implementation.

Leasing of the land instead will present a different scenario. Leasing of the land executed by the willing leaser and the willing lessee (NEPCO in the present case) will tantamount to some kind of negotiated property disposal settlement provided the Lease Agreement in question does not contain any provision for the cancellation of such Lease Agreement by serving a prior Notice by either party. However, acquisition of Common or Community Property and Resources (CPRs) like Youth Clubs, Community Centres, Mosques, etc. may prove problematic if leasing method is applied.

7.6. LIKELY NEGATIVE AND POSITIVE IMPACTS OF THE PROJECT

7.6.1. Negative Impact

No negative impact of this Project due to the fact that the preferred selection of the substation site is not going to impact households and Vulnerable Groups.

Therefore, execution of the Project is not going to require persons in households to be displaced, and no vulnerable groups will also be displaced.

Thus, the identified line route will not lead to physical displacement of people, loss of shelter, assets, income sources and livelihood, and restriction of access to economic resources.

If all these APs appeared, they would be compensated by NEPCO Method of Agreed Amount of Compensation Payment in their full agreement as explained earlier. Still, the need for installation of an Income Restoration Plan for the vulnerable groups and facilitate the process of social inclusivity of the Nomadic people into the mainstream Jordan society can hardly be over emphasized.

7.6.2. Positive Impact

Positive impact of the project execution is, on the other hand, expected to be of multi-fold nature and as follows:

- The project will enable transmission and distribution systems with an increased generation capacity in the middle region of Jordan in order to improve the electrification rate, interconnecting the grid with planned renewable resources, establishing supply reliability and the stability of the electric power grid. Such effort will contribute to the regional development of industry and to public welfare;
- It will reinforce the Jordanian network and the interconnections avoiding any congestion in the transmission lines or substations by either due to meeting power exchange needs for Jordan or for the transaction purposes through the Jordanian network;
- It will increase the electric power exchange capability of Jordan;
- The envisaged New Ma'an Amman substation site (execution) will be considered as a major step towards developing the Area in various aspects;

Besides, reinforcement of Jordan's transmission network is necessary to enhance electric connectivity between the MENA region and Europe. The Aqaba-Amman transmission line has been identified in various studies in the MEDRING context as posing a severe constraint for increasing the electricity trade within the region. As such, this reinforcement project will enhance power transfer and trading among interconnected countries up to the EU. In addition, the Jordan south-north transmission corridor has been identified as critical for integrating renewable energy resources to

Jordan's national grid, including planned solar and wind power plants, and in the medium/long-term facilitating renewable electricity export from Egypt and Jordan to the North. Therefore, the reinforcement of the capacity of the transmission corridor is proposed for financing by the Clean Technology Fund1. For the reasons stated above, NEPCO plans to reinforce the Jordanian transmission network from Aqaba to Amman by adding a 400 kV double circuit overhead line. The priority would be to construct a new Amman West 400/132 kV substation, 400 kV dual overhead transmission lines from Qatranah to Amman West and from Samra to Amman West over a total length of 180 km.

The project impact on the APs will not trigger the need for RPs. They will be compensated at current rate of market price to ensure that they can at least restore their pre-project level standard of living. There are not detected affected vulnerable groups and therefore, there is not even the necessity to protect the interest of these groups or to include an Income Restoration Programme (IRP).

In the light of the above, it can be predicted that the extrapolated positive impact of the project execution far out-weighs its negative impact.

8. MONITORING AND EVALUATION

Monitoring of formative nature like internal monitoring is basically and essentially Safeguard Compliance Monitoring following an Input-Process-Output-Impact System Model of Monitoring RP Implementation Activities.

Internal monitoring is carried out to assess progress in plan implementation as well as to measure the level of benefits the APs derive out of project intervention.

At the end of the project implementation, a summative monitoring and evaluation will be required to assess cost effectiveness of the project execution.

In the present case, no RP or no IRP will be required for implementation. Then, External Monitoring for third party validation, that could also be considered in addition to internal monitoring, is not recommended.

8.1. MONITORING FRAMEWORK

In RP implementation Phase of a Bank funded project, Monitoring and Evaluation of the various implementation activities are considered important in assessing project effectiveness. Internal or Compliance Monitoring, as mentioned earlier, is a kind of formative evaluation exercise of routine nature which is carried out throughout the project cycle. External Monitoring of a project

[1] Clean Technology Fund Investment Plan for Concentrated Solar Power in the Middle East and North Africa Region (November 2009).

implementation should start within three months of the start of the implementation for third party validation of the implementation progress. However, establishment of Monitoring Indicators are essential to assess project effectiveness and justification of project investment. As no RP will be required in this project, any discussion on Monitoring will be of theoretical nature. In view of this, the following Monitoring Framework for a Bank funded Resettlement Project can be useful.

1. Input Indicators to include the resources in terms of personnel, equipment and materials that go into the preparation and implementation of the Resettlement Action Plan (RAP- when a RP is put into operation it becomes a RAP).

2. Output Indicators to include the activities and services that the RAP Implementation Team (e.g., an Implementing NGO, the Supervision Consultant and the RP Unit of the Project Management) produce in terms of implementation activities.

3. Process Indicators to include institutional arrangement of the RAP, including the establishment of Grievance Redress Mechanism, information dissemination in the form consultation and disclosure and also creation of Sub-programmes like Livelihood Restoration/Income Generation programmes for consolidating projects benefits on a sustainable basis for the vulnerable APs.

4. Outcome Indicators to include the delivery of compensation and other mitigation to compensate the economic and physical displacement of the APs caused by the project. Outcome Indicators once found satisfactory also signal the completion of the RAP Implementation.

5. Impact Indicators are mainly used in the overall evaluation of the Project Outcome. Such evaluation is done by Project implementation auditors and also External Monitors after the conclusion of the project implementation.

The Monitoring Framework excludes Benefit Monitoring Indicators which are normally associated with the monitoring of outcome of a project in relation to cost-benefit analysis of project investment to justify or not justify the project investment. In a Resettlement Project Implementation, Benefit Monitoring is also done by using surrogates and consultation with APs to assess the level of benefits derived by them from the project on a sustainable basis.

During the project implementation stage, Reporting of the compensation payment progress will be required to be made on a regular basis. In addition to Monthly Progress Report, Semi-annual Progress Report will be required for the Project Management as well as the Donor Agencies.

9. CONCLUDING REMARKS

This is a Low Risk Project. The Project is thus a Category A Project. Looking at the Aerial View of the Project Influence Areas on the two sides of the RoW and the Preliminary Land Survey, it appears that the concerned Design Engineers have designed the Line Route by avoiding all major populated settlements, structures and Agricultural Land so that the Project Execution is not marked and

impeded by any adverse Environmental and Social Impacts of significant nature. The Preliminary Survey corroborates such observation. Project Site Selection Process also supports this.

To undertake Social Impact Assessment activities, the project needs to conduct a social survey like the Census Survey (100%), Socio-Economic Survey, Land/Property/Valuation Survey and so forth in the PIA and in some cases beyond. The data/information generated by such Survey form the basis of SIMP and RP preparation activities. Undertaking of the necessary social and economic survey, among others, is therefore Sine Qua Non in a Social Impact Assessment SIA), Social Impact Management Plan (SIMP) and Resettlement Plan (RP) preparation.

Considering the above, the Consultant has proposed to arrange necessary field visits to undertake at least a Reconnaissance Survey and organize FGDs in the PIA despite NEPCO's shying away from such activities on the part of the Consultant.

NEPCO, the Executing Agency (EA), has informed in a meeting with the Consultant that the loss/reduction of value/price of the impacted land which includes anything standing on the land and the usage of the land in both qualitative and quantitative terms will be compensated in full agreement of the land owners out of the NEPCO Land and Resettlement Cost Budget for the purpose. The concerned NEPCO personnel will have that undertake necessary consultation with the likely impacted APs and in their Full Agreement they will be compensated this way for their respective losses to be incurred as side effect of the project execution. Thus, NEPCO discourage the consultants to either visit the field or undertake any kind of field survey/assessment to assess the objective field conditions by way of consultation and disclosure and in particular Census Survey and Socio-economic Survey, Vulnerable Groups Survey and so forth.

As at present, NEPCO does not favour any field visits and consultation and disclosure meetings to be undertaken by the consultants with the likely affected people within the PIA. In other words, NEPCO discourages the Consultant to undertake any field visit and conduct any kind of consultation with the likely affected persons and disclose the compensation package, if any, to the likely impacted APs and other stakeholders. At the same time, it should be noted that the Consultant Field Assessment Team had already traversed the entire project site areas for necessary data collection (except of course project level social data collection).

In the present case, the price/value of land required for establishing the RoW will be reduced by the project execution. According to NEPCO, such reduction of land value/price will be fully compensated in full agreement of the concerned likely affected persons thereby avoiding the need for any Land Acquisition, Negotiated Land Purchase or Lease of the land in question. Because the ownership of the likely impacted of land will remain intact with the concerned land owners. The Compensation amount will be determined by multiplying the base or the official rate of price by three times in the PIAs where such land is likely to suffer from reductions of its value/price due to the project execution impact. Thus, the likely APs will receive Compensation for their losses at three times more of the official price of the impacted land. Such computation of the Compensation amount has been agreed upon by the likely impacted APs. However, it should be noted the concerned land owners of the RoW land (20 m wide all along the Line Routes under the Conductors/Transmission Line) will be compensated at 75 % of the current market price of such electro-magnetically impacted land. The

land take required for the construction/expansion of the Towers will be compensated at 100 % of its current market price. In both cases, NEPCO Agreed Amount of Compensation Payment Method (Voluntary Basis) will be applied and the affected land owners will retain the ownership of such land takes.

The Agreed amount of Compensation will be a One-Time Cash Compensation assessed as per relevant current market price case by case. To elaborate, current market price rate will vary from sector to sector of the affected areas. The amount of compensation will be assessed accordingly.

In other words, in the present case, if the necessary compensation for the reduction of land price in question is being made in full agreement of the concerned APs, it will be a case of Negotiated and Voluntary Agreement between the APs and the Project Management (EA) and no Involuntary Land Take or Unwilling Acceptance of Compensation Amount on the part of the likely affected land owners for their losses (resulting in reduced land price). In that case, unique in itself though, no Bank Safeguard Requirements/Measures will be triggered or invoked to mitigate such losses due to reduction of land price as a result of project execution. In that case, also again, in consequence, no RP will be required to be prepared, installed and implemented for any mitigation purpose. Still, the question remains as to how NEPCO is going to treat the specific land requirement for site construction activities. As for example, construction of Substation and Towers will require designated area of land which will be permanently lost to the concerned owners. In that case, how the concerned owners will be able to retain the ownership of such lost land. If, however, the concerned owners agree to lose ownership of such land in exchange of agreed amount of compensation amounting to some kind of negotiated sale on their part, EIB or WB Safeguard Measures will not to triggered. However, as the project execution impact will be either insignificant or not significant, no long or abbreviated RP will be required. It should be noted here that Land Acquisition Law will not be applied to acquire land at the New Ma'an substation site, being government land. Besides, the land being desert and fallow land virtually having no population, project impact will be insignificant and hence no Bank Safeguard Measures will be triggered and no RP will be required.

It is also possible that a number of people will be living on and using such land, without being its owners, for project site construction (falling outside the Agreed Compensation Method). Once such land, encumbrance free and vacant, is taken over by NEPCO/the Project, the concerned non-title holders still living on the land and using it assume the status of Squatters. Encroachers however need not change their status as they are always encroachers irrespective of any change in the ownership of land which they encroach into. These squatters will then be requiring physical and economic relocation by the project (as the concerned owners already paid are not likely to care for them) thereby triggering the Safeguard Measures of the Bank. In that case, Squatter Resettlement Plan (SRP) will be required for them for their rehabilitation as per Bank Involuntary Resettlement Policy and Guidelines. Such a SRP can be an Umbrella SRP covering all the squatters of the project influence areas of the project. This is however subject to the number of such APs and the nature of project execution impact. If the degree or level of such impact proves insignificant, as informed by NEPCO, no such measures will be required.

10. COST AND BUDGET ESTIMATE

10.1. RESETTLEMENT AND REHABILITATION

10.8 ha is governmental land at the New Ma'an substation. In addition, 2,700 m2 of land will be required for the development of about 48 Tower Bases. Number of owners of the land for Tower Bases has been determined along with the breakdown of private and public land take components.

10.2. RESETTLEMENT AND REHABILITATION COST BUDGET ESTIMATE

As identified from Survey and the Aerial View of the Row and the anticipated PIA, there are not households, including number of likely vulnerable households, distance between households calculated, property/assets like the likely impacted greenhouses counted and a budget estimate to compensate such persons and their losses. There is not necessary budget for compensating such impacted households.

10.2.1. Compensation criteria

The Jordanian Government issued the final version of Electricity Law which includes the general regulations for all electricity sectors, generation, transmission and distribution in the 2002 in the country official paper. The law has specified one article (A 44) regarding the compensation for landowners which the transmission lines (132 kV up to 400 kV) pass their property.

The law is defining the compensation by an amount of money is paid to the landowner which are agreed between the owner and the electricity transmission license owner (NEPCO) or determined by the specialized court in case of Conflict between the two parties.

The compensation is divided into three types:

- Compensation for the damages, as a result of the implementation of electrical equipment such as buildings, fences, trees, etc.
- Compensation for the value of land indicted for power substations, joint point of transmission lines.
- Compensation for the reduction of the land value since the OHTL is passing through the land.

10.2.2. Compensation procedures

According to aforementioned Electricity Law and the litigation procedures in Jordan, the compensation procedures will be started from the day of energizing the transmission line and become in full operation and according to the following steps:

1. At the day of energization the landowners should claim for the value of physical damages or the land value reduction from NEPCO.
2. The owner should provide a land registry document to start the application of compensation claiming.
3. Property ownership is revised and will be checked if the transmission line is passing through the property, also the nature of this passing (if an electrical tower in the land).
4. Refer to the DLS to define the ownership of the land to start the negotiation with the property owner.
5. NEPCO will offer the compensation value to the land owner according to the preliminary estimates by the DLS in the area or depending on NEPCO's experts estimates for the damage value.
6. If not agreed on the compensation value or on the land value estimates the landowner can register a case on front of any Jordanian Trial Court claiming for the proper compensation.
7. The court assigns two technical referees; an electrical expert and a lawyer to estimate the price of the land and the amount of damages caused by the electrical equipment implementation.
8. Then the final compensation value is calculated by the court depending on the given land prices and damages (the experts (referees') estimated prices and the DLS's (NEPCO) estimated price).

The method of calculating the damage (reduction in land value) resulting from the OHTL impacts:

Compensation [JD] = Land area [m^2] · Private-owned land [%] · Actual price [JD/m^2] · Reducing value constant

$C = A \times L \times P \times Rc$

where,

A: land area,

L: % of private owned land,

P: price of one meter of the land,

Rc: reduction value constant, calculated as follows:

For 132 kV lines= 55%

For 400 kV lines= 75%

For the tower = 100%

10.2.3. Compensation calculation

As mentioned in the ESIA study report, the land used for this project (the new Ma'an substation and the transmission line turn-ins) will be allocated as follows:

- Two parallel 132 kV transmission lines from New Ma'an substation to the existing line which is connected to Ma'an substation. All land in this ROW is public land according to DLS map.
- The two parallel 400 kV transmission lines connected to the nearby OHTL completely in public land.
- New Ma'an Substation site which is also 100% public land.
- 132 kV transmission line from New Ma'an substation to the existed line which is connected to Hussein substation. Some parts of this line are passing an unpopulated private land. The expected compensation value is calculated.

1. No damage will accrue from implementing the OHTL or the towers since the ROW pass no buildings, private fences, ditches or trees. The estimation will be zero depending on this fact.
2. For the towers place compensation, according to the figure 10.2.2, the number of towers which is in the private land is 8: HN11, HN12, HN13, HN14, HN17, HN18, HN19, HN20.

The value of the land will be:

- The DLS for the land in this area is 1 JD per m² and this will be NEPCO offer to the landowners.
- The experts estimation will be 5-10 JD per m² after the case go to the court.
- The expected court estimate price which the consultant also recommends is 4 JD per m².

10.2.3.1. Indicative Cost Estimate for Land Take for New Ma'an Substation

For the compensation for the substation site, it is assumed that the price of the land is 4 JD/m2 but the owner is the Government. To calculate the compensation amount for the substation site, the following formula is used:

Compensation [JD] = Land area [m^2] · Private-owned land [%] · Actual price [JD/m^2] · Reducing value constant

Compensation = 108,000 · 0% · 4.00 · 100% = 0 JD

The impacts of the affected land will be minor and unlikely to have any significant effect in the productive capacity of earning potential of people living in the project areas.

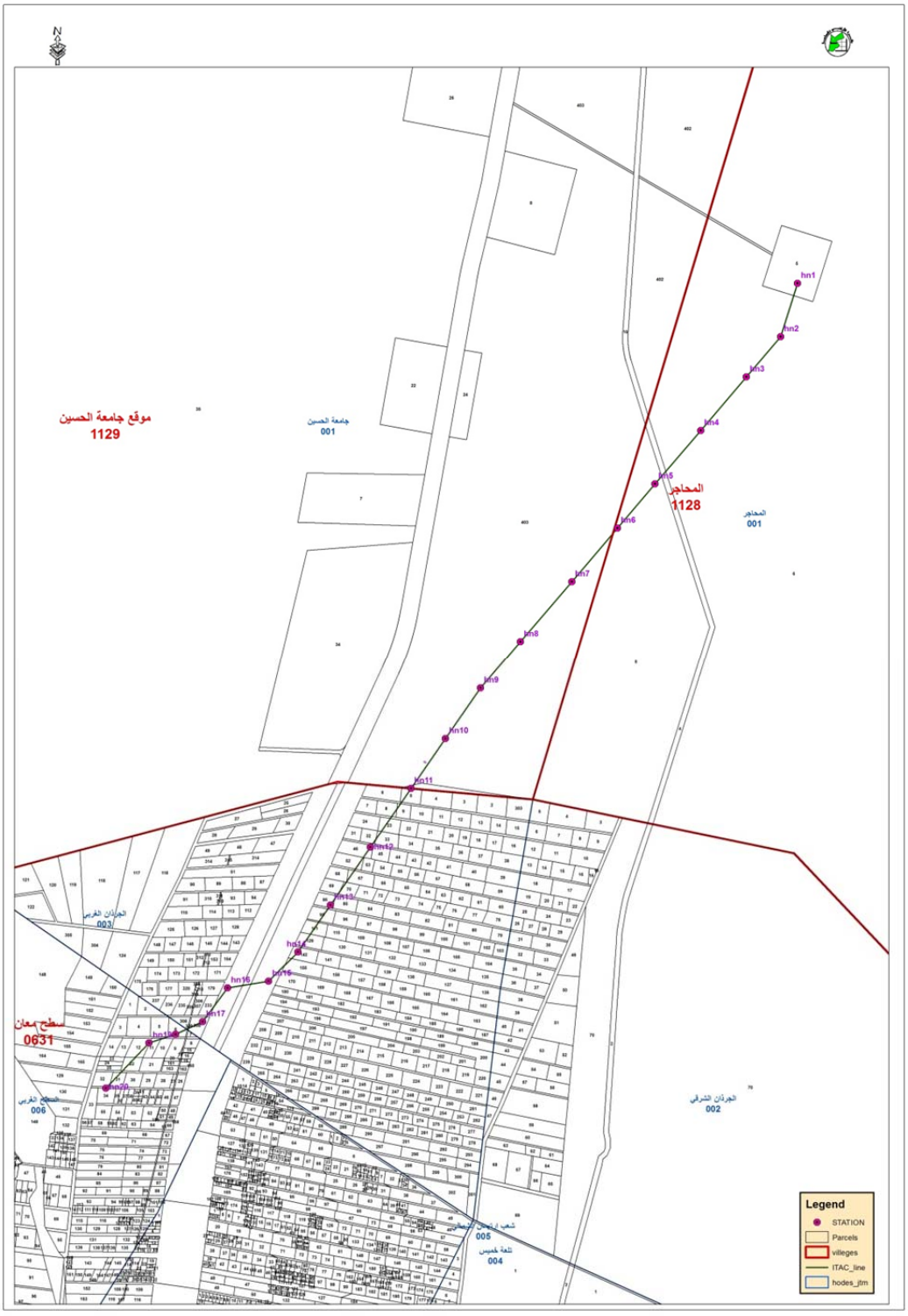


Figure 10.2.1: Map that shows the ownership

Figure 10.2.2: The 132 kV line passing for the private land area

10.2.3.2. Indicative Cost Estimate for Land Take for Towers

To calculate the compensation for towers, the area of the land required for the transmission line towers is considered to be small and will not exceed 450 m2. The compensation for this land will be 100 % of the current value of the land, 4 JD/m2, that will be used only during the project life cycle. It is calculated as follows:

Every tower area has been estimated in 7.5 m x 7.5 m = 56.25 m².

The number of towers in private-owned land is 8.

Compensation [JD] = number of towers · Land area [m^2] · Private-owned land [%] · Actual price [JD/m^2] · Reducing value constant

Compensation = 8 · 56.25 · 100% · 4.00 · 100% = 1,800 JD

10.2.3.3. Indicative Cost Estimate for Impacted Land

A separate Budget estimate for compensating the likely impacted Land by the proposed Transmission Line Installation has been prepared. In preparing such Budget estimate, likely affected Government/Private Land Breakdown, estimated land cost and its average price throughout the underneath of the prospective Transmission Lines have been, among others, taken into account.

The Government owned land cost will be paid through inter-Ministerial/Departmental Book Adjustments. Cost of Private will be paid out of NEPCO Budget for the purpose. It will be paid on the basis of an Agreed Compensation 6.

Payment method for the reduced value of the land in question due to the project execution. In this method, the concerned land owners will retain the ownership of their impacted land. 100 % price at the current market rate will be paid for land falling directly under the 19,7 m RoW over which the Transmission Line will be installed. The rest of the impacted land will be compensated, also on the same basis but at reducing value of the current market rate.

While calculating the total amount of compensation, the costs have been averaged. Since such compensation payment will be made in full agreement of the parties (e.g., NEPCO and Land Owners), and therefore on voluntary basis (and not Involuntary land take over), no Bank Safeguard Requirements will be triggered and hence no RP will be required in such context of land take.

A detailed breakdown of likely impacted Private Land and Compensation Estimate for Impacted land according to the figure 10.2.2 can be shown as follows:

The recommended value of the land is 4 JD per m².

The total compensation for the transmission lines will be:

Compensation [JD] = Land area [m^2] · Private-owned land [%] · Actual price [JD/m^2] · Reducing value constant - Tower compensation value

where,

The transmission line covers the land area, calculated depending on the given design by NEPCO and the horizontal tolerance distances published by the EMRC under the electricity law article (44) sentence (C) electrical tolerances table (7):

Description	11 kv	33 kv	66 kv	132 kv	230 kv	400 kv
Horizontal tolerances for buildings	3 m	3 m	3 m	4.6 m	5 m	6 m
Horizontal tolerances for unpopulated land	2 m	2 m	3 m	**4.6 m**	5 m	6 m

Table 10.2.1: Horizontal tolerance.

,which is 10.5 m as the actual width on the 2nd phase (double circuit design) and 4.6 meter on each side of the tower; the total width will be 19.7 meter and the length is 1,977.5 m the total land area = 19.7 x 1,977.5 = 38,957 m²

Rc: Reducing value constant will be 55%

Every tower area has been estimated in 7.5 m x 7.5 m = 56.25 m².

The number of towers in private-owned land is 8.

Compensation = 38,957 · 100% · 4.00 · 55% - 8 · 56.25 · 100% · 4.00 · 55% = 84,715 JD

10.2.3.4. Indicative Cost Estimate for Loss of Households and Greenhouses

There are not households, Bedouin tents, greenhouses standing within the Project Influence Areas of the Transmission Line Installation. This Budget estimate would be made on the basis of identified likely impacted households and property obtained from a survey or an Aerial View of the possible impacted project influence areas of the Transmission Line. Additionally, it would have to take into account the estimating Budget for Resettlement and Rehabilitation of the APs in question, the Involuntary Resettlement Policy and Guidelines of the Donor Agencies mainly the EIB and the WB.

Items for the compensation calculation for losses of households and greenhouses could be:

- Estimated cost of households as per estimated current market price.
- Estimated special grant for Bedouin (vulnerable) households.
- Estimated cost for shifting and re-establishing greenhouses.
- Premium (50 %) for unwilling/involuntary nature of land acquisition/expropriation of land and property from the Aps.

Table 10.2.2: Items for the compensation calculation for losses of households and greenhouses.

Households (JD)	Special Grant Bedouins (JD)	Shifting Greenhouses (JD)	Premium Unwilling Expropriation (JD)	Total Compensation (JD)

In our case, there is not Cost/Compensation amount.

Additional Grants and Benefits/Cost for Restoration of Livelihood (programme) as per EIB/WB Resettlement Entitlement Matrix as Applicable in the context of the present Project would have to be included in the above Cost Estimates.

10.2.4. Global Land Acquisition Cost Estimate

The Global Cost/Compensation Estimate is 86,515 JD.

Table 10.2.3: Global land acquisition cost estimate

Item	Estimate (JD)
Land Take for New Maa'an Substation	0
Land Take for Towers	1,800
Impacted Land	84,715
Loss of Households & Greenhouses	0
TOTAL	**86,515**

Annex 1 shows the detailed calculation for land owners compensation.

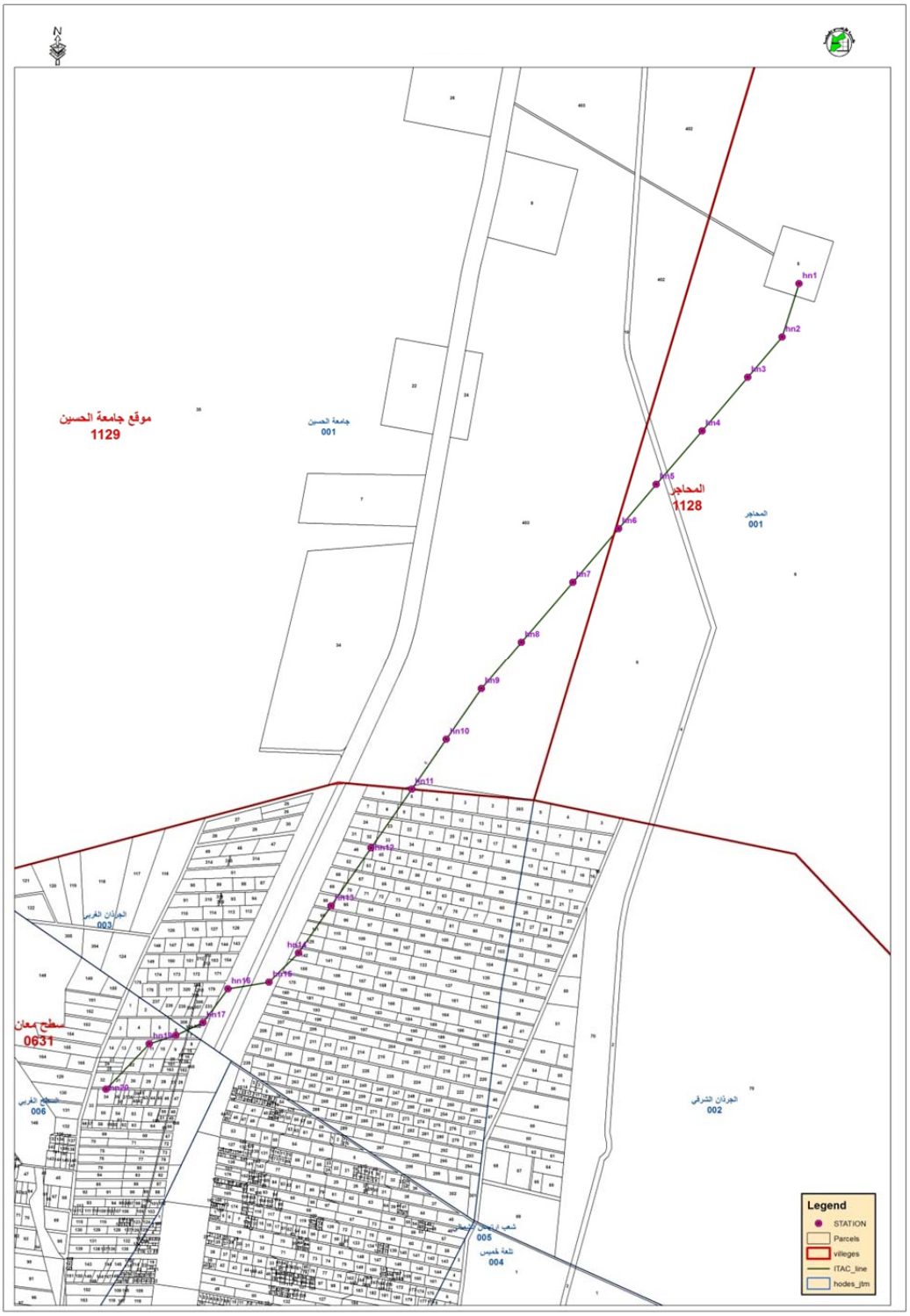
ANNEX 1: COMPENSATION CALCULATION

Village Code	Village name	Area number	Area name	Block	Block reference	Area m2	Piece number	Owner	Owner shares	All shares
631	sateh Ma'an	3	west jarthan	0	block list	9775	5	public	2	5
631	sateh Ma'an	3	west jarthan	0	block list	9775	5	private	1	5
631	sateh Ma'an	3	west jarthan	0	block list	9775	5	private	2	5
631	sateh Ma'an	3	west jarthan	0	block list	16125	6	private	7	29
631	sateh Ma'an	3	west jarthan	0	block list	16125	6	public	22	29
631	sateh Ma'an	3	west jarthan	0	block list	9200	8	private	3	18
631	sateh Ma'an	3	west jarthan	0	block list	9200	8	private	4	18
631	sateh Ma'an	3	west jarthan	0	block list	9200	8	private	11	18
631	sateh Ma'an	3	west jarthan	0	block list	6400	9	private	1	1
631	sateh Ma'an	3	west jarthan	0	block list	9760	23	private	108	228
631	sateh Ma'an	3	west jarthan	0	block list	9760	23	private	40	228
631	sateh Ma'an	3	west jarthan	0	block list	9760	23	private	16	228
631	sateh Ma'an	3	west jarthan	0	block list	9760	23	private	16	228
631	sateh Ma'an	3	west jarthan	0	block list	9760	23	private	16	228
631	sateh Ma'an	3	west jarthan	0	block list	9760	23	private	2	228
631	sateh Ma'an	3	west jarthan	0	block list	9760	23	private	2	228
631	sateh Ma'an	3	west jarthan	0	block list	9760	23	private	2	228
631	sateh Ma'an	3	west jarthan	0	block list	9760	23	private	2	228
631	sateh Ma'an	3	west jarthan	0	block list	9760	23	private	1	228
631	sateh Ma'an	3	west jarthan	0	block list	9760	23	private	1	228
631	sateh Ma'an	3	west jarthan	0	block list	9760	23	private	1	228
631	sateh Ma'an	3	west jarthan	0	block list	9760	23	private	1	228
631	sateh Ma'an	3	west jarthan	0	block list	9760	23	private	1	228
631	sateh Ma'an	3	west jarthan	0	block list	9760	23	private	1	228
631	sateh Ma'an	3	west jarthan	0	block list	9760	23	private	2	228
631	sateh Ma'an	3	west jarthan	0	block list	9760	23	private	16	228
631	sateh Ma'an	3	west jarthan	0	block list	6375	32	private	3	6
631	sateh Ma'an	3	west jarthan	0	block list	6375	32	public	1	6
631	sateh Ma'an	3	west jarthan	0	block list	6375	32	private	1	6
631	sateh Ma'an	3	west jarthan	0	block list	6375	32	private	1	6
631	sateh Ma'an	3	west jarthan	0	block list	9750	33	public	5	9
631	sateh Ma'an	3	west jarthan	0	block list	9750	33	private	4	9
631	sateh Ma'an	3	west jarthan	0	block list	7500	45	private	8	14
631	sateh Ma'an	3	west jarthan	0	block list	7500	45	private	4	14
631	sateh Ma'an	3	west jarthan	0	block list	7500	45	private	2	14
631	sateh Ma'an	3	west jarthan	0	block list	14250	46	private	13	26
631	sateh Ma'an	3	west jarthan	0	block list	14250	46	private	13	26
631	sateh Ma'an	3	west jarthan	0	block list	12375	52	private	1	1
631	sateh Ma'an	3	west jarthan	0	block list	4875	53	private	1	1
631	sateh Ma'an	3	west jarthan	0	block list	11096	67	private	1	1
631	sateh Ma'an	3	west jarthan	0	block list	8395	68	private	4	9
631	sateh Ma'an	3	west jarthan	0	block list	8395	68	private	5	9
631	sateh Ma'an	3	west jarthan	0	block list	8025	69	public	9	81
631	sateh Ma'an	3	west jarthan	0	block list	8025	69	private	72	81
631	sateh Ma'an	3	west jarthan	0	block list	6750	70	private	9	56
631	sateh Ma'an	3	west jarthan	0	block list	6750	70	private	9	56
631	sateh Ma'an	3	west jarthan	0	block list	6750	70	private	6	56
631	sateh Ma'an	3	west jarthan	0	block list	6750	70	private	32	56
631	sateh Ma'an	3	west jarthan	0	block list	9750	85	private	1	1
631	sateh Ma'an	3	west jarthan	0	block list	7770	86	private	1	1
631	sateh Ma'an	3	west jarthan	0	block list	10875	95	private	1	1
631	sateh Ma'an	3	west jarthan	0	block list	10050	111	private	2940	58140

Village Code	Village name	Area number	Area name	Block	Block reference	Area m2	Piece number	Owner	Owner shares	All shares
631	sateh Ma'an	3	west jarthan	0	block list	10050	111	private	5880	58140
631	sateh Ma'an	3	west jarthan	0	block list	10050	111	private	5880	58140
631	sateh Ma'an	3	west jarthan	0	block list	10050	111	private	5880	58140
631	sateh Ma'an	3	west jarthan	0	block list	10050	111	private	5880	58140
631	sateh Ma'an	3	west jarthan	0	block list	10050	111	private	2940	58140
631	sateh Ma'an	3	west jarthan	0	block list	10050	111	private	2940	58140
631	sateh Ma'an	3	west jarthan	0	block list	10050	111	private	2940	58140
631	sateh Ma'an	3	west jarthan	0	block list	10050	111	private	735	58140
631	sateh Ma'an	3	west jarthan	0	block list	10050	111	private	1666	58140
631	sateh Ma'an	3	west jarthan	0	block list	10050	111	private	1666	58140
631	sateh Ma'an	3	west jarthan	0	block list	10050	111	private	833	58140
631	sateh Ma'an	3	west jarthan	0	block list	10050	111	private	2940	58140
631	sateh Ma'an	3	west jarthan	0	block list	10050	111	private	5880	58140
631	sateh Ma'an	3	west jarthan	0	block list	10050	111	private	9140	58140
631	sateh Ma'an	3	west jarthan	0	block list	11250	129	private	1	1
631	sateh Ma'an	3	west jarthan	0	block list	10640	142	private	7	22
631	sateh Ma'an	3	west jarthan	0	block list	10640	142	public	12	22
631	sateh Ma'an	3	west jarthan	0	block list	10640	142	private	3	22
631	sateh Ma'an	3	west jarthan	0	block list	15975	155	private	9218	244992
631	sateh Ma'an	3	west jarthan	0	block list	15975	155	private	5742	244992
631	sateh Ma'an	3	west jarthan	0	block list	15975	155	private	74448	244992
631	sateh Ma'an	3	west jarthan	0	block list	15975	155	private	5544	244992
631	sateh Ma'an	3	west jarthan	0	block list	15975	155	private	2772	244992
631	sateh Ma'an	3	west jarthan	0	block list	15975	155	private	2772	244992
631	sateh Ma'an	3	west jarthan	0	block list	15975	155	private	5544	244992
631	sateh Ma'an	3	west jarthan	0	block list	15975	155	private	59136	244992
631	sateh Ma'an	3	west jarthan	0	block list	15975	155	private	3190	244992
631	sateh Ma'an	3	west jarthan	0	block list	15975	155	private	4272	244992
631	sateh Ma'an	3	west jarthan	0	block list	15975	155	private	4272	244992
631	sateh Ma'an	3	west jarthan	0	block list	15975	155	private	4272	244992
631	sateh Ma'an	3	west jarthan	0	block list	15975	155	private	2425	244992
631	sateh Ma'an	3	west jarthan	0	block list	15975	155	private	2425	244992
631	sateh Ma'an	3	west jarthan	0	block list	15975	155	private	2772	244992
631	sateh Ma'an	3	west jarthan	0	block list	15975	155	private	17380	244992
631	sateh Ma'an	3	west jarthan	0	block list	15975	155	private	5544	244992
631	sateh Ma'an	3	west jarthan	0	block list	15975	155	private	5544	244992
631	sateh Ma'an	3	west jarthan	0	block list	15975	155	private	5544	244992
631	sateh Ma'an	3	west jarthan	0	block list	15975	155	private	5544	244992
631	sateh Ma'an	3	west jarthan	0	block list	15975	155	private	2772	244992
631	sateh Ma'an	3	west jarthan	0	block list	15975	155	private	2772	244992
631	sateh Ma'an	3	west jarthan	0	block list	15975	155	private	2772	244992
631	sateh Ma'an	3	west jarthan	0	block list	15975	155	private	2772	244992
631	sateh Ma'an	3	west jarthan	0	block list	15975	155	private	5544	244992
631	sateh Ma'an	3	west jarthan	0	block list	13440	170	private	1	1
631	sateh Ma'an	3	west jarthan	0	block list	8400	179	private	4	19
631	sateh Ma'an	3	west jarthan	0	block list	8400	179	private	8	19
631	sateh Ma'an	3	west jarthan	0	block list	8400	179	private	7	19
631	sateh Ma'an	3	west jarthan	0	block list	7475	233	private	1	12
631	sateh Ma'an	3	west jarthan	0	block list	7475	233	private	6	12
631	sateh Ma'an	3	west jarthan	0	block list	7475	233	private	3	12
631	sateh Ma'an	3	west jarthan	0	block list	7475	233	private	1	12
631	sateh Ma'an	3	west jarthan	0	block list	7475	233	private	1	12
631	sateh Ma'an	3	west jarthan	0	block list	14046	308	private	1	1
631	sateh Ma'an	3	west jarthan	0	block list	456	309	public	2566080	2936736
631	sateh Ma'an	3	west jarthan	0	block list	456	309	private	370656	2936736

Village Code	Village name	Area number	Area name	Block	Block reference	Area m2	Piece number	Owner	Owner shares	All shares
631	sateh Ma'an	6	west sateh	1	gas pipe block	11271,71	5	private	1	1
631	sateh Ma'an	6	west sateh	1	gas pipe block	8031,9	6	private	243	1568
631	sateh Ma'an	6	west sateh	1	gas pipe block	8031,9	6	private	224	1568
631	sateh Ma'an	6	west sateh	1	gas pipe block	8031,9	6	private	66	1568
631	sateh Ma'an	6	west sateh	1	gas pipe block	8031,9	6	private	66	1568
631	sateh Ma'an	6	west sateh	1	gas pipe block	8031,9	6	private	504	1568
631	sateh Ma'an	6	west sateh	1	gas pipe block	8031,9	6	private	465	1568
631	sateh Ma'an	6	west sateh	1	gas pipe block	1164,83	7	private	15	28
631	sateh Ma'an	6	west sateh	1	gas pipe block	1164,83	7	private	4	28
631	sateh Ma'an	6	west sateh	1	gas pipe block	1164,83	7	private	9	28
631	sateh Ma'an	6	west sateh	1	gas pipe block	8545,53	9	private	192	448
631	sateh Ma'an	6	west sateh	1	gas pipe block	8545,53	9	private	256	448
631	sateh Ma'an	6	west sateh	1	gas pipe block	7857,51	10	private	432	912
631	sateh Ma'an	6	west sateh	1	gas pipe block	7857,51	10	private	48	912
631	sateh Ma'an	6	west sateh	1	gas pipe block	7857,51	10	private	48	912
631	sateh Ma'an	6	west sateh	1	gas pipe block	7857,51	10	private	60	912
631	sateh Ma'an	6	west sateh	1	gas pipe block	7857,51	10	private	24	912
631	sateh Ma'an	6	west sateh	1	gas pipe block	7857,51	10	private	24	912
631	sateh Ma'an	6	west sateh	1	gas pipe block	7857,51	10	private	180	912
631	sateh Ma'an	6	west sateh	1	gas pipe block	7857,51	10	private	12	912
631	sateh Ma'an	6	west sateh	1	gas pipe block	7857,51	10	private	14	912
631	sateh Ma'an	6	west sateh	1	gas pipe block	7857,51	10	private	14	912
631	sateh Ma'an	6	west sateh	1	gas pipe block	7857,51	10	private	14	912
631	sateh Ma'an	6	west sateh	1	gas pipe block	7857,51	10	private	14	912
631	sateh Ma'an	6	west sateh	1	gas pipe block	7857,51	10	private	7	912
631	sateh Ma'an	6	west sateh	1	gas pipe block	7857,51	10	private	7	912
631	sateh Ma'an	6	west sateh	1	gas pipe block	7857,51	10	private	7	912
631	sateh Ma'an	6	west sateh	1	gas pipe block	7857,51	10	private	7	912
631	sateh Ma'an	6	west sateh	1	gas pipe block	5586,38	11	private	5	13
631	sateh Ma'an	6	west sateh	1	gas pipe block	5586,38	11	private	5	13
631	sateh Ma'an	6	west sateh	1	gas pipe block	5586,38	11	private	3	13
631	sateh Ma'an	6	west sateh	1	gas pipe block	11426,06	12	private	336	18816
631	sateh Ma'an	6	west sateh	1	gas pipe block	11426,06	12	private	272	18816
631	sateh Ma'an	6	west sateh	1	gas pipe block	11426,06	12	private	272	18816
631	sateh Ma'an	6	west sateh	1	gas pipe block	11426,06	12	private	272	18816
631	sateh Ma'an	6	west sateh	1	gas pipe block	11426,06	12	private	272	18816
631	sateh Ma'an	6	west sateh	1	gas pipe block	11426,06	12	private	272	18816
631	sateh Ma'an	6	west sateh	1	gas pipe block	11426,06	12	private	136	18816
631	sateh Ma'an	6	west sateh	1	gas pipe block	11426,06	12	private	136	18816
631	sateh Ma'an	6	west sateh	1	gas pipe block	11426,06	12	private	3584	18816
631	sateh Ma'an	6	west sateh	1	gas pipe block	11426,06	12	private	720	18816
631	sateh Ma'an	6	west sateh	1	gas pipe block	11426,06	12	private	3360	18816
631	sateh Ma'an	6	west sateh	1	gas pipe block	11426,06	12	private	3360	18816
631	sateh Ma'an	6	west sateh	1	gas pipe block	11426,06	12	private	672	18816
631	sateh Ma'an	6	west sateh	1	gas pipe block	11426,06	12	private	420	18816
631	sateh Ma'an	6	west sateh	1	gas pipe block	11426,06	12	private	1470	18816
631	sateh Ma'an	6	west sateh	1	gas pipe block	11426,06	12	private	735	18816
631	sateh Ma'an	6	west sateh	1	gas pipe block	11426,06	12	private	735	18816
631	sateh Ma'an	6	west sateh	1	gas pipe block	11426,06	12	private	1792	18816
631	sateh Ma'an	6	west sateh	1	gas pipe block	2108,56	17	public	1	1
631	sateh Ma'an	6	west sateh	1	gas pipe block	8061,06	22	private	6	168
631	sateh Ma'an	6	west sateh	1	gas pipe block	8061,06	22	private	72	168
631	sateh Ma'an	6	west sateh	1	gas pipe block	8061,06	22	private	6	168
631	sateh Ma'an	6	west sateh	1	gas pipe block	8061,06	22	private	14	168
631	sateh Ma'an	6	west sateh	1	gas pipe block	8061,06	22	private	7	168

Village Code	Village name	Area number	Area name	Block	Block reference	Area m2	Piece number	Owner	Owner shares	All shares
631	sateh Ma'an	6	west sateh	1	gas pipe block	8061,06	22	private	7	168
631	sateh Ma'an	6	west sateh	1	gas pipe block	8061,06	22	private	7	168
631	sateh Ma'an	6	west sateh	1	gas pipe block	8061,06	22	private	7	168
631	sateh Ma'an	6	west sateh	1	gas pipe block	8061,06	22	private	14	168
631	sateh Ma'an	6	west sateh	1	gas pipe block	8061,06	22	private	14	168
631	sateh Ma'an	6	west sateh	1	gas pipe block	8061,06	22	private	7	168
631	sateh Ma'an	6	west sateh	1	gas pipe block	8061,06	22	private	7	168
631	sateh Ma'an	6	west sateh	1	gas pipe block	3583,24	24	private	1	1
631	sateh Ma'an	6	west sateh	1	gas pipe block	3590	25	private	1	1
631	sateh Ma'an	6	west sateh	1	gas pipe block	8056,47	30	private	11	18
631	sateh Ma'an	6	west sateh	1	gas pipe block	8056,47	30	private	6	18
631	sateh Ma'an	6	west sateh	1	gas pipe block	8056,47	30	private	1	18
631	sateh Ma'an	6	west sateh	1	gas pipe block	6246,14	31	private	3	14
631	sateh Ma'an	6	west sateh	1	gas pipe block	6246,14	31	private	9	14
631	sateh Ma'an	6	west sateh	1	gas pipe block	6246,14	31	private	2	14
631	sateh Ma'an	6	west sateh	1	gas pipe block	8364,65	32	private	1512	57456
631	sateh Ma'an	6	west sateh	1	gas pipe block	8364,65	32	private	216	57456
631	sateh Ma'an	6	west sateh	1	gas pipe block	8364,65	32	private	216	57456
631	sateh Ma'an	6	west sateh	1	gas pipe block	8364,65	32	private	216	57456
631	sateh Ma'an	6	west sateh	1	gas pipe block	8364,65	32	private	216	57456
631	sateh Ma'an	6	west sateh	1	gas pipe block	8364,65	32	private	216	57456
631	sateh Ma'an	6	west sateh	1	gas pipe block	8364,65	32	private	34	57456
631	sateh Ma'an	6	west sateh	1	gas pipe block	8364,65	32	private	34	57456
631	sateh Ma'an	6	west sateh	1	gas pipe block	8364,65	32	private	34	57456
631	sateh Ma'an	6	west sateh	1	gas pipe block	8364,65	32	private	17	57456
631	sateh Ma'an	6	west sateh	1	gas pipe block	8364,65	32	private	36	57456
631	sateh Ma'an	6	west sateh	1	gas pipe block	8364,65	32	private	18144	57456
631	sateh Ma'an	6	west sateh	1	gas pipe block	8364,65	32	private	9072	57456
631	sateh Ma'an	6	west sateh	1	gas pipe block	8364,65	32	private	6082	57456
631	sateh Ma'an	6	west sateh	1	gas pipe block	8364,65	32	private	27	57456
631	sateh Ma'an	6	west sateh	1	gas pipe block	8364,65	32	private	216	57456
631	sateh Ma'an	6	west sateh	1	gas pipe block	8364,65	32	private	21168	57456
631	sateh Ma'an	6	west sateh	1	gas pipe block	8513,88	34	private	7560	78540
631	sateh Ma'an	6	west sateh	1	gas pipe block	8513,88	34	private	7560	78540
631	sateh Ma'an	6	west sateh	1	gas pipe block	8513,88	34	private	7560	78540
631	sateh Ma'an	6	west sateh	1	gas pipe block	8513,88	34	private	3780	78540
631	sateh Ma'an	6	west sateh	1	gas pipe block	8513,88	34	private	18480	78540
631	sateh Ma'an	6	west sateh	1	gas pipe block	8513,88	34	private	15120	78540
631	sateh Ma'an	6	west sateh	1	gas pipe block	8513,88	34	private	2750	78540
631	sateh Ma'an	6	west sateh	1	gas pipe block	8513,88	34	private	3058	78540
631	sateh Ma'an	6	west sateh	1	gas pipe block	8513,88	34	private	3058	78540
631	sateh Ma'an	6	west sateh	1	gas pipe block	8513,88	34	private	3058	78540
631	sateh Ma'an	6	west sateh	1	gas pipe block	8513,88	34	private	3058	78540
631	sateh Ma'an	6	west sateh	1	gas pipe block	8513,88	34	private	1749	78540
631	sateh Ma'an	6	west sateh	1	gas pipe block	8513,88	34	private	1749	78540
1128	mahajer	1	mahajer	0	block list	78593	4	public	1	1
1128	mahajer	1	mahajer	0	block list	108000	5	public	1	1
1128	mahajer	1	mahajer	0	block list	217010659	6	public	1	1


موقع جامعة الحسين
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1128
المجاور
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الجرفان الشرقي
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Legend
STATION
Parcels
villeges
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no.	area name	area number	piece number	owner	area m2	owner shares	all shares	OHTL cross length	OHTL cross area each owner m2	Tower existence	compensation value DLS JD	compensation value expert JD	compensation value expected for each owner JD
1	west jarthan	3	**5**	public	9775	2	5		822,67	1	462,59	3238,16	1850,38
2	west jarthan	3	**5**	private	9775	1	5		411,34	1	231,30	1619,08	925,19
3	west jarthan	3	**5**	private	9775	2	5	104,4	822,67	1	462,59	3238,16	1850,38
4	west jarthan	3	**6**	private	16125	7	29		0,00	0	0,00	0,00	0,00
5	west jarthan	3	**6**	public	16125	22	29	0,0	0,00	0	0,00	0,00	0,00
6	west jarthan	3	**8**	private	9200	3	18		185,67	0	102,12	714,84	408,48
7	west jarthan	3	**8**	private	9200	4	18		247,56	0	136,16	953,12	544,64
8	west jarthan	3	**8**	private	9200	11	18	56,6	680,80	0	374,44	2621,08	1497,76
9	west jarthan	3	**9**	private	6400	1	1	47,9	942,65	0	518,45	3629,18	2073,82
10	west jarthan	3	**23**	private	9760	108	228		893,03	0	491,17	3438,17	1964,67
11	west jarthan	3	**23**	private	9760	40	228		330,75	0	181,91	1273,40	727,66
12	west jarthan	3	**23**	private	9760	16	228		132,30	0	72,77	509,36	291,06
13	west jarthan	3	**23**	private	9760	16	228		132,30	0	72,77	509,36	291,06
14	west jarthan	3	**23**	private	9760	16	228		132,30	0	72,77	509,36	291,06
15	west jarthan	3	**23**	private	9760	2	228		16,54	0	9,10	63,67	36,38
16	west jarthan	3	**23**	private	9760	2	228		16,54	0	9,10	63,67	36,38
17	west jarthan	3	**23**	private	9760	2	228		16,54	0	9,10	63,67	36,38
18	west jarthan	3	**23**	private	9760	2	228		16,54	0	9,10	63,67	36,38
19	west jarthan	3	**23**	private	9760	1	228		8,27	0	4,55	31,83	18,19
20	west jarthan	3	**23**	private	9760	1	228		8,27	0	4,55	31,83	18,19
21	west jarthan	3	**23**	private	9760	1	228		8,27	0	4,55	31,83	18,19
22	west jarthan	3	**23**	private	9760	1	228		8,27	0	4,55	31,83	18,19
23	west jarthan	3	**23**	private	9760	1	228		8,27	0	4,55	31,83	18,19
24	west jarthan	3	**23**	private	9760	1	228		8,27	0	4,55	31,83	18,19
25	west jarthan	3	**23**	private	9760	2	228		16,54	0	9,10	63,67	36,38
26	west jarthan	3	**23**	private	9760	16	228	95,7	132,30	0	72,77	509,36	291,06
27	west jarthan	3	**32**	private	6375	3	6		239,95	0	131,97	923,79	527,88
28	west jarthan	3	**32**	public	6375	1	6		79,98	0	43,99	307,93	175,96
29	west jarthan	3	**32**	private	6375	1	6		79,98	0	43,99	307,93	175,96
30	west jarthan	3	**32**	private	6375	1	6	24,4	79,98	0	43,99	307,93	175,96
31	west jarthan	3	**33**	public	9750	5	9	62,6	685,56	0	377,06	2639,41	1508,23

no.	area name	area number	piece number	owner	area m2	owner shares	all shares	OHTL cross length	OHTL cross area each owner m2	Tower existence	compensation value DLS JD	compensation value expert JD	compensation value expected for each owner JD
32	west jarthan	3	**33**	private	9750	4	9		548,45	0	301,65	2111,52	1206,59
33	west jarthan	3	**45**	private	7500	8	14		0,00	0	0,00	0,00	0,00
34	west jarthan	3	**45**	private	7500	4	14		0,00	0	0,00	0,00	0,00
35	west jarthan	3	**45**	private	7500	2	14	0,0	0,00	0	0,00	0,00	0,00
36	west jarthan	3	**46**	private	14250	13	26		899,80	1	507,54	3552,81	2030,18
37	west jarthan	3	**46**	private	14250	13	26	91,4	899,80	1	507,54	3552,81	2030,18
38	west jarthan	3	**52**	private	12375	1	1	85,3	1679,62	0	923,79	6466,54	3695,17
39	west jarthan	3	**53**	private	4875	1	1	0,0	0,00	0	0,00	0,00	0,00
40	west jarthan	3	**67**	private	11096	1	1	79,2	1559,65	0	857,81	6004,65	3431,23
41	west jarthan	3	**68**	private	8395	4	9		0,00	0	0,00	0,00	0,00
42	west jarthan	3	**68**	private	8395	5	9	0,0	0,00	0	0,00	0,00	0,00
43	west jarthan	3	**69**	public	8025	9	81		0,00	0	0,00	0,00	0,00
44	west jarthan	3	**69**	private	8025	72	81	0,0	0,00	0	0,00	0,00	0,00
45	west jarthan	3	**70**	private	6750	9	56		275,45	0	151,50	1060,48	605,99
46	west jarthan	3	**70**	private	6750	9	56		275,45	0	151,50	1060,48	605,99
47	west jarthan	3	**70**	private	6750	6	56		183,63	0	101,00	706,98	403,99
48	west jarthan	3	**70**	private	6750	32	56	87,0	979,37	0	538,65	3770,58	2154,62
49	west jarthan	3	**85**	private	9750	1	1	0,0	0,00	0	0,00	0,00	0,00
50	west jarthan	3	**86**	private	7770	1	1	82,7	1628,21	1	920,83	6445,78	3683,30
51	west jarthan	3	**95**	private	10875	1	1	87,0	1713,90	0	942,65	6598,52	3770,58
52	west jarthan	3	**111**	private	10050	2940	58140		86,67	0	47,67	333,67	190,67
53	west jarthan	3	**111**	private	10050	5880	58140		173,34	0	95,33	667,34	381,34
54	west jarthan	3	**111**	private	10050	5880	58140		173,34	0	95,33	667,34	381,34
55	west jarthan	3	**111**	private	10050	5880	58140		173,34	0	95,33	667,34	381,34
56	west jarthan	3	**111**	private	10050	5880	58140		173,34	0	95,33	667,34	381,34
57	west jarthan	3	**111**	private	10050	2940	58140		86,67	0	47,67	333,67	190,67
58	west jarthan	3	**111**	private	10050	2940	58140		86,67	0	47,67	333,67	190,67
59	west jarthan	3	**111**	private	10050	2940	58140		86,67	0	47,67	333,67	190,67
60	west jarthan	3	**111**	private	10050	735	58140		21,67	0	11,92	83,42	47,67
61	west jarthan	3	**111**	private	10050	1666	58140		49,11	0	27,01	189,08	108,05
62	west jarthan	3	**111**	private	10050	1666	58140	87,0	49,11	0	27,01	189,08	108,05

no.	area name	area number	piece number	owner	area m2	owner shares	all shares	OHTL cross length	OHTL cross area each owner m2	Tower existence	compensation value DLS JD	compensation value expert JD	compensation value expected for each owner JD
63	west jarthan	3	**111**	private	10050	833	58140		24,56	0	13,51	94,54	54,02
64	west jarthan	3	**111**	private	10050	2940	58140		86,67	0	47,67	333,67	190,67
65	west jarthan	3	**111**	private	10050	5880	58140		173,34	0	95,33	667,34	381,34
66	west jarthan	3	**111**	private	10050	9140	58140		269,44	0	148,19	1037,33	592,76
67	west jarthan	3	**129**	private	11250	1	1	87,0	1713,90	0	942,65	6598,52	3770,58
68	west jarthan	3	**142**	private	10640	7	22		545,33	1	307,99	2155,91	1231,95
69	west jarthan	3	**142**	public	10640	12	22		934,85	1	527,98	3695,84	2111,91
70	west jarthan	3	**142**	private	10640	3	22	87,0	233,71	1	131,99	923,96	527,98
71	west jarthan	3	**155**	private	15975	9218	244992		38,69	0	21,28	148,96	85,12
72	west jarthan	3	**155**	private	15975	5742	244992		24,10	0	13,26	92,79	53,02
73	west jarthan	3	**155**	private	15975	74448	244992		312,49	0	171,87	1203,09	687,48
74	west jarthan	3	**155**	private	15975	5544	244992		23,27	0	12,80	89,59	51,20
75	west jarthan	3	**155**	private	15975	2772	244992		11,64	0	6,40	44,80	25,60
76	west jarthan	3	**155**	private	15975	2772	244992		11,64	0	6,40	44,80	25,60
77	west jarthan	3	**155**	private	15975	5544	244992		23,27	0	12,80	89,59	51,20
78	west jarthan	3	**155**	private	15975	59136	244992		248,22	0	136,52	955,65	546,08
79	west jarthan	3	**155**	private	15975	3190	244992		13,39	0	7,36	51,55	29,46
80	west jarthan	3	**155**	private	15975	4272	244992		17,93	0	9,86	69,04	39,45
81	west jarthan	3	**155**	private	15975	4272	244992		17,93	0	9,86	69,04	39,45
82	west jarthan	3	**155**	private	15975	4272	244992		17,93	0	9,86	69,04	39,45
83	west jarthan	3	**155**	private	15975	2425	244992		10,18	0	5,60	39,19	22,39
84	west jarthan	3	**155**	private	15975	2425	244992		10,18	0	5,60	39,19	22,39
85	west jarthan	3	**155**	private	15975	2772	244992		11,64	0	6,40	44,80	25,60
86	west jarthan	3	**155**	private	15975	17380	244992		72,95	0	40,12	280,86	160,49
87	west jarthan	3	**155**	private	15975	5544	244992		23,27	0	12,80	89,59	51,20
88	west jarthan	3	**155**	private	15975	5544	244992		23,27	0	12,80	89,59	51,20
89	west jarthan	3	**155**	private	15975	5544	244992		23,27	0	12,80	89,59	51,20
90	west jarthan	3	**155**	private	15975	5544	244992		23,27	0	12,80	89,59	51,20
91	west jarthan	3	**155**	private	15975	2772	244992		11,64	0	6,40	44,80	25,60
92	west jarthan	3	**155**	private	15975	2772	244992		11,64	0	6,40	44,80	25,60
93	west jarthan	3	**155**	private	15975	2772	244992	52,2	11,64	0	6,40	44,80	25,60

no.	area name	area number	piece number	owner	area m2	owner shares	all shares	OHTL cross length	OHTL cross area each owner m2	Tower existence	compensation value DLS JD	compensation value expert JD	compensation value expected for each owner JD
94	west jarthan	3	**155**	private	15975	2772	244992		11,64	0	6,40	44,80	25,60
95	west jarthan	3	**155**	private	15975	5544	244992		23,27	0	12,80	89,59	51,20
96	west jarthan	3	**170**	private	13440	1	1	0,0	0,00	0	0,00	0,00	0,00
97	west jarthan	3	**179**	private	8400	4	19		0,00	0	0,00	0,00	0,00
98	west jarthan	3	**179**	private	8400	8	19		0,00	0	0,00	0,00	0,00
99	west jarthan	3	**179**	private	8400	7	19	0,0	0,00	0	0,00	0,00	0,00
100	west jarthan	3	**233**	private	7475	1	12		138,54	0	76,20	533,38	304,79
101	west jarthan	3	**233**	private	7475	6	12		831,24	0	457,18	3200,28	1828,73
102	west jarthan	3	**233**	private	7475	3	12		415,62	0	228,59	1600,14	914,37
103	west jarthan	3	**233**	private	7475	1	12		138,54	0	76,20	533,38	304,79
104	west jarthan	3	**233**	private	7475	1	12	84,4	138,54	0	76,20	533,38	304,79
105	west jarthan	3	**308**	private	14046	1	1	121,8	2399,46	1	1345,02	9415,11	5380,06
106	west jarthan	3	**309**	public	456	2566080	2936736		0,00	0	0,00	0,00	0,00
107	west jarthan	3	**309**	private	456	370656	2936736	0,0	0,00	0	0,00	0,00	0,00
108	west sateh	6	**5**	private	11271,71	1	1	0,0	0,00	0	0,00	0,00	0,00
109	west sateh	6	**6**	private	8031,9	243	1568		371,86	1	208,44	1459,10	833,77
110	west sateh	6	**6**	private	8031,9	224	1568		342,78	1	192,15	1345,02	768,58
111	west sateh	6	**6**	private	8031,9	66	1568		101,00	1	56,61	396,30	226,46
112	west sateh	6	**6**	private	8031,9	66	1568		101,00	1	56,61	396,30	226,46
113	west sateh	6	**6**	private	8031,9	504	1568		771,26	1	432,33	3026,28	1729,31
114	west sateh	6	**6**	private	8031,9	465	1568	121,8	711,57	1	398,87	2792,11	1595,49
115	west sateh	6	**7**	private	1164,83	15	28		0,00	0	0,00	0,00	0,00
116	west sateh	6	**7**	private	1164,83	4	28		0,00	0	0,00	0,00	0,00
117	west sateh	6	**7**	private	1164,83	9	28	0,0	0,00	0	0,00	0,00	0,00
118	west sateh	6	**9**	private	8545,53	192	448		0,00	0	0,00	0,00	0,00
119	west sateh	6	**9**	private	8545,53	256	448	0,0	0,00	0	0,00	0,00	0,00
120	west sateh	6	**10**	private	7857,51	432	912		162,37	0	89,30	625,12	357,21
121	west sateh	6	**10**	private	7857,51	48	912		18,04	0	9,92	69,46	39,69
122	west sateh	6	**10**	private	7857,51	48	912		18,04	0	9,92	69,46	39,69
123	west sateh	6	**10**	private	7857,51	60	912		22,55	0	12,40	86,82	49,61
124	west sateh	6	**10**	private	7857,51	24	912	17,4	9,02	0	4,96	34,73	19,85

no.	area name	area number	piece number	owner	area m2	owner shares	all shares	OHTL cross length	OHTL cross area each owner m2	Tower existence	compensation value DLS JD	compensation value expert JD	compensation value expected for each owner JD
125	west sateh	6	**10**	private	7857,51	24	912		9,02	0	4,96	34,73	19,85
126	west sateh	6	**10**	private	7857,51	180	912		67,65	0	37,21	260,47	148,84
127	west sateh	6	**10**	private	7857,51	12	912		4,51	0	2,48	17,36	9,92
128	west sateh	6	**10**	private	7857,51	14	912		5,26	0	2,89	20,26	11,58
129	west sateh	6	**10**	private	7857,51	14	912		5,26	0	2,89	20,26	11,58
130	west sateh	6	**10**	private	7857,51	14	912		5,26	0	2,89	20,26	11,58
131	west sateh	6	**10**	private	7857,51	14	912		5,26	0	2,89	20,26	11,58
132	west sateh	6	**10**	private	7857,51	7	912		2,63	0	1,45	10,13	5,79
133	west sateh	6	**10**	private	7857,51	7	912		2,63	0	1,45	10,13	5,79
134	west sateh	6	**10**	private	7857,51	7	912		2,63	0	1,45	10,13	5,79
135	west sateh	6	**10**	private	7857,51	7	912		2,63	0	1,45	10,13	5,79
136	west sateh	6	**11**	private	5586,38	5	13		593,27	0	326,30	2284,10	1305,20
137	west sateh	6	**11**	private	5586,38	5	13		593,27	0	326,30	2284,10	1305,20
138	west sateh	6	**11**	private	5586,38	3	13	78,3	355,96	0	195,78	1370,46	783,12
139	west sateh	6	**12**	private	11426,06	336	18816		42,85	1	24,02	168,13	96,07
140	west sateh	6	**12**	private	11426,06	272	18816		34,69	1	19,44	136,10	77,77
141	west sateh	6	**12**	private	11426,06	272	18816		34,69	1	19,44	136,10	77,77
142	west sateh	6	**12**	private	11426,06	272	18816		34,69	1	19,44	136,10	77,77
143	west sateh	6	**12**	private	11426,06	272	18816		34,69	1	19,44	136,10	77,77
144	west sateh	6	**12**	private	11426,06	272	18816		34,69	1	19,44	136,10	77,77
145	west sateh	6	**12**	private	11426,06	136	18816		17,34	1	9,72	68,05	38,89
146	west sateh	6	**12**	private	11426,06	136	18816		17,34	1	9,72	68,05	38,89
147	west sateh	6	**12**	private	11426,06	3584	18816		457,04	1	256,19	1793,35	1024,77
148	west sateh	6	**12**	private	11426,06	720	18816		91,82	1	51,47	360,27	205,87
149	west sateh	6	**12**	private	11426,06	3360	18816		428,48	1	240,18	1681,27	960,73
150	west sateh	6	**12**	private	11426,06	3360	18816		428,48	1	240,18	1681,27	960,73
151	west sateh	6	**12**	private	11426,06	672	18816		85,70	1	48,04	336,25	192,15
152	west sateh	6	**12**	private	11426,06	420	18816		53,56	1	30,02	210,16	120,09
153	west sateh	6	**12**	private	11426,06	1470	18816		187,46	1	105,08	735,56	420,32
154	west sateh	6	**12**	private	11426,06	735	18816		93,73	1	52,54	367,78	210,16
155	west sateh	6	**12**	private	11426,06	735	18816	121,8	93,73	1	52,54	367,78	210,16

no.	area name	area number	piece number	owner	area m2	owner shares	all shares	OHTL cross length	OHTL cross area each owner m2	Tower existence	compensation value DLS JD	compensation value expert JD	compensation value expected for each owner JD
156	west sateh	6	**12**	private	11426,06	1792	18816		228,52	1	128,10	896,68	512,39
157	west sateh	6	**17**	public	2108,56	1	1	0,0	0,00	0	0,00	0,00	0,00
158	west sateh	6	**22**	private	8061,06	6	168		79,57	0	43,77	306,36	175,06
159	west sateh	6	**22**	private	8061,06	72	168		954,89	0	525,19	3676,32	2100,75
160	west sateh	6	**22**	private	8061,06	6	168		79,57	0	43,77	306,36	175,06
161	west sateh	6	**22**	private	8061,06	14	168		185,67	0	102,12	714,84	408,48
162	west sateh	6	**22**	private	8061,06	7	168		92,84	0	51,06	357,42	204,24
163	west sateh	6	**22**	private	8061,06	7	168		92,84	0	51,06	357,42	204,24
164	west sateh	6	**22**	private	8061,06	7	168		92,84	0	51,06	357,42	204,24
165	west sateh	6	**22**	private	8061,06	7	168		92,84	0	51,06	357,42	204,24
166	west sateh	6	**22**	private	8061,06	14	168		185,67	0	102,12	714,84	408,48
167	west sateh	6	**22**	private	8061,06	14	168		185,67	0	102,12	714,84	408,48
168	west sateh	6	**22**	private	8061,06	7	168		92,84	0	51,06	357,42	204,24
169	west sateh	6	**22**	private	8061,06	7	168	113,1	92,84	0	51,06	357,42	204,24
170	west sateh	6	**24**	private	3583,24	1	1	0,0	0,00	0	0,00	0,00	0,00
171	west sateh	6	**25**	private	3590	1	1	0,0	0,00	0	0,00	0,00	0,00
172	west sateh	6	**30**	private	8056,47	11	18		0,00	0	0,00	0,00	0,00
173	west sateh	6	**30**	private	8056,47	6	18		0,00	0	0,00	0,00	0,00
174	west sateh	6	**30**	private	8056,47	1	18	0,0	0,00	0	0,00	0,00	0,00
175	west sateh	6	**31**	private	6246,14	3	14		356,25	0	195,94	1371,55	783,74
176	west sateh	6	**31**	private	6246,14	9	14		1068,74	0	587,81	4114,65	2351,23
177	west sateh	6	**31**	private	6246,14	2	14	84,4	237,50	0	130,62	914,37	522,49
178	west sateh	6	**32**	private	8364,65	1512	57456		9,02	1	5,63	39,39	22,51
179	west sateh	6	**32**	private	8364,65	216	57456		1,29	1	0,80	5,63	3,22
180	west sateh	6	**32**	private	8364,65	216	57456		1,29	1	0,80	5,63	3,22
181	west sateh	6	**32**	private	8364,65	216	57456		1,29	1	0,80	5,63	3,22
182	west sateh	6	**32**	private	8364,65	216	57456		1,29	1	0,80	5,63	3,22
183	west sateh	6	**32**	private	8364,65	216	57456		1,29	1	0,80	5,63	3,22
184	west sateh	6	**32**	private	8364,65	34	57456		0,20	1	0,13	0,89	0,51
185	west sateh	6	**32**	private	8364,65	34	57456		0,20	1	0,13	0,89	0,51
186	west sateh	6	**32**	private	8364,65	34	57456	17,4	0,20	1	0,13	0,89	0,51

no.	area name	area number	piece number	owner	area m2	owner shares	all shares	OHTL cross length	OHTL cross area each owner m2	Tower existence	compensation value DLS JD	compensation value expert JD	compensation value expected for each owner JD
187	west sateh	6	**32**	private	8364,65	17	57456		0,10	1	0,06	0,44	0,25
188	west sateh	6	**32**	private	8364,65	36	57456		0,21	1	0,13	0,94	0,54
189	west sateh	6	**32**	private	8364,65	18144	57456		108,25	1	67,53	472,70	270,12
190	west sateh	6	**32**	private	8364,65	9072	57456		54,12	1	33,76	236,35	135,06
191	west sateh	6	**32**	private	8364,65	6082	57456		36,28	1	22,64	158,45	90,54
192	west sateh	6	**32**	private	8364,65	27	57456		0,16	1	0,10	0,70	0,40
193	west sateh	6	**32**	private	8364,65	216	57456		1,29	1	0,80	5,63	3,22
194	west sateh	6	**32**	private	8364,65	21168	57456		126,29	1	78,78	551,49	315,13
195	west sateh	6	**34**	private	8513,88	7560	78540		0,00	0	0,00	0,00	0,00
196	west sateh	6	**34**	private	8513,88	7560	78540		0,00	0	0,00	0,00	0,00
197	west sateh	6	**34**	private	8513,88	7560	78540		0,00	0	0,00	0,00	0,00
198	west sateh	6	**34**	private	8513,88	3780	78540		0,00	0	0,00	0,00	0,00
199	west sateh	6	**34**	private	8513,88	18480	78540		0,00	0	0,00	0,00	0,00
200	west sateh	6	**34**	private	8513,88	15120	78540		0,00	0	0,00	0,00	0,00
201	west sateh	6	**34**	private	8513,88	2750	78540		0,00	0	0,00	0,00	0,00
202	west sateh	6	**34**	private	8513,88	3058	78540		0,00	0	0,00	0,00	0,00
203	west sateh	6	**34**	private	8513,88	3058	78540		0,00	0	0,00	0,00	0,00
204	west sateh	6	**34**	private	8513,88	3058	78540		0,00	0	0,00	0,00	0,00
205	west sateh	6	**34**	private	8513,88	3058	78540		0,00	0	0,00	0,00	0,00
206	west sateh	6	**34**	private	8513,88	1749	78540		0,00	0	0,00	0,00	0,00
207	west sateh	6	**34**	private	8513,88	1749	78540	0,0	0,00	0	0,00	0,00	0,00
208	mahajer	1	**4**	public	78593	1	1	all public	all public	all public	all public	all public	all public
209	mahajer	1	**5**	public	108000	1	1	all public	all public	all public	all public	all public	all public
210	mahajer	1	**6**	public	217010659	1	1	all public	all public	all public	all public	all public	all public
total								**1977,5**	**38956,95**	**8**	**21628,82**	**151401,75**	**86515,28**

ANNEX 2: COMMUNITY CONSULTATION

The Consultant conducted a Community Consultation on 18th, 19th May, 2017, in order to accommodate the varying needs of stakeholders, particularly the local community of Ma'an interested and affected people (I&APs). The consultation was carried out through interviews with random sample in Ma'an city from the different sectors in Ma'an community and considering the gender issue. Selected people were consulted representing educational, industrial and citizens of Ma'an. Accordingly, the study team had randomly contacted 9 persons from Ma'an community to consult them about the proposed project through personal contact. More detail is annexed to this document.

A brief description was prepared to be presented to the interviewed people The conclusions of the interviews with the random sample in Ma'an:

- The consulted people expected the project will create job opportunities for Ma'an community;
- Most of the consulted people see that the project will not affect the residential area as the project is away from Ma'an city boundaries and even from the planning areas;
- The project is very important for the electricity sector on the country level and Ma'an governorate;
- Increase the electricity availability for Ma'an area;
- The project gives opportunities to more investments in renewable energy in South Jordan;
- It helps females have their own small businesses.

Interviews

The following part of this Annex presents the views of the people interviewed by the study team with the random sample from Ma'an City.

1. Mr. Mohammad Al Saaideh/ Governmental Employee /0775496003

- We wish that Ma'an has such a project, which I considered a successful project for Ma'an area.
- This project will create new job opportunities for Ma'an community and give support to the electric power supply in Ma'an area.

2. Mr. Osama Kraishan/ Civil Engineer/ 0776122255

- Electric power is necessary for Jordan, particularly for Ma'an area which needs governmental services to be increased; in this regard we appreciate establishing this project.
- I expect that this project will have social and financial revenues for Maan area, in terms of job opportunities.
- This project will sustain the electric power supply in Maan area.

3. Mr. Abdallah abu Taiyeh/ Al Hussein bin Talal University / 0772235816

- Ma'an area has many electric power generation projects through solar and wind energy.
- The lands allocated for the project should be away from private and owned lands for Ma'an tribes.
- We encourage such a project which controls the use of electric power generation in south Jordan.

4. Mr. Bashar Dwaine/ Administrative Affairs/ Al Hussein bin Talal University/ 0779577277

- I believe that such a project creates job opportunities for Ma'an community.
- This is an important project as it transmits the electricity generated from the renewable sources and increases the power supply to Ma'an governorate.

5. Dr. Saleh Rawadieh/ Chemical Engineer/ 0797447344

- We encourage NEPCO to implement such projects in Ma'an Governorate to serve the power sector in the city.
- I believe that Ma'an area will benefit from this project in many ways, especially in creating more job opportunities in the different project implementation phases.
- This project helps decrease the energy bill in the level of country
- This project encourages the investment opportunities in Ma'an area.

6. Mrs. Huda Al Saudi/ Housewife/ 0772569377

- I wish this project creates a sustainable electricity supply for households, which is an important issue for housewives in Ma'an.
- The availability of electricity will encourage women to have their own small investments.
- I look forward that such important project will hire a female engineer in the project operation phase.

7. Mr. Mohammad Salah/ citizen

- I believe that this project creates a sustainable power supply in Ma'an and provides new areas with electricity.
- This project will contribute in job opportunities creation in Ma'an community.
- I think having a sustainable electric power source in Ma'an encourages other investments in Ma'an area.

8. Mr. Mohamad Al hasanat/ Citizen/ 0777043174

- This project is considered one of the national projects in the country.

- I believe that this project will create job opportunities in Ma'an community, especially in the construction phase of the project.
- The project will create an attractive environment for investment opportunities in Ma'an area.
- I think that this project will bring a sustainable electric power source in Ma'an, which encourages other investments in the area, and gives a chance for women to have their own small businesses in the area.

9. Dr. Ibrahim Tarawneh/ Supervisor of Al Hussein Bin Talal University's Solar Power project/ the renewable Energy research and Development Center

- I consider this project as a national project on the level of the country
- I believe that this project will increase the procurement capacity in Ma'an city
- It will increase the job opportunities in Ma'an area as well.

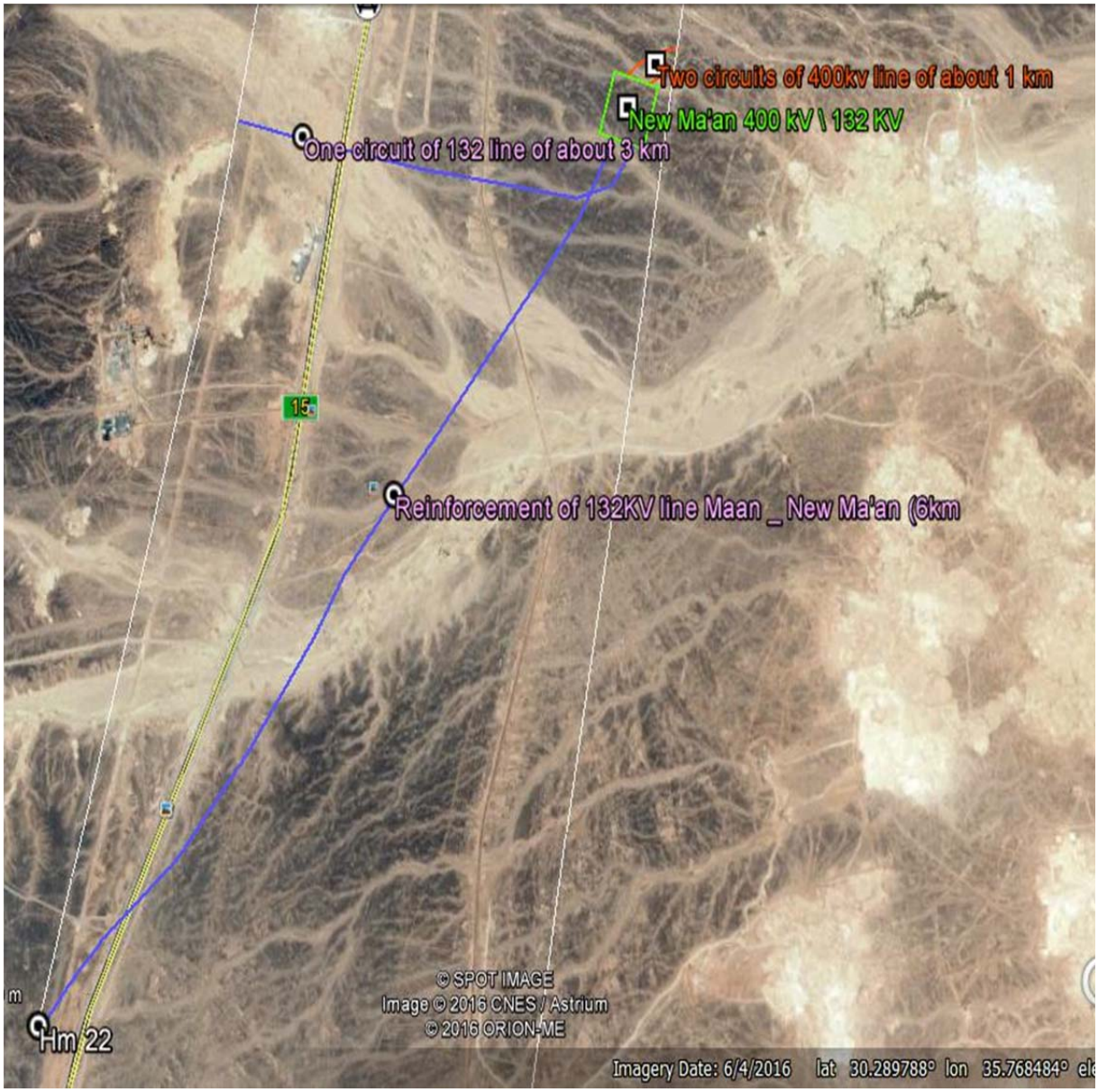
Brief Description

The next two pages show the brief description on the project presented to the persons interviewed.

Project	New Maan Electric Substation and Transmission line turn ins 400/132 kv
Developer	The National Electricity Power Company
Consultant	NIP,S.A of Spain ITAC Jordan
financier	European Investment Bank
Location	Close to Ma'an City
Project implementation period	It's expected that the construction period will extend for about 22 working months, and the commissioning is expected in October, 2018.

About the project

- The proposed New Ma'an Electric substation is located at a distance of about 9 km north of Ma'an city.
- This project is part of the green corridor that will transmit the produced renewable energy (wind and solar) from South Jordan to New Ma'an Substation, Qatraneh Substation and QAIA substation.
- The proposed project consists of the new Ma'an substation and Transmission line turn-ins consists of the construction of the electric substation and the transmission line turn-ins.
- The transmission lines are two 132 kV and two 400 kV lines.


Two circuits of 400kv line of about 1 km
New Ma'an 400 kV \ 132 KV
One circuit of 132 line of about 3 km
15
Reinforcement of 132KV line Maan _ New Ma'an (6km
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Hm 22
Imagery Date: 6/4/2016 lat 30.289788° lon 35.768484°