











1.5 Million Natural Gas Connections Project in 11 Governorates

Site-Specific Environmental and Social Impact Assessment

Executive Summary
Akhmeim/Sohag Governorate
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EGAS
Egyptian Natural Gas Holding Company

Developed by

EcoConServ Environmental Solutions

Petrosafe
Petroleum Safety & Environmental Services Company

EXECUTIVE SUMMARY

1 Introduction

The Government of Egypt (GoE) has immediate priorities to increase household use of natural gas (NG) by connecting 1.2 million households/yr to the gas distribution network to replace the highly subsidized, largely imported Liquefied Petroleum Gas (LPG).

The GoE is implementing an expansion program for Domestic Natural Gas connections to an additional 1.5 Million households over the next 4 years. The project presented in this study is part of a program that involves extending the network and accompanying infrastructure to connect 1.5 million Households in 11 Governorates between 2016 and 2019 with the assistance of a World Bank Loan of up to US$500 Million and the Agence Française de Développement (French Agency for Development) financing of up to €70 Million. The program is estimated to cost US$850 Million.

The ESIA objectives are as follows:

- Describing project components and activities of relevance to the environmental and social impacts assessments
- Identifying and addressing relevant national and international legal requirements and guidelines
- Describing baseline environmental and social conditions
- Presenting project alternatives and no project alternative
- Assessing potential site-specific environmental and social impacts of the project
- Developing environmental & social management and monitoring plans in compliance with the relevant environmental laws
- Documenting and addressing environmental and social concerns raised by stakeholders and the Public in consultation events and activities

As the project involves components in various areas within the 11 governorates, the parties to the project agreed that site-specific Environmental and Social Impact Assessments (SSESIAs) for each of the project sub-areas within the governorate will be prepared. Guided by the 2013 Environmental and Social Impact Assessment Framework (ESIAF) and Supplementary Social Impact Assessment Framework (SSIAF), this is the site specific ESIA for the connections network planned for Akhmeim City in Sohag Governorate. The project in Akhmeim encompasses 3,043 household connections. The **3,043** households are to be connected over 2 years of the 3-year project: 2,043 in year 1 and 1,000 in year 2.

The local distribution company responsible for project implementation in Akhmeim is Regions Gas Company (ReGas)

2 Project Description

2.1 Background

Natural Gas is processed and injected into the high pressure lines of the national Grid (70 Bar) for transmission. Upon branching from the main lines to regional distribution networks, the pressure of the NG is lowered to 7 Bar at the Pressure Reduction Stations (PRS). An odorant is added to the NG at PRSs feeding distribution networks to residential areas[1] in order to facilitate detection. Regulators are then used to further lower the pressure to 100 mbar in the local networks, before finally lowering the pressure to 20 mbar for domestic use within the households. In addition to excavation and pipe laying, key activities of the construction phase also include installation of pipes on buildings, internal connections in households, and conversion of appliance nozzles to accommodate the switch from LPG to NG.

2.2 Project Work Packages

2.2.1 Main feeding line/network "7 bar system – PE 100"

A gas distribution piping system that operates at a pressure higher than the standard service pressure delivered to the customer. In such a system, a service regulator is required to control the pressure delivered to the customer.

Main feeding lines are mainly constructed from polyethylene pipes with maximum operating pressure (MOP) below 7 bar.

2.2.2 Distributions network "Regulators, PE80 Networks"

A gas distribution piping system in which the gas pressure in the mains and service lines is substantially the same as that delivered to the customer's Meters. In such a system, a service regulator is not required on the individual service lines.

Distribution networks are mainly constructed from polyethylene pipes with MOP below 100 millibar.

2.2.3 Installations (Steel Pipes)

A gas distribution piping system consist of steel pipes which are connected from individual service line to vertical service pipe in a multistory dwelling which may have laterals connected at appropriate floor levels; in addition to service pipe connected to a riser and supplying gas to a meter and gas appliances on one floor of a building.

Internal Installation consists of a pipe connecting the pressure reducing regulator/district Governor and meter Outlet (MOP 25 millibar) to appliances inside the customer's premises.

2.2.4 Conversions

Conversions involve increasing the diameter of the nozzle of the burner of an appliance to work with natural gas as a fuel gas rather LPG or others.

[1] Because natural gas is odorless, odorants facilitate leak detection for inhabitants of residential areas.

3 Legislative and Regulatory Framework

3.1 Applicable Environmental and Social Legislation in Egypt

- Law 217/1980 for Natural Gas
- Law 4 for Year 1994 for the environmental protection , amended by Law 9/2009 and law 105 for the year 2015.Executive Regulation(ER) No 338 for Year 1995 and the amended regulation No 1741 for Year 2005, amended with ministerial decree No 1095/2011, ministerial decree No 710/2012, ministerial decree No 964/2015, and ministerial decree No 26/2016
- Law 38/1967 for General Cleanliness
- Law 93/1962 for Wastewater
- Law 117/1983 for Protection of Antiquities
- Traffic planning and diversions
  - Traffic Law 66/1973, amended by Law 121/2008 traffic planning
  - Law 140/1956 on the utilization and blockage of public roads
  - Law 84/1968 concerning public roads
- Work environment and operational health and safety
  - Articles 43 – 45 of Law 4/1994, air quality, noise, heat stress, and worker protection
  - Law 12/2003 on Labor and Workforce Safety
  - Book V on Occupational Safety and Health (OSH)
  - Minister of Labor Decree 48/1967.
  - Minister of Labor Decree 55/1983.
  - Minister of Industry Decree 91/1985
  - Minister of Labor Decree 116/1991.

3.2 World Bank Safeguard Policies

Three policies are triggered for the project as a whole: Environmental Assessment (OP/BP 4.01), Physical Cultural Resources (OP/BP 4.11), and Involuntary Resettlement (OP/BP 4.12).

However, OP/BP 4.12 will not be applicable to **Akhmeim** as no land acquisition or resettlement is anticipated. Particularly, as the network will pass through the main urban roads/streets and side roads without causing any damage to private assets or lands.

In addition to the above mentioned safeguards policies, the Directive and Procedure on Access to Information[2] will be followed by the Project.

4 Analysis of Alternatives

4.1 No Project Alternative

This Natural Gas Connections to Households Project is expected to yield many economic and social benefits in terms of providing a more stable energy source, achieving savings in LPG consumption and enhancing safety in utilizing energy.

[2] https://policies.worldbank.org/sites/ppf3/PPFDocuments/Forms/DispPage.aspx?docid=3694

The No-Project alternative is not favored as it simply deprives the Egyptian Public and Government of the social, economic, and environmental advantages.

4.2 Energy Alternatives

- **Convert to Electricity**: The second alternative is to convert all homes to use electricity for all energy supply applications. Additional power stations would be needed to cope with the additional demand created by utilization of electricity in homes, which most probably would operate also by natural gas. Power losses in transmission and distribution are also significantly higher than their natural gas equivalents which would add to the overall inefficiency.

Energy alternatives do not provide favorable options to the proposed NG networking

4.3 Installation costs

The average natural gas connection installation cost is about 5600 EGP and consumers contribute a part of 1700 LE because the connection is heavily subsidized by the Government. This payment can be made either upfront or in installments over a period of time. Installment schemes are available to all community people.

The government of Egypt is negotiating with the project's financing organizations in order to secure additional subsidy to poor and marginalized groups. They also provide facilitation payments strategies through offering various installment schemes. The following are the main types of installments: 138 EGP/Month for 12 months,74 EGP/Month for 24 months, 52 EGP/Month for 36 months, 42 EGP/Month for 48 months, 35 EGP/Month for 60 months, 31 EGP/Month for 72 months and 28 EGP/Month for 84 months

5 Environmental and Social Impacts and Mitigations

The environmental and social advantages of switching household fuel from LPG cylinders to natural gas pipelines are diverse. On the residential level, the proposed project will lead to improved safety, reduced physical/social/financial hardships, and secure home fuel supply. On the national level, it promotes the utilization of Egyptian natural resources and reduces the subsidy and import burden.

A thorough analysis of environmental and social impacts is important to detail an effective management and monitoring plan which will minimize negative impacts and maximize positives.

The assessment of impacts distinguishes between the construction phase and the operation phase.

5.1 Positive Impacts

5.1.1 During the construction phase

Direct job opportunities to skilled and semi-skilled laborers

- The project in Akhmeim is expected to result in the creation of limited job opportunities, both directly and indirectly. Based on similar projects implemented recently by EGAS and the local distribution company, the daily average number of

workers during the peak time will be about 30 workers. The local community of Sohag Governorate could provide a proportion of this temporary labor force depending on skills needed and the strategies of the individual contractors in sourcing their workforce.

- The total number of new short term job opportunities within the project area is estimated at 20-30 temporary jobs.
- In order to maximize employment opportunities in the local communities it is anticipated that training will be required for currently unskilled workers. On-the-job training will also supplements opportunities for the local workforce for both temporary construction roles and for long-term operation phase positions, where these are available.

Create indirect opportunities

- As part of the construction stage, a lot of indirect benefits are expected to be sensed in the targeted areas due to the need for more supporting services to the workers and contractors who will be working in the various locations. This could include, but will not be limited to accommodation, food supply, transport, trade, security, manufacturing… etc.

5.1.2 During the operation phase

- As indicated in the Baseline Chapter, women are key players in the current domestic activities related to handling LPG and managing its shortage. Being the party affected most from the shortfalls of the use of LPG, the NG project is expected to be of special and major benefits to women. This includes, but is not limited to, clean and continuous source of fuel that is safe and does not require any physical effort and is very reasonable in terms of consumption cost. Time saving is among the benefits to women. The use of a reliable source of energy will allow women to accomplish the domestic activities in less time and this will potentially open a space for better utilization for the saved time.
- Constantly available and reliable fuel for home use.
- Reduced expenditure on LPG importation and subsidies, as 3.043 thousand connections will be installed in Akhmeim City. Each household consumes 1.5 LPG monthly for cooking and one for water heater. Accordingly, the total number of LPG cylinders reduced will be about 7607 cylinders per month. The subsidy value is about 70 EGP per each LPG cylinder. Consequently, the total saved monthly subsidy will be about 532,525 EGP monthly. This will result in total annual savings of 6,390,300 EGP.
- Significantly lower leakage and fire risk compared to LPG.
- Improved safety due to low pressure (20 mBar) compared to cylinders.
- Beneficiaries to benefit from good customer service and emergency response by qualified personnel/technicians.
- Eliminate the hardships that special groups like the physically challenged, women, and the elderly had to face in handling LPG.
- Limiting possible child labor in LPG cylinder distribution

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5.2 Anticipated Negative Impacts

5.2.1 Impact Assessment Methodology

To assess the impacts of the project activities on environmental and social receptors, a semi-quantitative approach based on the Leopold Impact Assessment Methodology with the Buroz Relevant Integrated Criteria was adopted.

The table below presents the classification of impact ratings and respective importance of impact values.

Importance of Impact	**Impact rating**	
0-25	**None** or irrelevant (no impact);	
26-50	**Minor** severity (minimal impact; restricted to the work site and immediate surroundings)	
51-75	**Medium** severity (larger scale impacts: local or regional; appropriate mitigation measures readily available);	
76-300	**Major** severity (Severe/long-term local/regional/global impacts; for negative impacts mitigation significant).	

The following tables summarize the impacts and the corresponding mitigation measures within the management plan, in addition to the monitoring plans proposed for implementation.

5.3 Environmental and Social Management Matrix during CONSTRUCTION

Table 1: Environmental and Social Management Matrix during CONSTRUCTION

Receptor	Impact	Mitigation measures	Responsibility		Means of supervision	Estimated Cost of mitigation / supervision
			Mitigation	Supervision		
Local traffic and accessibility	**Traffic congestion** (and associated noise/air emissions)	Excavation during off-peak periods Time limited excavation permits granted by local unit & traffic department	Excavation contractors	– LDC + – Traffic department	Contractor has valid conditional permit + Field supervision	Contractor costs LDC management costs
		Announcements + Signage indicating location/duration of works prior to commencement of work	– LDC – Excavation contractors	– LDC HSE – Local Unit – Traffic department	Ensure inclusion in contract + Field supervision	
		Apply Horizontal Directional Drilling under critical intersections whenever possible to avoid heavy traffic delays	Contractor	LDC HSE	Field supervision	
		Traffic detours and diversion	Traffic Department	Traffic Department	Field supervision for detouring efficiency Complaints received from traffic department	Additional budget not required
		Road restructuring and closing of lanes			Fluidity of traffic flow	
Ambient air quality	**Increased emissions of dust and gaseous pollutants**	Controlled wetting and compaction of excavation/backfilling surrounding area	Excavation Contractor	LDC HSE	Contractual clauses + Field supervision	– Contractor costs – LDC management costs
		Isolation, covering, transportation in equipped vehicles and disposal of stockpiles			Contractual clauses + Field supervision	
		Compliance to legal limits of air emissions from all relevant equipment			Measure and document emissions of machinery by regular audits request emission measurements	

Receptor	Impact	Mitigation measures	Responsibility		Means of supervision	Estimated Cost of mitigation / supervision
			Mitigation	Supervision		
		_ Availability of 24-7 hotline service (129) to all beneficiaries and the public for reporting possible leaks, damages or emergencies _ Quick response to gas leaks by evacuation of the affected area _ Repair or replacement of failed component	LDC	LDC HSE	Field Supervision	
_ **Ambient noise levels** _ **Local community** _ **Workers**	**Increased noise levels beyond WB/National permissible levels**	Ear muffs, ear plugs, certified noise PPE for workers	_ LDC _ Excavation Contractor	LDC HSE	Contractual clauses + Field supervision (audits)	_ Contractor costs _ LDC management costs
		Avoid noisy works at night whenever possible			Field supervision Complaints receipt from local administration	
_ **Ground utilities' integrity** _ **Local community**	**Damage to underground utilities resulting in water/wastewater leaks, telecommunication and electricity interruptions**	Coordination with departments of potable water, wastewater, electricity, and telecom authorities to obtain maps/ data on underground utilities, whenever available	Excavation Contractor	LDC HSE	Official coordination proceedings signed by representatives of utility authorities _ Examination of site-specific reports and records _ Field supervision	_ Contractor management costs _ LDC management costs
		If maps/data are unavailable: Perform limited trial pits or boreholes to explore and identify underground utility lines using non-intrusive equipment		LDC HSE Supervisor	_ Contractual clauses + Field supervision	

Receptor	Impact	Mitigation measures	Responsibility		Means of supervision	Estimated Cost of mitigation / supervision
			Mitigation	Supervision		
		Preparation and analysis of accidental damage reports		LDC HSE	_ Review periodic HSE reports	
		Repair and rehabilitation of damaged components		LDC HSE Local Government Unit Local Police	_ Contractual clauses + Field supervision	
_ **Streets (physical status)** _ **local community and workers (health and safety)**	**Hazardous waste accumulation**	_ Temporary storage in areas with impervious floor _ Safe handling using PPE and safety precautions _ Transfer to LDC depots for temporary storage _ Disposal at licensed Alexandria hazardous waste facilities (Nasreya or UNICO) _ Hand-over selected oils and lubricants and their containers to Petrotrade for recycling	_ LDC _ Excavation Contractor	LDC HSE	Field supervision and review of certified waste handling, transportation, and disposal chain of custody	Indicative cost items included in contractor bid: Chemical analysis of hazardous waste Trucks from licensed handler Pre-treatment (if needed) Disposal cost at Nasreya Approximate cost of the above (to be revised upon project execution): 8,000-10,000 LE per ton
		_ Adequate management of asbestos and any possible hazardous waste	Water Authority + contractor		Field supervision + review of Water Authority manifests	_ Contractor costs _ LDC management costs

Receptor	Impact	Mitigation measures	Responsibility		Means of supervision	Estimated Cost of mitigation / supervision
			Mitigation	Supervision		
		_ Minimize fueling, lubricating and any activity onsite that would entail production of hazardous materials empty containers _ Pre-Plan the anticipated amounts of hazardous liquid materials (such as paint, oils, lubricants, fuel) to be used in the various activities in order to minimize leftovers and residuals. _ To the extent practical, seek to combine leftovers or residuals of the same liquid material/waste in order to minimize the number of containers containing hazardous residuals _ Ensure hazardous liquid material/waste containers are always sealed properly and secured from tipping/falling/damage/direct sunlight during	_ LDC _ Excavation Contractor		Field supervision	

Receptor	Impact	Mitigation measures	Responsibility		Means of supervision	Estimated Cost of mitigation / supervision
			Mitigation	Supervision		
		transportation and storage – In case of spillage: o avoid inhalation and sources of ignition o cover and mix with sufficient amounts of sand using PPE o collect contaminated sand in clearly marked secure containers/bags – Add sand to inventory of hazardous waste				
– **Local community**	**Non-hazardous waste accumulation**	1. Designate adequate areas on-site for temporary storage of backfill and non-hazardous waste 2. Segregate waste streams to the extent possible to facilitate re-use/recycling, if applicable 3. Reuse non-hazardous waste to the extent possible 4. Estimate size of fleet required to transport wastes. **5. <u>Transfer waste to disposal facility West of the project area</u>**	– LDC – Excavation Contractor	LDC HSE	– Contractual clauses – Monitoring of waste management plan – Field supervision	– Contractor costs – LDC management costs

Receptor	Impact	Mitigation measures	Responsibility		Means of supervision	Estimated Cost of mitigation / supervision
			Mitigation	Supervision		
Local community	**Destruction of streets and pavement**	– Arrange Restoration and re-pavement (رد الشئ لأصله) with local unit – Communication with local community on excavation and restoration schedules.	– LDC in cooperation with the LGU	EGAS	- Field supervision - Coordination with LGU as needed	Included in re-pavement budget agreed by LDC with local units or Roads and Bridges Directorate
Occupational health and safety	**Health and safety**	1. Full compliance to EGAS and LDC HSE requirements, manuals, and actions as per detailed manuals developed by Egypt Gas 2. Ensure the provision of the appropriate personal protective Equipment and other equipment needed to ensure compliance to HSE manuals	Excavation Contractor	LDC HSE and EGAS SDO	Field supervision	– Contractor costs – LDC management costs

Receptor	Impact	Mitigation measures	Responsibility		Means of supervision	Estimated Cost of mitigation / supervision
			Mitigation	Supervision		
Local communities and businesses	**Lack of accessibility to businesses due to delay in street rehabilitation**	Compliance with the Environmental management plan concerning timely implementation of the construction schedule to minimize impact on local business • Follow up the procedure of Grievance Redress Mechanism • Ensure transparent information sharing	During digging process LDC The sub-contractors	LDC and EGAS SDO	– Ensure the implementation of GRM – Supervision on Contractors performance	No cost
Local community Health and safety	**Threat to Safety of users and houses (due to limited level of awareness and misconceptions)**	Prepare Citizen engagement and stakeholder plan Awareness raising campaigns should be tailored in cooperation with the community-based organizations	During the construction LDC	LDC and EGAS SDO	– List of awareness activities applied – Lists of participants – Documentation with photos – Awareness reports	– 2250 $ per awareness raising campaign – 2250 $ for brochure and leaflets to be distributed (material available by EGAS-$ spent)

5.4 Environmental and Social Monitoring Matrix during CONSTRUCTION

Table 2: Environmental and Social Monitoring Matrix during CONSTRUCTION

Receptor	Impact	Monitoring indicators	Responsibility of monitoring	Frequency of monitoring	Location of monitoring	Methods of monitoring	Estimated Cost of monitoring
Local traffic and accessibility	Reduction of traffic flow and accessibility to local community	Comments and notifications from Traffic Department	LDC HSE	Monthly during construction.	Construction site	Documentation in HSE monthly reports Complaints log	LDC management costs
Ambient air quality	Increased air emissions	HC, CO% and opacity	LDC HSE	Once before construction + once every six months for each vehicle	Vehicles licensing Department	Measurements and reporting of exhaust emissions of construction activities machinery Complaints log	LDC management costs
Ambient noise levels	Increased noise levels	Noise intensity, exposure durations and noise impacts	LDC HSE	Regularly during site inspections and once during the night in every residential area or near sensitive receptors such as hospitals	Construction site	Measurements of noise levels Complaints log	LDC management costs
		Complaints from residents	LDC HSE	Monthly during construction.	Construction site	Documentation in HSE monthly reports	LDC management costs
Underground utilities	Damages to underground utilities and infrastructure	Official coordination reports with relevant authorities Accidents documentation	LDC HSE	Monthly during construction.	Construction site	Documentation in HSE monthly reports	LDC management costs
Physical state of street	Waste generation	Observation of accumulated waste piles	LDC HSE	During construction. Monthly reports	Construction site	Observation and documentation	LDC management costs

Receptor	Impact	Monitoring indicators	Responsibility of monitoring	Frequency of monitoring	Location of monitoring	Methods of monitoring	Estimated Cost of monitoring
		Observation of water accumulations resulting from dewatering (if encountered)	LDC HSE	During construction. Monthly reports	Around construction site	Observation and documentation	LDC management costs
		Chain-of-custody and implementation of waste management plans	LDC HSE	Zonal reports	Construction site and document examination	Site inspection and document inspection	LDC management costs
Local community	Damaging to the streets	– Streets quality after finishing digging – Number of complaints due to street damage	LDC, EGAS	Four times per year, each three months	Site and Desk work	Checklists and complaints log	No cost
Local community	Threat to Safety of users and houses (due to limited level of awareness and misconceptions)	– Number of awareness raising implemented – Number of participants in information dissemination	LDC, EGAS	Quarterly monitoring	Office	Reports Photos Lists of participants	No cost

5.5 Environmental and Social Management Matrix during OPERATION

Table 3: Environmental and Social Management Matrix during OPERATION

Receptor	Impact	Mitigation measures	Responsibility		Means of supervision	Estimated Cost
			Mitigation	Supervision		
- **Ambient air quality** - **Community health and safety**	**Network integrity**	_ Detailed review of the geotechnical and geological history of the project area _ Development of a full emergency response plan _ Random inspections and awareness campaigns to ensure that NG piping and components (both inside the household and outside) are not be altered, violated, or intruded upon in any way without written approval from, or implementation of the alteration by, the LDC. _ Availability of 24-7 hotline service (129) to all beneficiaries and the public for reporting possible leaks, damages or emergencies _ Quick response to gas leaks by evacuation of the affected area _ Repair or replacement of failed component	LDC	LDC HSE.	- Map and local geotechnical report review - Site inspections - Awareness actions - Periodical trainings and drills	LDC management costs
- **Ambient air quality** - **Community health and safety**	**Repairs and maintenance (network and households)**	As with construction phase activities	_ LDC _ Excavation Contractor	LDC HSE	As relevant from construction phase	LDC management costs
Economically disadvantaged Community members	**Financial burden on economically disadvantaged due to the installments**	- Petro Trade should collect the installment immediately after the installation of NG - The installments should be collected on monthly basis in order not to add burden to the poor, as it will be easier for them to pay on monthly basis - The installment should not be high	Petro trade (Company responsible for collecting the consumption fees and the installments	EGAS	Banks loans log Complaints raised by poor people due to the frequency of collecting the installments	No cost

Receptor	Impact	Mitigation measures	Responsibility		Means of supervision	Estimated Cost
			Mitigation	Supervision		
Informal LPG distributors	**Loss of revenue for LPG distributors**	- LPG distributors should be informed about the NG potential areas in order to enable them to find alternative areas - They should be informed about the GRM in order to enable them to voice any hardship	Butagasco	EGAS	Information sharing activities with the LPG vendors Grievances received from them	No cost
Community health and safety	**Possibility of Gas leakage**	- Information should be provided to people in order to be fully aware about safety procedures - The hotline should be operating appropriately - People should be informed of the Emergency Numbers	LDC	LDC	Complaints raised due to Gas leakage	No cost

5.6 Environmental and Social Monitoring Matrix during OPERATION

Table 4: Environmental and Social Monitoring Matrix during OPERATION

Impact	Monitoring indicators	Responsibility of monitoring	Monitoring Frequency	Location of monitoring	Methods of monitoring	Monitoring Estimated Cost
Network integrity	- Earthquakes or geotechnical settlements - Emergency response time and corrective actions during emergency drills - Reports of alteration or tampering with ANY gas components	LDC HSE	Bi-annual inspections and annual emergency response drills	Along the network and inside and outside households	- Inspection, leakage detection, running the drills	LDC management costs
Financial burden on economically disadvantaged due to the installments	- Number of economically disadvantaged people who complained - Number of those who can't pay the installment	LDC and Petro Trade, EGAS	Quarterly	Desk work	- Complaints log - Bank reports - Petro trade reports	No cost
Impact on the informal LPG distributors	- Grievance received from the informal LPG distributors - Information shared with them	EGAS, LDC	Quarterly	Desk work	- Complaints log	No cost
Possibility of Gas leakage	- Complaints raised by the community people - Number of leakage accidents reported/raised	LDC, EGAS	Four times per year, each three months	Site and Desk work	Complaints log LDC	No cost

6 Stakeholder Engagement and Public Consultation

The public consultation chapter aims to highlight the key consultation and community engagement activities that took place as part of the preparation of the ESIAs and their outcomes. Following are the main groups consulted during the ESIAF and SSESIA and the engagement tools used.

Table 5: Summary of Consultation Activities in Akhmeim City

Participants	Number		Methods	Date
During the ESIAF and RPF study	**Male**	**Female**		
Potential beneficiaries, government officials, NGO representatives	71	9	Scoping meeting	December 2013
Community people	31	11	Structured questionnaire	
Potential beneficiaries, government officials, NGO representatives	82	22	Public Consultation	
Total	184	42		
During the site specific study	**Male**	**Female**		
Government officials	2	1	In-depth	September and October 2015
NGOs		1	In-depth	
Community people	5	6	FGD	
Potential beneficiaries	30	48	Structured questionnaire	
Public hearing for the ESIA of the governorate level. Potential beneficiaries, government officials, NGO representatives, (20 people have attended from Akhmeim)	89	33	Public consultation	14th of February 2016
Total	126	89		

6.1 Main Results of Consultation during the Data Collection Phase

The majority of sample surveyed expressed very high demand on the project. They also indicted their willingness to be connected to the NG regardless of the amount of money they can afford to pay. This high level of enthusiasm from the local communities towards the project is attributed to the high level of awareness of the benefits of the natural gas and the current hardships that the households are facing to secure LPG cylinders.

Table 6: Sample of the main issues raised during data collection and scoping phase in Akhmeim City

Subject	Questions and comments	Responses
Street rehabilitation	The rehabilitation of streets remain as a problem in Sohag. The NG companies don't restore street conditions	The NG have an agreement with the Local Governmental Unit. The agreement stated that NG companies will pay the restoration cost and the LGU do the pavement. The LGU might consume some time in this process
Traffic congestion	It is recommended to consider having clear plan for streets digging and traffic diversion if any	This is part of the ESMP that will be fully considered
LPG black market	It is recommended to implement the project with no delay in order to get rid of LPG problems particularly, the ones related to the high cost of LPG. The residents have to get the LPG cylinder of higher cost	The installation of the NG has many benefits. However, the LDC should follow an installation plan
Reluctant of some people to install the NG	In Akhmeim some people might be reluctant to install the NG. Their number is not high but the LDCs should find a mechanism to mobilize them	
NG consumption fees	Is it expected not to subsidize the NG? It is anticipated not to subsidize the NG consumption	The GoE subsides the NG installation and the consumption fee of NG
Shortage time of the LPG	During January and February the Akhmeim residents suffer from the limited number of LPG cylinders	
Community participation	The community is willing to host NG staff in order to provide information about the project. No fancy meeting rooms but the meetings can be held in community hall (*Madiafa*)	To be considered by EGAS
Information sharing	The NG company must provide clear information to the community in order to avoid any misconceptions	
Cost of NG installation	The cost of NG is not 1700 EGP. This amount is valid if you pay in cash but if you pay in installment it will be duplicated	The LDCs in cooperation with the banks provide various installment types and the beneficiary is free to select any of them
Half cost to be paid by the poor for the NG	It is recommended to assist the poor through providing additional support. It will be better to provide for them about 50% of the installation cost	The GoE has already provided subsidy to Ng connection reduces to the cost from 5600 EGP to about 1700 EGP.
Facilitation of	It is strongly recommended to	The contracting procedure take no

the NG contracting procedures	facilitate the procedures of contracting, especially, the ones related to paying in installment. Poor people don't have assets and no one will guarantee them. They don't have a monthly salary. Thus, they will not be able to provide the banks with the required documents	more than one day.

On the 14th of February 2016 a public consultation was conducted in Sohag City to which all areas relevant to the project in Sohag Governorate were invited. The head of Akhmeim city, the head of the environmental department in Akhmeim, as well as the head of the educational sector and health authority in Akhmeim and some members of the community attended the consultation event.
The results and documentation of the public consultation can be found in the Sohag City SSESIA.

6.2 Summary of consultation outcomes

Site specific consultation activities, as mentioned above, involved wide range of concerned stakeholders. This included, but was not limited to, persons/households affected by the project activities, civil society organizations representing the interest of the community, or regulatory and governmental bodies who will play a role in facilitating or regulating the implementation of site-specific project activities.

Consultation activities were a proper introduction to the project in the community. The majority of consulted groups expressed their eagerness to have NG installed. A small number of stakeholders expressed their willingness to avail additional support to poor people. There was a concern that some people will be reluctant to install NG. Street restoration was one of the concerns raised by people. Despite some of the concerns raised by members of the community, the majority were enthusiastic to be connected to the NG. They expressed their dissatisfaction with LPG cylinders.

While WB safeguards and regulations state that a minimum of two large-scale, well-publicized public consultation sessions are a must for projects classified as category 'A' projects like the one at hand[3], additional consultation efforts (for example through focus group discussions, in-depth meetings, and interviews) were implemented to reach the most vulnerable and difficult to reach community members. Additionally, in order to obtain larger scale and more quantifiable information, the consultant has conducted surveys in the different sites.

[3] Clause 14 of OP 4.01 states that: "For Category A projects, the borrower consults these groups at least twice: (a) shortly after environmental screening and before the terms of reference for the EA are finalized; and (b) once a draft EA report is prepared. In addition, the borrower consults with such groups throughout project implementation as necessary to address EA-related issues that affect them."