

CHAPTER TEN

CONCLUSIONS AND RECOMMENDATIONS

10 Conclusion

The Environmental and Social Impact Assessment Study of the proposed Sagamu LDZ Natural Gas Pipeline Network Construction Project by Transit Gas Nigeria Limited (TGNL) was conducted in accordance with the Environmental Impact Assessment Act No 86 (110102), Environmental Guidelines and Standards for the Petroleum Industry in Nigeria” (EGASPIN) published in 2002 by the Department of Petroleum Resources (DPR) and World Bank Operational Policy (OP) 4.01 on Environmental Assessment. The prime objective of the ESIA process to this project is to ensure timely provision of information for the project decision makers to contribute to developing the project such that, it is environmentally sound and sustainable.

The process undertaken comprised of the following step:

- Scoping and screening
- Stakeholder engagement
- Baseline data gathering
- Impact assessment
- Management plan
- Reporting and disclosure

Baseline information on receptors and resources were obtained during the ESIA from available data sources and field surveys during the wet and dry seasons. A description of the existing environmental, health and socio-economic conditions was put together as a basis against which the impacts of the project was assessed and evaluated. The biophysical, social-economic and health impacts of the project were assessed and mitigation measures recommended to avoid or minimize adverse impacts and enhance positive impacts.

The significant impacts identified are air quality impairment as a result of methane (CH₄) emission/venting during operation, contamination of rivers due to hydro-test

wastewater discharge (commissioning), spillage of sludge and pigging spoil during operation and

maintenance, physical and economic resettlement as a result of land-take for right of way, youth agitation due to dissatisfaction/ disagreement and Workplace Health and Safety impacts (construction). However, each of the potential impacts has adequate mitigation measures recommended for project implementation.

In consideration of the above, any environmental issue to impede the development of the proposed Sagamu LDZ Natural Gas Pipeline Network Construction Project has been mitigated to as low as reasonably practicable.

The project is therefore recommended for implementation because the benefits to be derived are much greater than the environmental impacts that can be adequately managed.

The project also has a high environmental, economic and social acceptability. A monitoring plan has been recommended to take care of any unforeseen event that may induce environmental changes in the future during the lifespan of the project.

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APPENDICES

APPENDIX ONE

ELOHIM QUALITY CONTROL AND ASSURANCE PLAN

To maintain a high level of reliability and repeatability of our analysis, we present

below a brief summary of our quality control and assurance plan. All samples for

the analysis of a parameter would be prepared and analysed at the same time. Analysis would be carried out in triplicates. Statistical analysis would be used to assure the accuracy of results.

HYDROBIOLOGY

Surface Waters

Collection of Samples

All surface samples would be collected using a 1L water sampler. Composite samples of surface waters would be taken into sterilized bottles and laboratory analysis carried out in triplicates, Statistical analysis would be used to assure the accuracy of results.

Preservation of Samples

All water samples would be properly handled in the field and fixed depending on salinity, the type of analysis to be carried out, since some determinations are likely to be affected by storage before analysis. Parameters such as temperature, pH conductivity, TDS, Salinity, turbidity and dissolved oxygen would be determined in situ because of their rapid change on storage. Sample for water physico-chemistry would be divided into four groups.

GROUP

FIXATIVE

ANALYSIS

1.	No fixative but to be cooled at 4°C	Salinity, TSS, TDS turbidity
2.	5NH ₂ SO ₄ to pH2	Anions, oil and grease
3.	5NHN03 to 2	Cations/heavy metals
4.	Zinc acetate	H ₂ S

Samples for microbial analysis would be collected into pre-sterilised MacCatney bottles in the field and stored in a cooler with ice chips at a temp of about 4°C. Microbial analysis would be carried out under aseptic conditions. Sediments sample: The surface top 1-2cm of the bottom samples shall be collected using a Van Veen Grab. Care would be taken to ensure that samples for physio-chemistry, soil fauna and micro-biology are handled separately. Sediments samples for micro-biological studies are to be kept in sterile containers and cooled to 4°C until time for analysis. The period of storage for samples shall not exceed 3 days after last day from fieldwork.

Collection

Care would be taken to ensure that the sample being taken from each well is representative of ground water at the location. Samples taken on 3 consecutive days shall be kept and analysed separately as replicates. The containers shall be sterilized plastic.

Recording of Samples and Chain of Custody:

Because of the substantial expenditure involved in groundwater sampling it is important that accurate and detailed information would be recorded during the sampling procedure. Furthermore, the chain of custody of the samples themselves would be properly recorded in order to provide references for legal actions.

Data such as:

- Sample description: Type of water/volume collected,

- Source: Marine
- Date/time of sampling
- Laboratory number (to be filled later),
- Total depth of water,
- Sampling appearance: Colour, turbidity and sediment,
- Reasons for sampling should accompany all samples to be transported to the laboratory for analysis.

APPENDIX TWO

COMMUNITY AFFAIRS, SAFETY, SECURITY (CASHES) POLICY HEALTH, ENVIRONMENT AND SECURITY (CASHES) POLICY

It is the policy of Elohim Sabaoth to pay attention to the health of its employees and consultants engaged in work, the safety systems necessary to carry out the work in a safe manner, together with the need to protect the operating environment.

From the foregoing therefore, all accidents can be prevented with reference to Health and Safety of the employees and with due regard being paid to the environment. While it is duty of every employee to maintain a high level of personal hygiene. It is necessary that safety rules applicable to the job are obeyed.

The Safety Officer has the overall responsibility to ensure that provision of CASHES are complied with and that offenders face the laid down disciplinary measures.

Every member of staff and all consultants including the Managing Director/Chief

Executive Officer of ELOHIM must endeavour to read, understand and operate within this policy. This policy is also part of the induction process

for new staff, consultants, visitors and suppliers. In order to give this policy, the respect it deserves, copies are conspicuously displayed.

In the day to day operations it is used in the evaluation of work and practice to ensure that all parts of the job involving CASHES are not neglected.

Implementation Strategy

In order to ensure that the CASHES policy of ELOHIM is complied with, due consideration is given to its wide circulation and communication via safety meetings and daily pep talks.

Site Safety meetings/pep talks will be held daily and shall be chaired by the project leaders. Purpose of meeting will be to addresses all site CASHES requirements. All such meetings will be documented and copies made available to the management.

Site meetings will be held daily for 5-10 minutes duration. All workers will be present at the meeting which was conducted by Safety Officer. In addition to chairing the meeting, the Safety Officer ensures by visual inspection that all equipment and machinery for work are in good state of repair. At site it is ensured that staff maintain a high level of personal hygiene. No idling or horseplay shall be allowed on site and smoking is forbidden at all Elohim worksites irrespective of whether a dangerous condition exists or not.

CONTINGENCY PLAN

Contingency plans are necessary especially when abnormal situations are encountered. It usually requires calmness and quick decision-making. Issues for which contingency actions were planned are:

1. Operational disturbances (fire, structural collapse, vehicular accidents, etc)
2. Crisis arising from hostile communities
3. Sudden sickness or death of a member of the work team
4. Missing persons.

Contingency Procedure

When any of the situations listed above occurs, the Safety Officer would notify the client representative at the base, Where it becomes necessary to report to authorities, such as the police, in cases involving sudden death or missing person, the Safety Officer would obtain clearance from the base where the client has an established contingency procedure, the Safety officer will then report to the client representative all the actions he intends to take regarding the issue.

In cases of operational disturbances, for example, fire and structural collapse of erected structures, the strategy shall be:

1. To save lives by removing personnel from the area using alarms where practicable to give warning of the danger
2. Seek means of reducing the spread of the disturbance, it might require using fire extinguisher or turning off the supply of the fuel or heat in case of fire.

Medevac Procedure

In cases of accident leading to injury, the Safety Officer or the nearest consultants shall administer first aid using the drug resources in the first aid box. The victim would then be taken to the nearest hospital.