CITY LEVEL SEPTAGE TREATMENT IN ACCRA, GHANA – THE ROLE OF SEWERAGE SYSTEMS GHANA LTD.

By: Ing. (Mrs.) Florence Cobbold

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 Contents

➢ Historical Background of Ghana
➢ FSM in Ghana Before Our Existence (Problems)
➢ About us - Our Solutions - Model
➢ Our Treatment Plants and Technology
➢ Management of Activities
➢ Awards and Recognition

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Ghana, is a country located along the Gulf of Guinea and Atlantic Ocean, in the sub region of West Africa.

Ghana is bordered by the Ivory Coast in the west, Burkina Faso in the north, Togo in the east and the Gulf of Guinea in the south.


Has a population of about 30 million.

Accra is the Capital town of Ghana
FSM in Ghana Before Our Existence

(The Problems)

The Following slide may contain scenes that may be disturbing. Viewer discretion is advised.

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THE SITUATION BEFORE

Dumping of liquid waste **DIRECTLY INTO THE SEA** was a norm leading to various health problems

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Consequence of the Challenges

❖ 7,500 children die annually from diarrhea, which is linked to unsafe drinking water, poor sanitation, or poor hygiene.

❖ Ghana has 1,000 children under five years old dying each year from diarrhea, caused by polluted water.

❖ Poor sanitation in Ghana costs the country over $79 million annually.
Business Opportunity from Challenges

❖ Opportunity was identified to Quickly invest in the Sanitation sector with a form of agreement with the Government of Ghana for services.

❖ Sewerage Systems Ghana Ltd. developed its business model from the IDENTIFIED GAP and the PRESENTED OPPORTUNITY arising from the partnership with the Government of Ghana.

❖ To change Ghana’s Status as one of the World’s Worst Performing countries in sanitation coverage requires more investment in the sector – MDG Report 2015.

❖ Commitment to investment in the sanitation sector by several Governments of Ghana had always been fairly poor.

❖ However, there was a commitment by the Government of Ghana in 2014 to partner private sector to introduce technologies to recycle waste and produce energy.

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Sewerage Systems Ghana Ltd.

- Sewerage Systems Ghana Limited (SSGL) is a limited liability company incorporated under the laws of Ghana and has been in existence since July 2012.

- SSGL has built two new faecal treatment plants and rehabilitated one Sewerage Treatment Plant – Mudor.

- SSGL based on it’s business acumen and model, Design, Build, Operates and take Management fees. (modified DBOT model)

- It also employs PPP in its holistic business horizon to ensure achievement of the salient SDG’s related to sanitation and clean water.
Our Mission

Improving the lives of People

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Our Vision

To be the most successful African holding company leading in the provision of efficient, sustainable and environmentally friendly treatment of sewage and faecal sludge

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OUR SOLUTIONS
SSGL’s solutions to identified challenges are:
❖ To improve people’s lives by making our cities cleaner and safer
❖ Provide jobs for hundreds of citizens
❖ To end the 10 decades dumping of faecal matter in the ocean
❖ Redeem the image of the city of Accra (Tagged as Dirtiest city)

Within 3 years, 2 New FTP were constructed and 1 STP rehabilitated.
❖ Lavender Hill Faecal Treatment Plant – James Town
❖ Kotoku Faecal Treatment Plant – Adjen Kotoku
❖ Mudor Sewerage treatment plant – Mudor James Town
❖ Kumasi Faecal Treatment Plant – Construction Phase

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Lavender Hill Faecal Treatment Plant – James Town

Designed capacity is 2,000 m³/day equivalent to almost 250 truck loads

Average of 150 Trucks /day

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THE TREATMENT PROCESS CONT.

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By Product Reuse - Biogas

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By Product Reuse - Sludge Processing

By: Ing. Florence
By Product Reuse - Effluent Water

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Management of Activities
SSGL’s commitment towards its policies and meeting the permit conditions, provides good litter bins for solid waste collection, storage and disposal.

Burning of waste on site is prohibited and there have been no such activities since the inception of the treatment operations.

The Waste is taken to the land fills through the right procedure.
House Keeping Protocols

- Good housekeeping is highly observed and a monthly clean in place (CIP) program had been instituted to ensure GMP is at its best.

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The Board and Management of SSGL are highly committed to the Health and Safety of the staff, contractors on site as well as its customers and the community at large.

- Adequate lighting is available at all times in the plants even during the night

- Constant and adequate supply of Personal Protective Equipment (PPE) such as ear muffs, gloves, nose mask, safety boots etc. had always been adhered to at the treatment plants

- Well maintained sanitary facilities are available on site for all personnel and clients.
To support odour management, odour control units had been fused into the treatment processes where odour is likely to be a nuisance.

The treatment workshop where dewatering process takes place have the biggest odour control unit.

The corridor of the offices had also been provided with an odour suppressing unit to support the odour management.
Chemical Management

- Chemicals are stored under a very favourable conditions as outlined in their respective MSDS.

- Operational activities employed during the treatment process is such that, potential spillages are prevented as much as possible.

- For those chemicals imported (like the PAM and the antifoam), the port clearance procedures were duly followed.

- No obsolete or expired chemical had been encountered.

- SSGL is committed to consulting the EPA in the event of any obsolete or expired chemicals before disposal as outlined in their respective MSDS.

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The treatment plants are located on a total land take of about 7.6 acres.

Portion of space have been allotted to parking of company vehicles to support total traffic management in the plant.

Entry and Exit points to the treatment plants had been created.

The Security and the Truck Attendants at the Receiving Bay are the Traffic Wardens onsite at all times.

Parking on the public roads in anticipation of assessing any of the services of SSGL is HIGHLY PROHIBITED.
The environmental management team of SSGL are mindful of the ambient air, that of the offices due to the area of operations and the environment within which it operates.

Ambient air quality is constantly monitored by SGS laboratory Ghana but only on microbiological (total bacteria, yeast & mould).

EPA (Accra) monitoring team conduct quarterly comprehensive ambient air quality analysis of the various locations in the treatment plants.
Report by the factory inspectorates indicates that, the general operations of the plants have noise level less than 70dB (A)

The EPA (Accra) monitoring team performs quarterly assessment of the noise level of the various locations of the treatment plants.

By far, running of blowers and the usage of generator sets are two activities that have the potential to have noise close to the guideline of 70dB (A).

The use of PPE’S (Ear Muff) have been employed as a mitigated measure to offset any consequence of high noise level in those areas.
The treatment plants have been provided with appropriate fire prevention / fighting equipment on site based on the GNFS recommendations.

Some key personnel have also been provided with appropriate fire fighting training by the GNFS.

Fire alarm system have been installed on site specifically the office complex building.
A well equipped Laboratory in-house

About 55 Different Physico-Chemical Parameters can be analysed at the In-house Laboratory

Instrument with high Precision and Accuracy are used

Acceptable Reference Methods used in analysis

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Operational Challenges

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OPERATIONAL IMPACT ASSESSMENT VISITS

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COLLABORATION WITH HAVARD & 6 OTHERS

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ONGOING PROJECTS - KUMASI, TAKORADI & TAMALE FSTP

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Sewerage Systems Ghana Limited wins Environmental and Sanitation award

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Mr. Said Haidar, Managing Director of SSGL and Mrs. Lola Asiseh Ashley, the Business Development and

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For Your Attention