

# JOELEX UGANDA LIMITED

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*NOW LETS INNOVATE*



# PROBLEM

- ❖ Our **bio-toilet technology**, helps address the lack of toilets issue noted in **World health Organization report of 2014**, where Kampala City the Capital of Uganda has 3 Million people by day and only 1000 private, public toilets.
- ❖ Of the 1000, only 11 of these belong to Kampala Capital City Authority, meaning that the ratio of people to toilet usage in the urban centre is 3000:1,
- ❖ Where by for every 1 toilet, on average 3000 people will scramble to use it per day and of which most of the toilets are located in buildings.

## HOW IT ADDRESSES PROBLEM

- Instead of putting up expensive infrastructure, to accommodate toilets in the urban centers, our innovation provides affordable material, that addresses both space, hygiene and waste management methods.
- The bio-toilet technology is installed on a space of 27 square feet area, 6 feet in length and 4.5 feet in width.
- In an ecological way, the toilets dissolve the human waste deposited into the system into water and clean energy. (Bio-gas)
- In addition, the water can be used for irrigation, farming purposes enabling and enhancing urban agriculture e.g.. vegetable and fruit farmers

# WAYS APPROACH IS BETTER THAN CURRENT WAYS

- The bio-toilet is a climate smart technology, that helps in combating climate change through proper waste management.
- No need for sewage systems, to be put in place for the disposal of human waste.
- The remainder of the waste, from the process of having turned into water and clean energy is turned into fertilizer. Which in addition to the water can be sold to farmers to improve crop yield and guarantee food security.
- More affordable, convenient and efficient to install on large scale for growing urban population than conventional constructed toilets

# BUSINESS MODEL

<p><b>KEY PARTNERS</b></p> <ul style="list-style-type: none"> <li>•Private Land Owners in the city</li> <li>•Building owners in the city</li> <li>•City Authorities</li> <li>•Indian Bio-toilet specialists</li> <li>•Engineering team</li> </ul>	<p><b>KEY ACTIVITIES</b></p> <ul style="list-style-type: none"> <li>•Innovation &amp; procurement</li> <li>•Creating awareness on tech</li> <li>•Business negotiation for land space</li> </ul>	<p><b>VALUE PROPOSITION</b></p> <ul style="list-style-type: none"> <li>•Combating climate change, ensuring Safe and clean environment</li> <li>•Access to more toilets</li> <li>•Safety from diseases brought about by poor sanitation e.g. cholera</li> <li>•Harmless fertilizer for farmers.</li> </ul>	<p><b>CUSTOMER RELATIONSHIP</b></p> <ul style="list-style-type: none"> <li>•24/7 access to toilets and personnel in place for assistance</li> <li>•At the cost of \$0.05/person/session</li> </ul>	<p><b>CUSTOMER SEGMENTS</b></p> <ul style="list-style-type: none"> <li>•Women, children in open market places</li> <li>•Traders selling merchandise on the streets</li> <li>•Households in urban slums with vulnerable unemployed women, children</li> </ul>
<p><b>COST STRUCTURE</b></p> <ul style="list-style-type: none"> <li>•Service driven</li> <li>•Fixed costs: Salaries, licences, taxes, operational costs</li> <li>•Variable costs: Leases, travels etc.</li> </ul>		<p><b>REVENUE STRUCTURE/ STREAM</b></p> <ul style="list-style-type: none"> <li>•Sales from bio-gas, clean energy made</li> <li>•Sales from toilet service.</li> <li>•Sales of harmless fertilizer from waste to farmers.</li> <li>•Sales from outdoor advertisements</li> </ul>		

# HOW FUNDING WILL BE USED

- ❖ To help make the bio-toilet technology needed and come up with a viable efficient prototype that will address the problem of lacking toilets
- ❖ To travel to India, Europe in order to create a partnership with other technology makers, that are already converting solid/human waste into water and clean energy. This alliance will help booster our engineering team
- ❖ To get a legal team that will arrange agreements with our partners, relevant city authorities, Land owners on provision of land, space on the streets where to place our prototypes and later bio-toilet technologies.

# KEY RISKS TO SUCCESS OF INNOVATION

RISKS	MITIGATION OF RISKS
1. Bureaucracy and corruption tendencies in city authority, organizations responsible for issuing licences	<ul style="list-style-type: none"><li>-Business model is flexible enough, allows us to commence business operations with or without city land allocation</li><li>-Formidable legal team to handle all unfair, unnecessary business operation delays</li></ul>
2. Possibility of technological glitches as business commences, hence waste management issues	<ul style="list-style-type: none"><li>-Preparing to contract waste disposal vehicles in proper handling of solid waste deposited in bio-toilets.</li></ul>
3. Copying of business concept and applying it elsewhere	<ul style="list-style-type: none"><li>-Already in process of registering and making patent for our technology</li></ul>
4. Possibility of failure to agree with lead Indian partners in application of technology	<ul style="list-style-type: none"><li>-Already in discussion with other, South African partners on application of proposed innovation.</li><li>-Already in negotiations with Uganda Industrial Institute in making working prototype</li></ul>

# PLAN FOR BRINGING INNOVATION TO LARGE SCALE

- ❑ Once Global innovation Fund, grants us the opportunity to pilot our proposed innovation. We should be able to bring in and create 5 bio-toilets every month, which should total to 60 Bio-toilets in 12 months
- ❑ It will be scaled through the Private sector, where the clientele will easily afford it though payment of less than \$0.05/person/toilet session excluding other revenue streams such as sale of clean energy, water and advertisement.
- ❑ This can be seen the table below;

BIO-TOILETS	NUMBER OF PEOPLE	PAYMENT/DAY	REVENUE/30DAY S	ANNUAL REVENUE
1 Toilet	Average 2000 people	$\$0.05 * 2000 = \$100$	$\$100 * 30 = \$3,000$	$\$3000 * 12 = 36,000$
20 Bio-toilets	Average 2000people	$\$0.05 * 40,000 = \$2000$	$\$2000 * 30 = \$60,000$	$\$60,000 * 12 = \$720,000$

# EXPECTED IMPACTS FOR INNOVATION

- Increased access to toilet services to the urban poor in the city centre and urban slums.
- Proper waste management and disposal of human waste in the city centre and urban
- Provision of employment opportunities for women, youth in slums and urban centres
- Proper hygiene methods practiced, as a result of 24 hour self cleansing systems in place.
- Combating of climate change in Kampala and Uganda, hence meeting NAMA goals
- Provision of affordable clean energy for cooking, made from human waste to the urban poor women and children

## TRACKING PROGRESS

- The number of people accessing, benefitting from the toilet service provision will be noted per day as a method of traction.
- Number of youth employed will be noted per bio-toilet installed in urban and slum area in the hub of the City.
- Number of polythene bags with human waste will be noted to see if in increase or decline after installation of bio-toilet technology.
- Volume of green house gas emissions prevented from exiting into the atmosphere will be calculated with a device placed on the bio-toilet technology



# TARGET CUSTOMERS, BENEFICIARIES

- Our target beneficiaries are the 3 Million people who come to Kampala City by day, (World Health Organization, World Bank report 2014) by day and have no access to toilets.
- Kampala city only has 1000 toilets, 11 of these are owned by the city authority and the rest are mostly in public and private buildings.
- The most affected are:
  - ✓ The Women, youth and children who sell vegetables, food stuffs in open market places to earn a day to day living
  - ✓ The traders who sell merchandise on the road sides and streets to make a living
  - ✓ The urban poor living in slums with no or adequate toilet service provision

## EXPECTED NUMBER OF PEOPLE TO BE REACHED

NUMBER OF YEARS	NUMBER OF TOILETS	NUMBER OF PEOPLE REACHED
1 <sup>ST</sup> Year	Pilot stage 20(6months) 50 toilets by end of 12 months	100,000
2 <sup>nd</sup> Year	100	200,000
3 <sup>rd</sup> Year	200	400,000
4 <sup>th</sup> Year	300	600,000
5 <sup>th</sup> Year	400	800,000

# START UP.MISSION & HOW IT RELATES TO INNOVATION

PARTICULARS	RESPONSE
Implementing Organization	Joelex Uganda Limited P.O box35572,KampalUganda
Mission of Organization	To be a leading social Enterprise using innovation as a strategy in solving communal and national challenges.
Primary Activities	<ul style="list-style-type: none"> <li>➤ To help the United Nations reach its sustainable Development goals</li> <li>- Through combating climate change in Uganda, East Africa, by mainstreaming climate action planning in all sectors of an economy</li> <li>- Through creating innovations that will create employment for youth in Uganda, East Africa</li> <li>- Through engaging in activities that reduce poverty and enhance economic prosperity</li> <li>- Through research, development and project management</li> </ul>
Relation to Innovation	<p>The innovation actively resolves to main challenges in Uganda and East Africa</p> <ul style="list-style-type: none"> <li>-Provides solution to major sanitation challenges in emerging economy</li> <li>-Combats climate change</li> </ul> <p>Provides a resource clean energy, that is used for lighting, cooking and electricity generation solve basic energy insecurity</p>

# MANAGEMENT TEAM

## **Erimu Paul**

Is a Mechanical Engineer by profession, with relevant skills in bio-digester designing, construction, a diploma in project planning and management, technical skills in the field of waste to energy. Has over 10 years of experience in the field of bio-toilets and bio-digester construction, he will be the project manager of this project and provide expertise on ground to start, maintain and conclude project.

## **Professor Viaaney**

Has a doctorate in the field of environment sciences and is a member of the global energy network for urban settlement. In addition to being certified by the United Nations Institute of Training and Research. He will be a leading consultant on the project.

## **Prof. James Akampumuza,**

Is a Lawyer by profession with over 25 years in the field of contract and project implementation law. His role will be to help our organization enter into successful contracts with the suppliers of materials. With his experience working with different government's he will lead negotiations with relevant city authorities, leaders and Public, Private owners of land and buildings

## **Dorothy Atukunda**

With a degree in Social Works, Social Administration, she has over 15 years in the field of Administration, organization, planning and supervisory skills.

His role will be in the proper administration of the company, project activities.

## **Mukasa Joel Sssimbwa**

Is an Entrepreneur by profession, with great business acumen and currently in pursuit for an MBA. He possesses various skills in organization, Business case problem solving, negotiation, sales and marketing and business planning. He is the brain behind this business concept and the team leader.

# PARTNER ORGANIZATION

## PARTICULARS

## RESPONSE

Partner Organizations

1. Kampala City Council Authority
2. Uganda Industrial Research Institute
3. Private City Land Owners Association
4. Indian and European Bio-toilet specialists
5. Engineering, Technical experts

Experience

- 5-30 years of city management experience
- Idle land and empty spaces in the city for such venture available
- Experts applying similar technology in New Delhi, with 650 Million people available and in Nairobi, Kenya.
- Local Engineering team available

Resources to Offer

- Provision of city land space for operation
- Provision of private land for operation
- Provision of already proven technology material

Skills to offer

- Assistance in technology installation
- Provision of training in implementation and handling of technology
- Assistance in distribution of technology