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*Treatment of Wastewater: A case of Robbing Peter to Pay Paul? What is the justification for wastewater treatment since it incurs cost and pollutes the environment?*

What happens to wash water from kitchens, bathrooms, animal pens, and milking parlours? In a typical African setting, it either flows into open drains, underground soakaway, or along the streets behind the buildings. But, in some big cities, it flows down unseen to a controlled facility for treatment. One can only imagine what it takes to make such wastewater pure again. Is it even possible? Science and technology have made it possible to recycle water for garden watering, irrigation, and in rare cases drinking and cooking.

Normally, wastewater treatment involves the removal of pollutants and the destruction of microorganisms. However, deeper research and “*sleepless nights*” in the laboratory discovered value in the recovery of these materials. Materials recovered are often in a semi-solid form called sludge which contains, metals, nutrients, and organic matter. Besides, this sludge can be exploited to generate energy by the use of technologies and the residue applied as organic fertilizer.

Also, arguments exist for the rationale behind wastewater treatment since water is almost everywhere -so it seems. In reality, however, there is a limited amount of water on earth and if abused will lead to greater problems. Of course, water is “*gold*” in most countries in northern Africa and the middle east. Therefore, care must be taken not to harm ourselves and our surroundings. Then comes the *sucker punch* -how do we tell when, or if we are harming our surroundings since we could always visit the doctor to know our health status. Who do we run to, to check the health status of the environment? A hint could be drawn from climate change outreach and cautions on the television signalling that the earth is sick.

Even worse, research also shows that in wastewater treatment, natural resources are depleted, and harmful substances are released which affects air, water, and arable lands. The case of robbing Peter to pay Paul -treating water to harm man and the environment. Where do we go from here then?

So, such questions have led scientists to develop methods to observe how man’s activities affect him and the environment. One method is called life cycle thinking which involves monitoring inputs and outputs of energy and materials as well as emissions during wastewater treatment. Life Cycle Assessment (LCA) aspect deals with how humans and the environment are affected while Life Cycle Cost Analysis (LCCA) deals with the economic aspect of wastewater treatment.

My research involves monitoring and collection of data in wastewater treatment plants for LCA and LCCA in selected cities in Nigeria, the giant of Africa. It is expected to exploit ways of reducing environmental pollution and expanding resource recovery in form of manure for soil nourishment and energy for powering farm activities as well as job creation and revenue generation in the long run.