INVESTMENT OPPORTUNITIES IN INTEGRATED SOLID WASTE MANAGEMENT (A.K.A WASTE TO WEALTH) FOR PUBLIC & PRIVATE SECTOR

A PAPER PRESENTED BY MR. ADEBOLA OLUGBENGA .O AT THE ABIA STATE ENVIRONMENTAL SUMMIT 2005. HELD BETWEEN TUESDAY 6TH AND THURSDAY 8TH DECEMBER 2005.

PREAMBLE: The theme of this summit "The Need for Good Environmental Management and Waste Recycling", with a sub-theme "Industrial and Domestic Waste Recycling" should not be seen as tall dream or something out this Planet.

As a matter of fact, now is the time to start advocacy for the implementation of sound environmental policy and good management which of course covers Integrated Solid Waste Management (ISWM), this is also the global thinking right now. In June 2005, during the commemoration of the world Environment Day Celebration, Mayors of cities around the world gathered in San Francisco U.S.A. to write a new chapter in the history of global cooperation. They recognized that majority of planet's population now lives in cities, as usual; the continued urbanization will lead to a new set of environmental challenges and opportunities. The mayors also acknowledged the importance of the obligations and spirit of the 1972 Stockholm Conference on the Human Environment, the 1992 RIO Earth Summit (UNCED), the 1996 Istanbul Conference on Human Settlements, the 2000 Millennium Development Goals (MDGs) and the 2002 Johannesburg World Summit on Sustainable Development.

The Mayors World over present at San Francisco Meeting on the 5th of June 2005, (I am not sure if any mayor in Nigeria attended the meeting) therefore resolved to promote collaborative platform and also build an ecologically sustainable, economically dynamic, and socially equitable future for their citizens, and also called to action their fellow mayors around the world to also sign the Urban Environmental Accords and Collaborate with them to implement the 21 Action Accords, which covers energy conservation and renewal, waste reduction, recycling, composing effective integrated waste management, urban design, urban nature, transportation, Environmental Health and Water.

This initiative is not a misplaced priority, because most of the Environmental problems identified by the Mayors, which the implementation of the 21 Action Accords seeks to remedy, are presently facing many Nigerian cities including Aba, etc in Abia State.

I therefore commend the organizer, of this summit and hope that the government will implement all resolutions and proposition of this very important summit in line with Federal governments National Environmental Sanitation Policy, the Millennium Development Goals (MDGs) and the Urban Environmental Accords (UEAs).

INTRODUCTION

Integrated Solid Waste Management (ISWM) is a comprehensive reference for designing and implementing new waste management programme, it involves several components of prevention, collection and transportation, recovery, recycling, composting and disposal/landfilling.

The programme, ISWM provide several investment opportunities with very high return on investment for public and private sectors, through investment in waste collection and transportation, waste recycling and composting, disposal by incineration and landfillings.

The organizers have asked me to talk only on waste recycling and composting. I am limited to this because they know that I am so passionate about waste recycling this is because of the enormous economic opportunities, (including job creation, poverty alleviation and sustainable development) it can provide.

RECYCLING: Can be defined as the process of converting inorganic waste materials like glass, metals, plastics, paper, aluminium etc. into valuable materials and or raw materials that can be used in several other applications for either personal or industrial consumptions.

PLASTIC/PURE WATER SACHET RECYCLING TECHNOLY: This technology present the best form of managing Plastic waste products including pure water sachets that typified the entire Nigerian landscape.

The machine (Fig 1) is capable of recycling several tons of pure water sachets and other plastic waste that are in abundance in the state into a peletized plastic products (fig 2), which is in very high demand; the pellets is used in several other application for the production of new plastic products like plastic hangers, shopping bags, conduit pipe, shoe soles, waste collection bags etc, it is also an exportable commodity for International market.

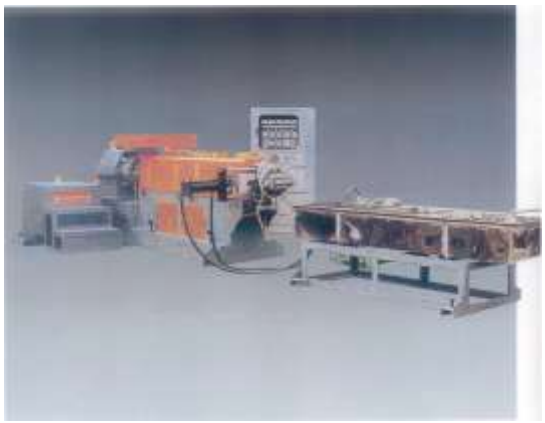

Fig 1: Recycling Machine

Fig 2: Purewater Recyded Material

For instance this machine is capable of providing direct employment opportunities for about Nine thousand (9,000) people in Abia State alone, if at least 2 machines are installed in each of the 17 local government areas of the state.

It will interest you to know that, the cost implication of the entire technology is very low, while it has very high return on the investment.

GLASS RECYCLING

A U.S. based company – container Recycling Alliance, has a facility that can sort and process approximately 800,000 tons of glass annually, it services all major glass/bottle container manufacturers in U.S.

The company reported a net income of 503 million US Dollars from revenue of 11.3 Billion US Dollars in year 2001.

This feat can also be achieved in this part of the world. In Cairo Egypt, recycling of various types of waste has led to the establishment of very vast small and medium industries/enterprises that employed several thousand of workers.

It is equally pertinent to mention here, that most of the equipment that can recycle most waste generated in this part of the world are available in this country.

COMPOSTING: This is the conversion of organic waste materials into valuable soil conditioner/fertilizer for agricultural usage.

Nigeria, presently imports several Million tons of chemical (inorganic) fertilizers for distribution and sales to Local farmers, this fact means that there is a huge market for organic fertilizers in this country.

The importation of these chemical fertilizers by government deplete the very scarce foreign exchange of the country, worst still the chemical fertilizer portends danger for the soil, crop and the final consumer.

Table 1: Comparison of organic fertilizer and inorganic (chemical) fertilizer

ORGANIC FERTILIZER	CHEMICAL FERTILIZER
1. Environmental friendly to the soil and crop and human	Harmful to the crop, soil and humans
2. It enhances soil structures, water retention ability and also support increased microbial activities in the soil	Excess application destroys the soil structure, the microbial activities in the soil and does not enhance water retention ability of the soil.
3. Excess application does not affect the soil nor the plant	Excess application leads to soil acidity and also kills the plant
4. Prevent erosion	Causes erosion

The table above shows comparison of both the organic fertilizer and the chemical fertilizer.

Any right thinking human being will surely settle for the organic fertilizer.

An Egyptian company produces clean and neatly packaged organic fertilizer from waste; it also produced peletized organic fertilizer (just like the chemical fertilizer) for easy application. Figures 3 to 6 were pictures taken from the company.

Fig. 3: Arrival of Waste

Fig. 4: Testing

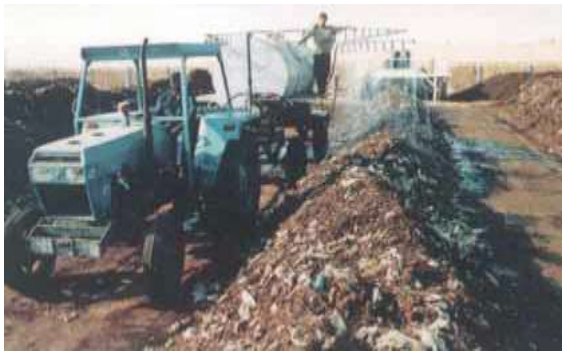

Fig. 5: Turning and Wetting

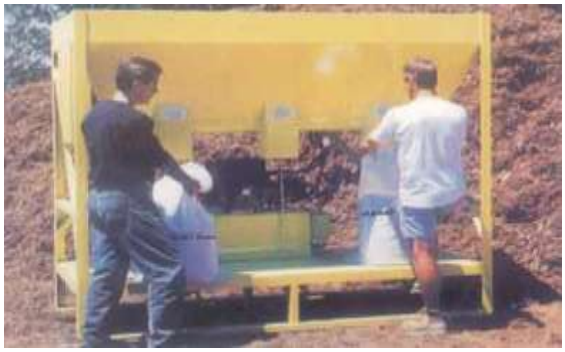

Fig. 6: Packaging/Bagging

The company has 4 composting centres across the country, with an annually revenue of over ten million US Dollars. It also exports some of her products.

I know and I believe that, this can also be done here in Nigeria too, my visit to Cairo Egypt recently revealed that the country in practicing what is called "Zero waste initiative" that is, they recycle about 80% of their waste, while only 20% is been disposed of, the feat was achieved through waste recovery, recycling, composting and re-use.

I will urge the state government to equally sponsor some of her personnel in charge of waste management on a study tour to Cairo to see and understudy the initiative; I strongly believe that the tour will be very educative and rewarding.

GAS COLLECTION, TREATMENT & REUSE: Bacteria that are naturally present in landfills produce methane as they discompose and break down the waste. Methane gas is dangerous because it is explosive in nature, it can also ignite fire. In addition to this methane from landfills and other sources is harmful to the atmosphere and climate because it is a greenhouse gas (GHG).

Therefore, monitoring the amount of and controlling methane is very important and also attract investment because in some instances, power stations collect this gas and use it to generate electricity.

A city in Delaware State of America, powers its electricity station with methane gas from cherry island landfill fig. 7, show surface pipes with gas vents, taken during my visit to the landfill.

Fig. 7: Methane Gas Vent

Ladies and gentlemen, time will not permit me to fully exhaust all the areas of waste to wealth that present investment opportunities for both public (government) and private sectors. However, you can visit my organisation's website www.richbol.com for assistance and guidance on this topic, we are currently advocating for pure water sachets recycling.

CONCLUSION

Having highlighted areas within the Industry that can be invested in, it is important to note that effective recycling and composting programmes are based on a recognized step or component of integrated solid waste management (ISWM) called Waste Separation or Segregation, Waste Separation can be at source or on-site separation. This implies that before any recycling or composting activities, the waste must be separated by type, composition and characteristic, either organic or inorganic.
In Lagos, there is a huge informal recycling activity, facilitated by the informal private sector.

In conclusion, I hope that government will directly invest in waste to wealth programmes, and also encourage the private sector to equally participate, by providing an enabling environment for the programme to provide economic activities, job creation opportunities, alleviate poverty and also ensure sustainable development of the environment, in line with the United Nation's Millenium Development Goals (MDGs), UNEP's Urban Environmental Accords (UEAs), National Environmental Sanitation Policy (NESP) and Nigeria's National Economic Empowerment Development Strategy (NEEDS) and SEEDS for state.

Thanks for your attention!

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