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Study of Quantity and Components of Solid Waste on Modern Villages of Eastern Uttar Pradesh

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ABSTRACT

Since when Swachch Bharat abhyaan has happened the solid waste management practices in India has increased, whether by reuse, recycle and reduce. We try to incinerate the waste, convert the waste and dump the waste. We have also converted wastes into methane gas for use in modern villages of India. Clean Ganga Mission is also a promotive desperateness by the people of India. In this review we discuss about the study of quantity and components of solid waste on modern villages of Eastern Uttar Pradesh.

KEYWORDS: *Municipal, Solid Waste, Eastern, Uttar Pradesh, Management, Quantity, Components, Green, Swachh Bharat Abhiyan, Clean Ganga Mission*

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INTRODUCTION

There is different solid waste collected from municipalities of modern villages of Eastern Uttar Pradesh like

1. Hospital waste
2. Agricultural waste
3. Household waste
4. Wastewater
5. Industrial waste[1,2]

There can be reuse of plastics like hospital syringes, plastic bottles, plastic products in the modern villages of Eastern Uttar Pradesh . The agricultural waste in modern villages of Eastern Uttar Pradesh like pesticides, dyes, colors, detergents etc can be purified by several treatment plants projects implanted in modern villages of Eastern Uttar Pradesh.[3,4]

People are made aware by campaigns about utilization of waste products. Household waste which can be dumped for long period and production of methane gas can provide supply of methane gas by waste or gobar utilized similarly forming gobar gas. This is a wonderful source of energy and has helped many people in modern villages of Eastern Uttar Pradesh[5,6]

Wastewater coming out from sewage, dye industries, detergents, etc can be purified using ecofriendly techniques like fungal biomass remediation, algal community utilization or plant remediation technologies which adsorb the waste particles and purify water.[7,8]

Similar is industrial waste color discharge which if purified can detoxify and help in removing water pollution, detoxifying plants, fish, and become non carcinogenic.

DISCUSSION

First and foremost waste collection started by Prime Minister Narendra Modi is carried out from door to door and its reuse, recycle and reduce process done. The fast process is even going on in rural areas like modern villages of Eastern Uttar Pradesh. The maximum waste there is agricultural run off because U.P. is one of the most crop producing places in India. Hence all the agricultural waste like sewage,

water runoff, pesticide run off, plant debris, fruit debris, crop diseased debris, storage godown debris is collected and dumped in dugged areas. These are land filled and covered by soil to remain for long period and hence it converts into solid mass of duping excreting methane gas. This is biogas which contains LPG. Liquid petroeleum gas formed secreting methane piped to various colonies of modern villages of Eastern Uttar Pradesh.[9,10]

Many government and non-government institutions have been financing for solid waste conversion, recycling, reuse and reduce. Researchers and investigators have made projects for studies as well as social development modern villages of Eastern Uttar Pradesh. [11,12]

RESULTS

Disposal methods in modern villages of eastern UP

1. Landfill - A landfill site, also known as a tip, dump, rubbish dump, garbage dump, or dumping ground, is a site for the disposal of waste materials. Landfill is the oldest and most common form of waste disposal, although the systematic burial of the waste with daily, intermediate and final covers only began in the 1940s. In the past, refuse was simply left in piles or thrown into pits; in archeology this is known as a midden. Some landfill sites are used for waste management purposes, such as temporary storage, consolidation and transfer, or for various stages of processing waste material, such as sorting, treatment, or recycling. Unless they are stabilized, landfills may undergo severe shaking or soil liquefaction of the ground during an earthquake. Once full, the area over a landfill site may be reclaimed for other uses.

2. Incineration - Incineration is a disposal method in which solid organic wastes are subjected to combustion so as to convert them into residue and gaseous products. This method is useful for disposal of both municipal solid waste and solid residue from waste water treatment. This process reduces the volumes of solid waste by 80 to 95 percent. Incineration and other high temperature waste treatment systems are sometimes described as "thermal treatment". Incinerators convert waste materials into heat, gas, steam, and ash. Incineration is carried out both on a small scale by individuals and on a large scale by industry. It is used to dispose of solid, liquid and gaseous waste. It is recognized as a practical method of disposing of certain hazardous waste materials (such as biological medical waste). Incineration is a controversial method of waste disposal, due to issues such as emission of gaseous pollutants including substantial quantities of carbon dioxide. Incineration is common in countries such as Japan where land is more scarce, as the facilities generally do not require as much area as landfills. Waste-to-energy (WtE) or energy-from-waste (EfW) are broad terms for facilities that burn waste in a furnace or boiler to generate heat, steam or electricity. Combustion in an incinerator is not always perfect and there have been concerns about pollutants in gaseous emissions from incinerator stacks. Particular concern has focused on some very persistent organic compounds such as dioxins, furans, and PAHs, which may be created and which may have serious environmental consequences and some heavy metals such as mercury and lead which can be volatilised in the combustion process.[13]

3. Recycling- Recycling is a resource recovery practice that refers to the collection and reuse of waste materials such as empty beverage containers. This process involves breaking down and reusing materials that would otherwise be gotten rid of as trash. There are numerous benefits of recycling, and with so many new technologies making even more materials recyclable, it is possible to clean up the areas in modern villages of eastern UP. Recycling not only benefits the environment but also positively affects the economy. The materials from which the items are made can be made into new products. Materials for recycling may be collected separately from general waste using dedicated bins and collection vehicles, a procedure called kerbside collection. In some communities, the owner of the waste is required to separate the materials into different bins (e.g. for paper, plastics, metals) prior to its collection. In other communities, all recyclable materials are placed in a single bin for collection, and the sorting is handled later at a central facility. The latter method is known as "single-stream recycling.

The most common consumer products recycled include aluminium such as beverage cans, copper such as wire, steel from food and aerosol cans, old steel furnishings or equipment, rubber tyres, polyethylene and PET bottles, glass bottles and jars, paperboard cartons, newspapers, magazines and light paper, and corrugated fiberboard boxes. PVC, LDPE, PP, and PS (see resin identification code) are also recyclable. These items are usually composed of a single type of material, making them relatively easy to recycle into new products. The recycling of complex products (such as computers and electronic equipment) is more difficult, due to the additional

dismantling and separation required. The type of material accepted for recycling varies by city and country. Each city and country has different recycling programs in place that can handle the various types of recyclable materials. However, certain variation in acceptance is reflected in the resale value of the material once it is reprocessed. Some of the types of recycling include waste paper and cardboard, plastic recycling, metal recycling, electronic devices, wood recycling, glass recycling, cloth and textile and so many more. [14,15]

CONCLUSIONS

Recoverable materials that are organic in nature, such as plant material, food scraps, and paper products, can be recovered through composting and digestion processes to decompose the organic matter. The resulting organic material is then recycled as mulch or compost for agricultural or landscaping purposes. In addition, waste gas from the process (such as methane) can be captured and used for generating electricity and heat (CHP/cogeneration) maximising efficiencies. There are different types of composting and digestion methods and technologies. They vary in complexity from simple home compost heaps to large scale industrial digestion of mixed domestic waste. The different methods of biological decomposition are classified as aerobic or anaerobic methods. Some methods use the hybrids of these two methods. The anaerobic digestion of the organic fraction of solid waste is more environmentally effective than landfill, or incineration. The intention of biological processing in waste management is to control and accelerate the natural process of decomposition of organic matter.[16]

The energy content of waste products can be harnessed directly by using them as a direct combustion fuel, or indirectly by processing them into another type of fuel. Thermal treatment ranges from using waste as a fuel source for cooking or heating and the use of the gas fuel, to fuel for boilers to generate steam and electricity in a turbine. Pyrolysis and gasification are two related forms of thermal treatment where waste materials are heated to high temperatures with limited oxygen availability. [17] The process usually occurs in a sealed vessel under high pressure. Pyrolysis of solid waste converts the material into solid, liquid and gas products. The liquid and gas can be burnt to produce energy or refined into other chemical products (chemical refinery). The solid residue (char) can be further refined into products such as activated carbon. Gasification and advanced Plasma arc gasification are used to convert organic materials directly into a synthetic gas (syngas) composed of carbon monoxide and hydrogen. The gas is then burnt to produce electricity and steam. An alternative to pyrolysis is high temperature and pressure supercritical water decomposition (hydrothermal monophasic oxidation).[18,19]

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