

Technology offers easy to use solutions for waste management - Qomariyah

The technological revolution is an important catalyst to accelerate the transformation of social, economic and environmental spheres around the globe. Speaking on World Habitat Day, Fiji National University's (FNU) College of Engineering, Science and Technology (CEST) lecturer, Yuyun Qomariyah said with pressing global issues such as Climate Change, Pollution and Population Growth, it's important that serious steps are taken to ensure sustainable practices and policies are incorporated in town and city planning.

The theme for this year's World Habitat Day is *'Frontier Technologies as an innovative tool to transform Waste to Wealth.'*



Qomariyah (pictured), an expert in Urban and Rural Planning said technology can offer low-cost, easy to use solutions for everyday problems including waste management.

"Frontier technologies can assist in gathering accurate data on the waste flows of cities – to

understand who is producing, collecting, reusing and recycling waste. This would make it easier to determine true costs of waste management and disposal together with hidden environmental and health costs," said Qomariyah.

Fiji has two official landfills, which are Labasa and Naboro landfill and seven official dumpsites namely Savusavu, Levuka, Sigatoka, Lautoka, Ba, Tavua and Rakiraki.

The lecturer believes with the correct systems in place, organic waste can be used to produce wealth in the settlements around the country.

"At the national level in 2017, the Fiji Bureau of Statistics revealed that there was seven percent green waste out of the total waste produced," she said.

"Rather than just dumping this waste at the sites we can use it for the benefit of the community, enabling them to save money and resources. For instance, green waste can be used as fertilizers. Over the years we have seen a big growth in informal settlements in rural areas and a lot of waste is created in these areas."

Qomariyah believes small projects can be undertaken to assist people in informal settlements to use waste to ease the way of living.

"The Mechanical Engineering department at FNU has developed a system where organic waste is collected and stored. This then produces ammonia gas which can be used for cooking. This will assist people to save money on cooking gas."

Similarly, if this process is applied on a large scale, Qomariyah says the gas can be used to yield electricity – a cleaner and environmental-friendly way to source electricity.

The academic also highlighted the need to find the means to reduce general waste, which mostly comprises of plastic and paper waste.

"Eighty-five percent of the waste produced in 2017 was general waste. We need to come up with solutions as to how we can make use of this waste rather than just dumping it at sites," Qomariyah said.

"Currently, we have Mission Pacific's Recycling Program, where bottles and cans are collected by members of the general public as well as representatives from the local municipalities and exchanged for cash. This is a great initiative to combat this issue."

"However, we need to more such initiatives in a smaller scale targeting the residential areas or the many informal settlements that we have around the country."

Qomariyah said it's important to learn from other countries who have taken a lead role in reducing plastic waste. Some of these include using plastic waste as eco-bricks or even exchanging it to top up e-transport cards adopted by Indonesia's second-largest city, Surabaya.

"An eco-brick is a plastic bottle packed with plastic. In some countries, these are used to produce modular items such as furniture and garden walls. Also, travellers can ride buses by dropping off plastic bottles at terminals or directly paying a fare with bottles, where a two-hour bus ticket costs 10 plastic cups or up to five plastic bottles (depending on their size). Through this initiative, Indonesia is hoping to meet an aspiring target of becoming free of plastic waste by 2020."

According to Qomariyah, there are lots of ways to use technology in turning waste into wealth but the countries need proper planning, adopt best practices and implement techniques that are not only economical but also environmentally-friendly.

The United Nations General Assembly established World Habitat Day in 1985, which was first celebrated in 1986.