C -11

Considerable numbers of desiccated coconut manufacturing factories are situated in coconut cultivating areas in Sri Lanka. These factories emit considerable among of wastewater, consisting of coconut water and have very high B.O.D. & C.O.D. values.

Currently, this wastewater from D/C mills badly pollutes the environment. Since there is no cost effective solution for this wastewater treatment the National Engineering Research & Development Centre has developed and anaerobic granular bacterial treatment system (Patent No. 11632) in purifying the coconut wastewater with the help of bio gas technology.

The system mainly consists of 3 units of upflow anaerobic sludge bed (UASB) Digesters, with specially developed bacterial culture, a sedimentation tank and a a bio gas holder (wood fabricated with any suitable material).

At the end the digesting process we can obtain wastewater with acceptable limits of C.E.A. requirements. Analytical report from CISIR is given below.

Parameter	Coconut wastewater before entering to treatment plant	Treated coconut wastewater
pH at 32 º C	4.5	7.7
B.O.D. (mg/ L) at 30 º C	1.05×10^4	70
C.O.D. (mg/ L)	1.07×10^4	95
Total suspended solids At 103 – 105 º C (mg/ L)	2.7×10^3	45
Oil & grease (mg/ L)	560	Less than 2

Following conclusions could be made:

- This system for coconut wastewater treatment of D/C mills is operated under 90% anaerobic conditions.
- System emits bio gas and it can be used as a fuel.
- No pumps or electrical power required and it can operate under gravity flow.
- Total cost of the system is very low.