



LATEST INVENTION ON WASTEWATER TREATMENT TECHNOLOGY



ENG. ATHULA JAYAMANNE

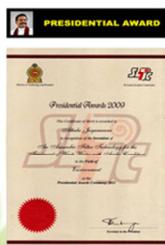
M. Eng. (Bangkok-AIT), AMIE (SL), H.S. Mc (Osaka) MIEP (SL)
Chartered Environmental Professional [C.Env.P]

Registered Environmental Consultant of Central Environmental Authority of Sri Lanka
CHIEF CONSULTANT ENGINEER / GENERAL MANAGER

Eco Engineer's & Company
178/3, St. Joseph Street,
Negombo, Sri Lanka.

Tel: +94 714779869, Fax: +94 312225515

Web Site: www.athulajayamanne.com Email: athulajayamanne@gmail.com



Presidential Award
2009



National Green Job
Award 2010



National Green Job
Award 2009

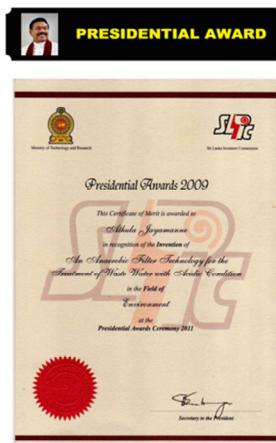


Technology Award
from India 2011



Award for Technical Paper
from Nepal 2009

AWARD'S FOR NEWLY INVENTED WASTEWATER TREATMENT SYSTEM WITH BIOGAS TECHNOLOGY



Honoured with the “Presidential Award – 2009” for the inventions, in the field of Environment conducted by Sri Lanka Inventors Commission- 2012.



**Honoured with an award of
“Commercially Successful Sri Lankan
Inventors” from Ministry of
Technology and Research, conducted
by Sri Lanka Inventors
Commission – 2012.**

- From Hon. Minister of Technology
and Research Pavithra Wanniarachchi



Honoured with the “National Award for Green Jobs” in the category “Water resource management through wastewater treatment via Biogas Technology” in a competition held by the Ministry of Environment and Natural Resources in International Environmental Day 2010.

- From Hon. Minister of Environment Anura Yapa



Honoured with the "National Award for Green Jobs" in the category "Water resource management through wastewater treatment via Biogas technology - to a community held by the Ministry of Environment and Natural Resources in International Environmental Day, 2009.

- From Hon. Minister of
Agriculture Mahendra Singh



Honoured with an award from the Chairman of Pollution control Board of India (Bangalore) for the presentations on "Advanced Wastewater Technology" presented at Bangalore, India.

• From the Chairman of Pollution Control Board of India (Bangalore)



**Honoured with an Award for the
Presentation on "Advanced Technology
on Biogas in Sri Lanka" at the
International conference on
"Knowledge in Management" at
Kathmandu, Nepal - 2009.**

- From the Chairman of
Engineers' Association - Nepal

UAFF Technology

Up flow Anaerobic Floating Filter (UAFF) technology was invented by Engineer Athula Jayamanne in year 1999 after conducting research works during four years period, and patented as a new technology. While this technology is achieving the standards of Central Environmental Authority, it best fits with the current trend of green concept as **it does not consume any electrical power & it does not produce dirty sludge and captures biogas as an energy source**. Due to the benefits of this technology that are given below, many private sector companies [Hotels, Restaurant, Rice mills, Desiccated Coconut (D/C) mills, Rubber mills, Garment factories, Distilleries & Brewery etc.] select and implement this UAFF system as their wastewater treatment system. We have successfully completed more than 100 wastewater treatment (UAFF) projects since 1999.

Advantages

1. **No electrical power** is necessary for the operation of this New Anaerobic Filter wastewater treatment system (UAFF), reducing the amount of carbon dioxide generation due to electrical power production. Calculated power requirement for conventional type wastewater treatment system for a standard size factory, cost about Rs 39,000/= per month. This figure was calculated according to the data collected from EAM Malibon Garments factory, Ingiriya in 2009.
2. Periodical maintenance of aeration machines, and sludge pumps are necessary with conventional wastewater treatment systems. But UAFF system doesn't have any aeration machine or sludge pumps.
3. **No lime or other chemical application, for the operation, in case of acidic wastewaters.** All the acidic wastewater treatment used lime (CaCO₃) or any other chemical, to neutralize the acidity of the wastewater. The cost of the lime for a D/C mill wastewater treatment system is approximately Rs.1000/= per day in 2011.
4. **No any SLUDGE generation.**
5. **As an alternative fuel**, some amount of biogas production can be obtained from the operation of UAFF system, providing a part of the process thermal heat requirement of the Factory, Hotel, Distillery etc.
6. In anaerobic digestion of wastewater / sewage in UAFF, helps to destroy, all types of virus, bacterial pathogens, protozoa, helminthes & then the water born diseases are completely controlled due to the Anaerobic (No Oxygen) Condition of UAFF system.
7. This new Anaerobic Filter waste water treatment system eliminates all the other problems (Ex: Removed of sludge, periodical maintenance of aerator machines, sludge pumps etc) of conventional wastewater treatment systems.

Few places with our wastewater treatment / STP system & contact persons are given below for your references

- a) Managing Director Mr. Arun Kumar (Mahaveer Coconut & Agro Products Pvt. Ltd, D/C Mill, Tumkur, INDIA) Contact No: 00919343179662
- b) Chief Engineer Mr. Danny Fernando (Hotel Eden Resort & Spa, Aluthgama - LOLC Hotel) Contact No: 077-7767554
- c) Managing Director Mr. Janaka Wanigasekara (Hotel Eden Garden, Inamaluwa, Sigiriya) Contact No: 077-7445447
- d) Managing Director Mr. Dilshan . J . Wewita (Pussalla Farm & Slaughter house, Kosgama) Contact No: 071-6920920
- e) Distillery Engineer Mr. Ajith Bandara (Rockland Distilleries Ltd, Marawila Distillery) Contact No: 077-7592778
- f) Mr. Jayasinghe, proprietor of Bogamuwa Desiccated Coconut Mill, Bogamuwa. Contact No: 072-2244215
- g) Mr. Chathura Prashan De Silva, Director Operations of Callton Group of Companies, (Bakery Complex – Katana) Contact No: 077-3727989

Some of the pictures of our Wastewater Treatment (UAFF) projects are given below (Consultation and Construction by Eng. Athula Jayamanne)



**SOORYA RICE &
RICE FLOUR
PROCESSING
(PVT) LTD -**
Gallella, Polonnaruwa.



HOTEL EDEN RESORT & SPA
Aluthgama (LOLC Hotel)



**HOTEL AMAGI LAGOON
RESORT- Kurana**

**Some of the pictures of our Wastewater Treatment (UAFF) projects are given below
(Consultation and Construction by Eng Athula Jayamanne)**



Wastewater treatment system (according to UAFF Biogas technology) of Sri Lanka Distilleries Ltd. - Wadduwa distillery , Wadduwa



Wastewater treatment system (according to UAFF Biogas technology) of Rockland Distilleries Ltd. - Marawila Distillery , Marawila



Distillery boiler operating with biogas fuel.
- Rockland Distillery, Marawila



Wastewater treatment system (according to UAFF Biogas technology) of Mahaveer Coconut & Agro Products (Pvt) Ltd, Tumkur, INDIA



Wastewater treatment system (according to UAFF Biogas technology) of Golden Star Beach Hotel - Negombo



Wastewater treatment system (according to UAFF Biogas technology) of Minuwangoda D/C mills - Minuwangoda.

**Some of the Applications of UAFF Reactor Technology on wastewater treatment
with the consultancy of Athula Jayamanne are given below**

Institution	Wastewater generation Cu.m/ day	Approximate COD level	Input	Funding agent
Mahaveer coconut & agro products (Pvt) Ltd, Tumkur,INDIA	30	30000		Self /Indian Government
Michico Milk Products Ltd -Nattandiya.	20	6000		E-Friend
Polytex Garment Factory – Ekala	100	1000		Self
Golden Star Hotel – Negombo	35	1000		Self
Rockland Distillery – Marawila	24	52000		Self / E-Friend
Sri Lanka Distilleries Ltd. – Wadduwa	30	52000		PEP
Eden Garden Hotel – Sigiriya.	35	1000		Self
Eden Resort & Spa, Aluthgama (Five Star)	100	1000		Self
Weerasiri Café – Kottawa.	35	4000		PEP/ E-Friend
Piyara Bakery – Gampaha.	30	8000		Self
Sadamali RiceMill – Jayanthipura	30	3500		PEP
New Shanthi Rice Mill – Ippologama.	28	3500		E-Friend
Chadima Rice Mill - Medirigiriya.	30	3500		E-Friend
Menaka Rice Products (Pvt)Ltd - Polonnaruwa.	60	3500		E-Friend
Kumarasinghe Rice Mill- Jayanthipura	30	3500		E-Friend
Ramudi Rice Mill- Medirigiriya	20	3500		E-Friend
Hasnee Rice Mill- Thambala	22	3500		E-Friend
Suurya Rice Mill- Polonnaruwa	100	3500		E-Friend
Capton Rice Mill- Kahatagasdigiliya	45	3500		Self
Anura Rice Mill- Girithale	22	3500		Self/ E-Friend
Baduwaththa D/C mill - Katana.	23	30000		Self/ E-Friend
Minuwangoda D/C mill- Minuwangoda.	20	30000		E-Friend/CDA
Dunagaha D/C mill - Dunagaha.	25	30000		E-Friend/CDA
Belummahara D/C mill - Belummahara.	22	30000		E-Friend/CDA
Bogamuwa D/C mill - Bogamuwa.	25	30000		E-Friend/CDA
Beligala D/C mill - Beligala.	22	30000		Self/CDA
Sanhida D/C mill - Lunuwila.	20	30000		PEP/CDA
Kuddrippu D/C mill - Madampe.	24	30000		Self/CDA
Asian Agro Products(Pvt)Ltd - Kochchikade.	20	30000		Self/CDA
Lanka United D/C mills(Pvt)Ltd- Kuliyapitiya.	25	30000		Self/CDA
Kehellella D/C mill - Kehellella	22	30000		Self/CDA
E A M Malibon textile garments (pvt) Ltd- Pelmadulla	25	1000		Self/CDA
Maxies Company (Pvt) Ltd- Piggery at Budjampola	250	10000		Self /E-Friend
Maccalum Breweries Cy. Ltd- Megoda	70	4000		Self/ E-Friend
Pussalla Farm & Slaughter house- Kosgama	280	10000		Self/ E-Friend
Al- Haqqaniyya Arabic College- Kandy	70	1000		Self/ E-Friend
Alankulama Farm- Slaughter house- Anuradhapuraya.	15	10000		E-Friend /self
Mini Meat Mart Company- Slaughter house - Kochchikade	20	10000		E-Friend/self
Alankulama Farm- Slaughter house- Midiwatta , Maradankadawala	75	10000		E-Friend /self

Note :- All the completed projects of the above are generating Biogas while treating the wastewater as per the standards of CEA. In some places mill boilers are runs on Biogas with considerable saving on boiler fuel (Example; Rockland Distillery, Marawila).