



hand in hand
Let us build a
healthier and
Cleaner City



Recycling!

CREDAI Clean City Movement- Towards Sustainable Development

- **Satisfying the needs of the present generation without compromising those of future generations**
- **Achieving an appropriate balance between economic growth and the preservation of natural resources and environment**

THE PROJECT & SPONSORS

It is a social responsibility project started in 2007 by CREDAI KOCHI (formerly known as Kerala Builders Forum), an association of professional builders in Kerala, affiliated to Confederation of Real Estate Developers Association of India having 10,000 members all over India

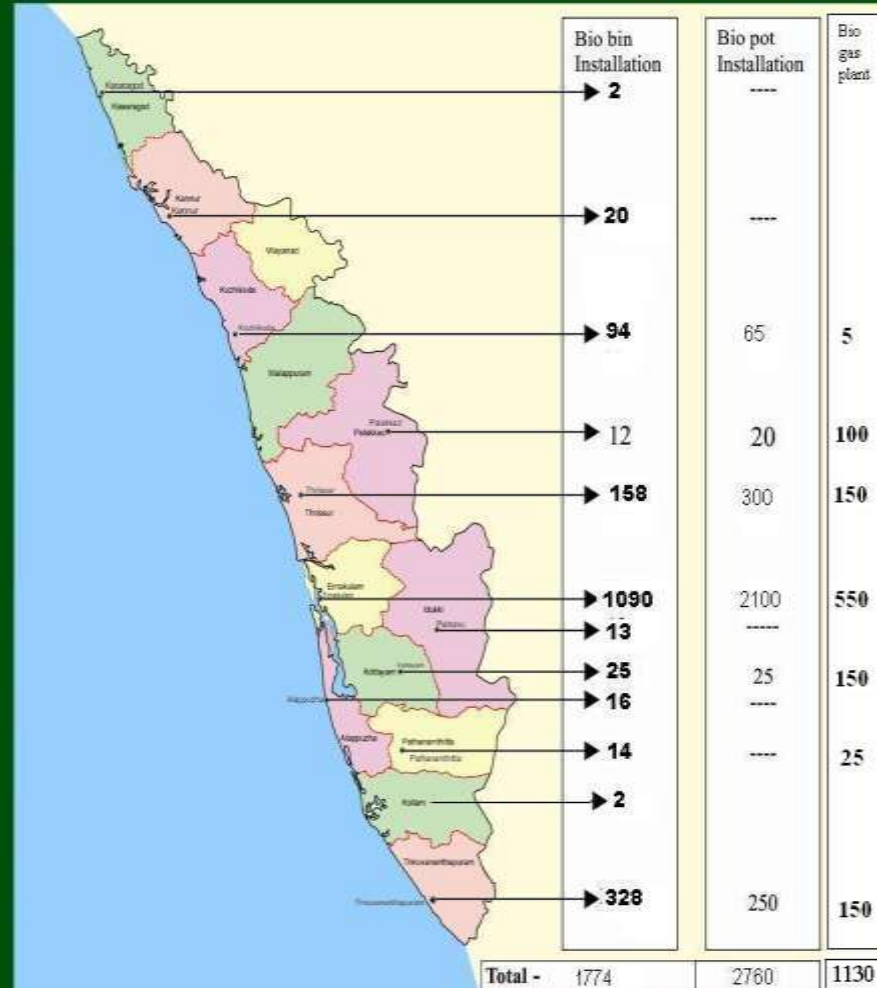
OBJECTIVES

**Its objective is to educate and help citizens to implement self contained solid waste management systems in building complexes, villas & flats etc:
to maintain a hygienic and healthy environment.**

Comparison of Cost effectiveness

Details of expenditure	Expenses per tone	
	Centralized Rs.	Decentralized Rs.
Wages for waste processing, (50 flats)		3250
Wages of Kudumbasree waste collectors from 50 HH @ Rs. 50	2500	As above
Wages of supervisors	Wages of health staff not considered	1500
Cost of bio culture & other consumables	Added in processing expense	756
Processing expenses in centralised plant for 1 tone @ Rs. 1600, for the quantity from 50 HH @ 1.25kg =1875 kg	3000	Nil
Average Transportation expenses to centralied plant for 1 tone @ Rs. 1250, for the quantity from 50 HH @ 1.25kg =1875kg	2344	Nil
Total variable cost	7844	5506
Average quantity of waste generating from each flats@ 1.25kg, the total waste generating from 50 flats 62.5 kg. Waste from HH in a month 1875 kg. expenses for 1 tone	4183	2936
Expenses in excess per tone for centralized system	1247	

Location map of Bio bin and bio pot installations By Credai Clean City Movement as on 30.6.2013



Total Bio bin installation in Kerala = 1774

Total Bio pot installation in Kerala = 2760

Total number of beneficiary families = 48000

Bio degradable rejections processing at source/day = 72 tones

Total quantity bio degradable rejections handling/ year = 26280 tones

**Cost savings to Govt.
only on bio degradable rejections
on zero investment**

Processing by the project per day	72 tones
Handling in a year	26280 tone
Savings to Govt. in one year @4183/tone	Rs. 11crores
Expenses incurring by beneficiary per tone /year @ 2936	Rs. 7.72crores
Considering the 100% growth of every year from 2007 starting from 25 building complexes the waste handled during the 6 years estimated	45713 tone
Savings to the Govt. during the last 6 years on an average @ Rs. 3750	Rs. 17crores

Comparison of recurring expenses incurring on disposal of Bio degradable SW (BDSW)

Cities having 10 lakhs population, BDSW generation @250 grms / person/day will be	250 tone
Considering 75% BDSW can dispose eco friendly at source, the quantity reducing at source / day will be	187.5 tone
The quantity reducing / year	68437 tone
Savings to the Govt. @ Rs. 4183/ tone	28.63crores
Expenses incurring by generator at source @ Rs. 2936	20crores

Investments required

Capacity of one unit bio bin in a year @ 40kg /day	14.6 tones
Bio bins required to reduce 68437 tone BDSW in a year	4687 units
Investment required @ Rs. 60296/ unit	28.26crore
If the Govt. invest 50% of the one year recurring expenses to process 68437 tones ie., 28.64 on the cost of bio bin which is sufficient to release 50% subsidy announced by Govt. at present	14.32

Proposal to reduce recurring expenses of generator by Govt. without incurring additional financial liability to Govt.

- If the project is linked with Mahatma Gandhi National Rural Employment Guarantee project the wages paying by the generators for running the units will reduce and that will motivate all generators to attain self reliance in BDSW management.

Wages component in recurring expenses of Rs. 2936/ tone will be	Rs. 1735
For the processing of 1 tone BDSW in biobin 25 bio bins required. One person can manage collection to processing of 2 units as such 12 persons will get job continuously. In the employment assurance program if the payment is Rs. 150/person/day, it will be	Rs. 1800

Various systems of decentralised rejection management are :-

- **Bio bin**
- **Vermi composting**
- **Bio gas plant**
- **Bio digester pots**

The first selfcontained SWM system launching by utilising MLA fund initiated by K Babu MLA









BIO POT SYSTEM

ECO FRIENDLY PROJECT OF
CREDAI CLEAN CITY











BIO WASTE IN GREEN BUCKET





DEPOSITING BIO WASTE



SPRAYING OF BIO CULTURE



TURNING OF WASTE





SIEVING OF COMPOST





Organic Compost

Nature-Friendly Fertilizer

Net Weight: 1 Kg Wtten Pack

COMPOST IN COMMERCIAL PACK











PROCESSING OF PLASTIC

- COLLECTION AND CLASSIFICATION OF PLASTIC
- PLASTIC COLLECTION CUM SHREDDING UNIT

HANDLING OF NON BIO DEGRADABLE REJECTIONS

- Non bio degradable rejections collecting once in two weeks from the apartment complexes. For detailed information on collection, transportation and processing visuals will be helpful



**USE ECO FRIENDLY BAGS AVOID
PLASTIC**



No more plastic.

Now the earth can breathe better.
And so can we.



TONY CHAMMANY
WORSHIPFUL MAYOR

COL. JOHN K. NARAYAN
PRESIDENT,
GREEN CLUB 177th REGIMENT

Manappatti paramambu road at Cochin 2 yrs after Polymerized road tarring



New initiatives of

CREDAI clean city Movement

CLEAN TOILETS



CREDAI
KOCHI

Confederation of Real Estate
Developers Associations of India

Transforming
the urban landscape

Confederation of Real Estate
Developers Associations of India

www.credai.org

SPONSORED BY **BPCL** Kochi Refinery

CLEAN TOILETS

A PROJECT OF **CREDAI CLEAN CITY MOVEMENT**



CONCEPT BY **BKRG**



Transforming the urban landscape

Confederation of Real Estate Developers Association of India - Kochi

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TOTAL SANITATION CAMPAIGN
SUPPORTED BY
DISTRICT ADMINISTRATION





**AWARD FOR BEST ENVIRONMENT PROJECT RECEIVING
CHAIRMAN SRI MATHEW L CHACKOLA FROM HON. MINISTER
FOR FINANCE GOVT OF KERALA
SRI THOMAS ISSAC**



CREDAI Clean City

A Private–Public Initiative of Credai Kochi



Launching of the usage of bio culture in Kerala during the year 2003



BTM Bio culture handovering by Hon. Minister Sri. K.V Thomas to GCDA Chairman Sri. Balachandran



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