

BIO CONVERSION OF SEPTIC TANK RESIDUES  
TO ORGANIC MANURE AND CONTROL OF  
MOSQUITOES AND MAGGOTS IN SEPTIC TANKS  
*A CASE STUDY IN GOA*

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# Introduction

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AgriLife, is a research based biotech manufacturing enterprise focused on providing solutions using beneficial microbes.

## *Our segments*

- Waste management
- Agriculture inputs
- Probiotics
- Animal nutrition supplements

# Goa – A Case Study

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## *Background*

- Area of focus – South Goa
- Economic Prosperity – High owing to trade in the recent past
- Dwelling Infrastructure
  - Past : Hamlets and villages with poor sanitation systems and no municipal connectivity
  - Current: With growing affluence, independent housing structures with attached septic tanks

# The Problem!!

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People's initiative to address growing sewage requirements and lack of municipal connectivity

## *Individual septic tank construction*

Issues with septic tanks:

- Improper sewage treatment and disposal methods
- Breeding grounds for mosquitoes and maggots
- Foul odour emission

# The Solution – *STP 24 + Vectobar + Oxyrich*

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## *STP 24*

- A septic tank and soak pit additive based on a microbial consortium for faecal matter degradation
- Microbes used are non pathogenic and non genetically modified
- Aids in accelerated degradation of difficult to digest
  - Fats and Oils
  - Proteins
  - Starch and Carbohydrates
  - Uric acid, detergents, hydrocarbons, phenols

## STP 24 – Key Activities

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STP 24 contains microbes that perform the following functions :

- Degrade Hydrogen sulphide gas thus addressing bad odour in septic tanks/soak pits.
- Combat E .coli and Salmonella that are pathogenic to humans and cause diseases
- Microbes that degrade and convert ammonia into nitrite and nitrite into nitrate
- Facultative microbes which solubilize phosphorus
- Decomposes excreta biomass to organic fertilizer

## Vectobar – Mosquito Bio-Larvicide

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- Vectobar is a septic tank and soak pit additive that kills mosquito larvae
- Microbe used – *Bacillus thurigiensis var israelensis* (*Bti*) - A VCRC strain
- Bti produces insecticidal proteins composed of different delta-endotoxins which pathogenises mosquito larvae

## Oxyrich – An Oxygen liberator

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- Oxyrich is a septic tank and soak pit additive that enhances the efficacy of STP 24 and repels mosquitoes from target site
- Septic tank typically has an anaerobic environment
- Oxyrich makes it aerobic by releasing oxygen, thus helping STP 24 microbes to work better
- Mosquitoes prefer an area with minimal oxygen so addition of Oxyrich deters mosquitoes from breeding

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*Combination of STP 24, Vectobar and Oxyrich are compatible*

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# System functioning

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- For a 10,000 liters septic tank we add
  - 40gms of STP 24
  - 20 ml of Vectobar
  - 5 gm of Oxyrich
- Process repeated once in 15 days
- STP 24 microbes get activated on coming in contact with sewage water and start actively degrading organic matter
- A 15ft long pipe connected to septic tank to release gases
- A 'Mosquito Trap' at the vent of this pipe to prevent mosquitoes to come out of the septic tank

# Community Marketing

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- Door to Door campaigning is being undertaken by our associate
- Pamphlets are shared, educating the locals on hygiene and treatment of their septic tank
- Implementation is done with a dedicated staff having required logistics in place
- Current Stats
  - About 200 houses a week
  - 500 Rs per pack (used for 3 months)

# Field Pictures

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Our Associate interacting with the locals educating them on hygienic sanitation systems



## Field Pictures – Cont'd.

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15ft pipe for gas emissions  
from septic tank



Worker fixing the mosquito  
trap on top of the pipe

## Field Pictures – Cont'd



Our product as showcased  
by our associate



Van and logistics support

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THANK YOU

