



**AproSanidad Melaque: A Pilot Towards the  
Implementation of a large scale Urban  
EcoSan Utility.**

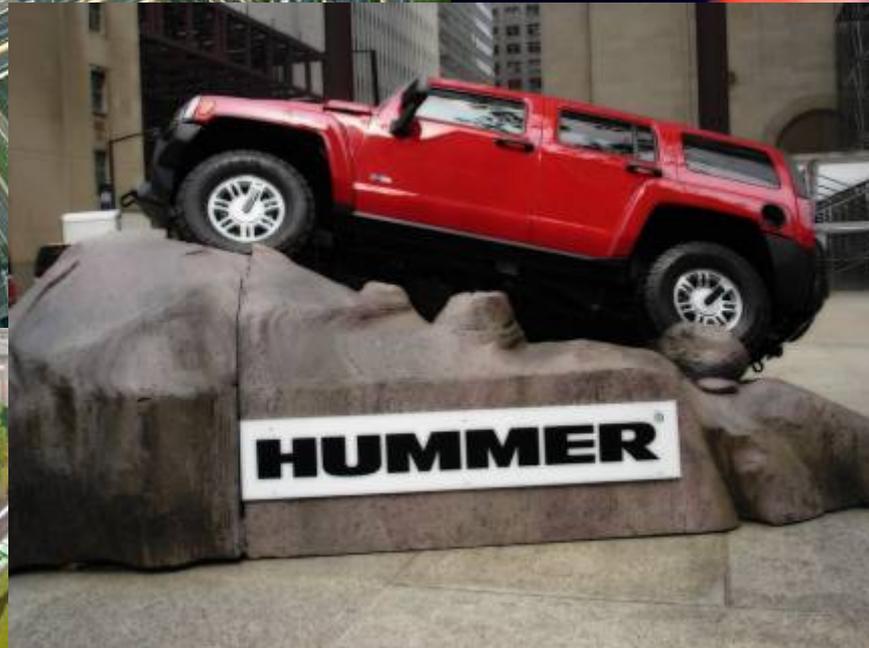
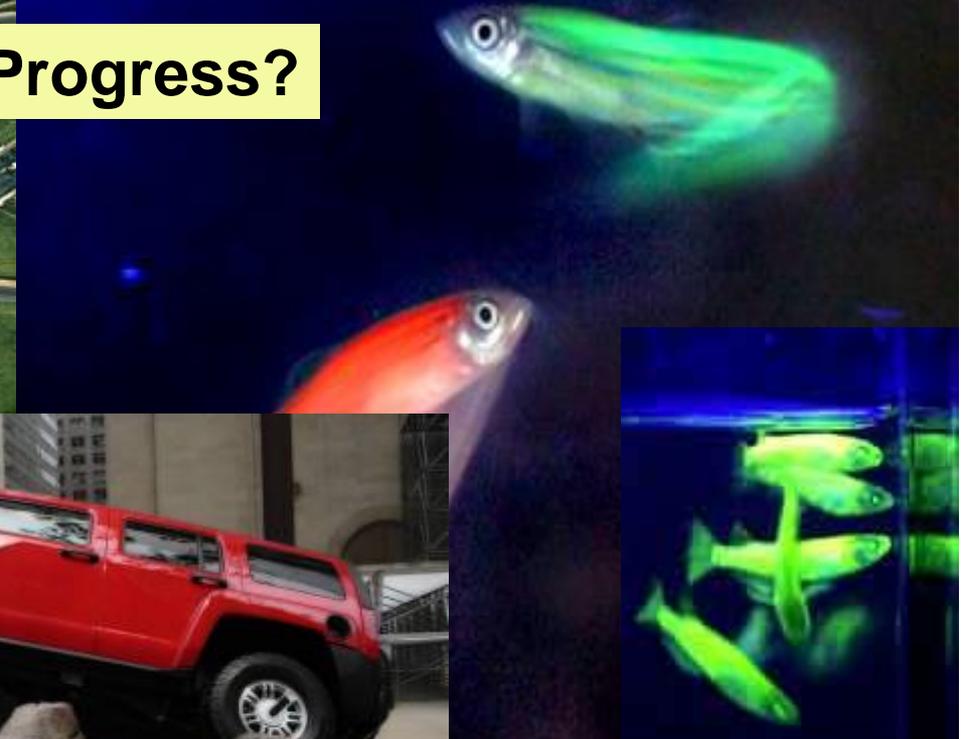
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*Sustainable Sanitation*

# The AproSanidad Melaque Pilot Project



# What is Progress?



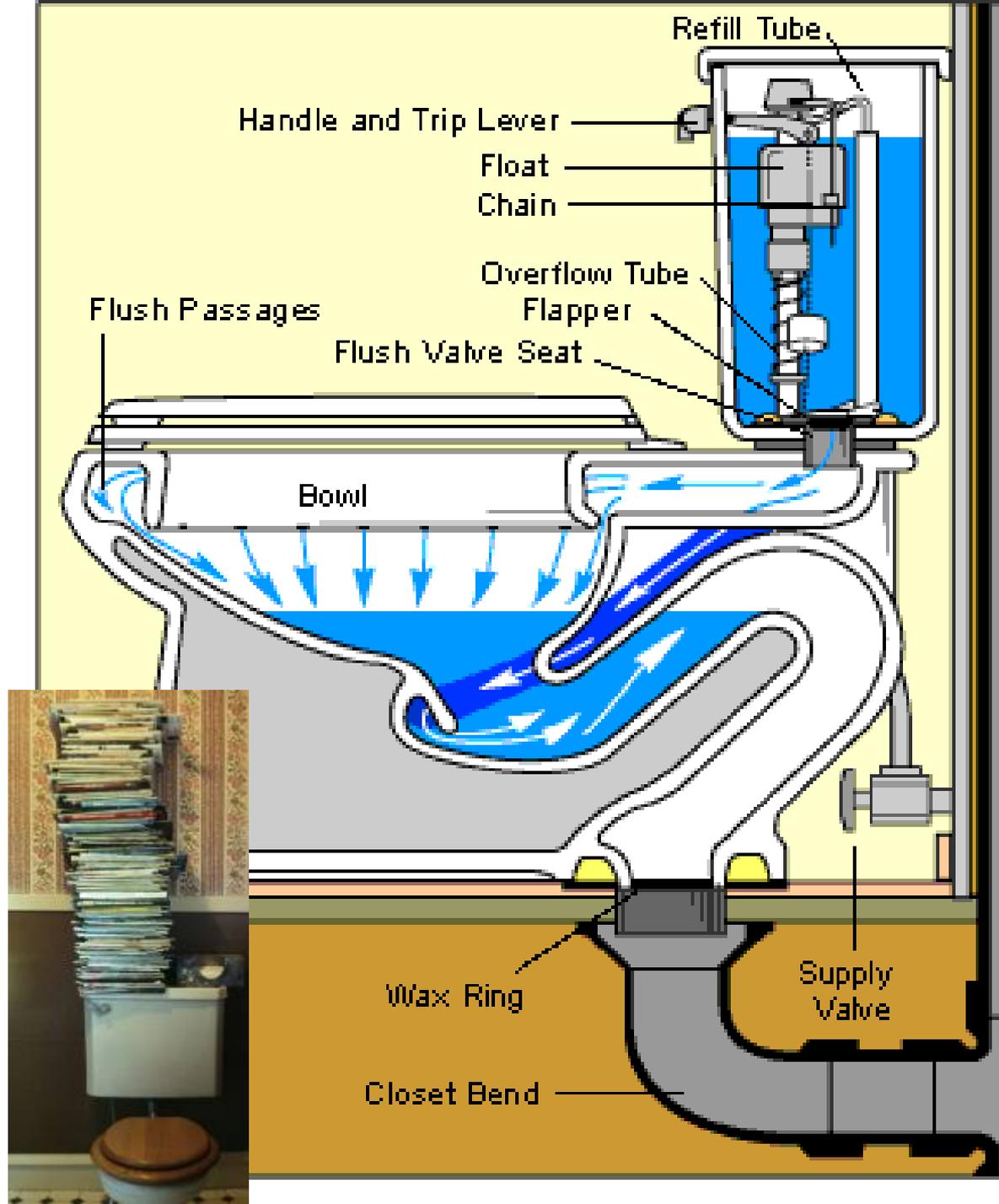
# The major components of the Traditional system



- Maintenance of sewage system is a big part of Local Governments annual budget;
- Most cities in the world do not separate rain water from sewage water;
- Dilution is not the solution to pollution.

# Use of Water in the Traditional System

- Transport the faeces and urine;
- Serve as an odour trap from the sewage system or septic tank;
- The water holding tank is a great book rack





# EcoSan or traditional WC

## Think about it...

- The traditional system only uses water to transports urine and faeces;
- Annually an average person produces 547 litres of urine and 219 Kgs. Faeces, in ordr to get rid of these we spend over 26,000 litres clean, drinkable, scarce and expensive fresh water;
- In the traditional system we only pass on the problem to someone else;
- In México grey water and black water mix in the sewage systems;
- In México black water is the main agent of environmental pollution and a threat to human health.**

200 L per person per day

**Average Water  
consumption per  
person in Mexico**

85 L grey water

72 L Black water

1.5 L

0.6 K

**With EcoSan daily water  
consumption per person  
Reduces to 128 L  
36% less  
(Not considering  
re-use of grey water)**

the British Colonies, &c., may be  
STREET, SHEPHERD  
ED 1750.

Old New approach?

Healthy Homes! Healthy Homes!!

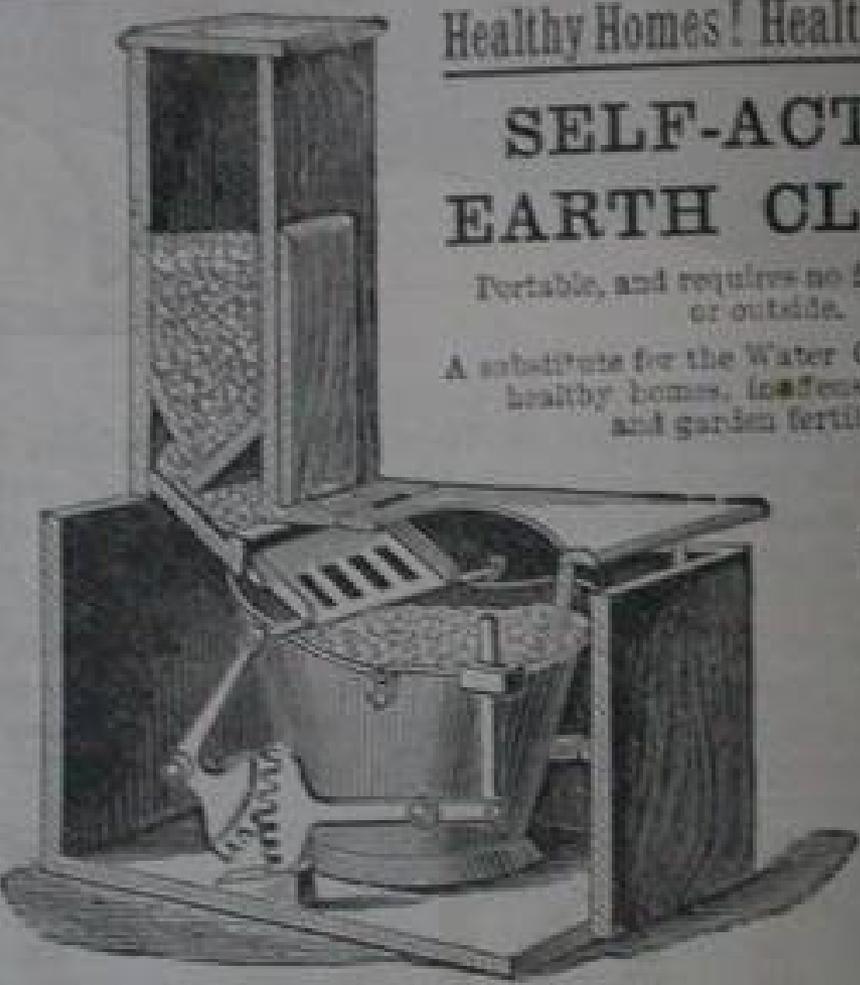
# SELF-ACTING EARTH CLOSET.

Portable, and requires no piping indoors  
or outside.

A substitute for the Water Closet, securing  
healthy homes, offensive drains,  
and garden fertility.

Prices  
from 55s.

MORAL  
TRADITION:  
"Thou  
shalt not  
pollute rivers  
&  
water-  
courses."

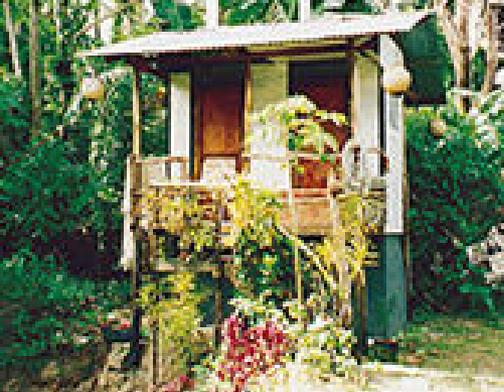


DAVEY & CO., Sanitary, Gas and Hot Water Engineers,  
12 South Place, FINSBURY, E.C.

LD & SONS TRIDENT



# AproSanidad Melaque, A.C.



- A Pilot Project to establish México's First Public Utility completely devoted to EcoSan;
- Based in the Municipality of Cihuatlán in the State of Jalisco on the Mexican Pacific Coast
- UNEP-GPA sponsored and with the participation of the State of Jalisco Government and the Cihuatlán Municipality;
- An alternative method for Municipalities to providing sanitation services;
- It's an investment in the future;
- By the end of 2007 AproSanidad Melaque will be running 30 Eco-Toilets in the communities surrounding El Tule lagoon;
- Immense possibilities to replicate this novel service in México.

# Site First EcoSan



# First EcoSan



# Inauguration First EcoSan



# Modifications to the Local Environmental Legislation

ARTÍCULO 58.- Todo propietario de sanitario ecológico seco alguno está obligado a usarlo correctamente de acuerdo a su función.

ARTÍCULO 59.- Los ciudadanos que vivan en lugares donde no exista red de drenaje de aguas negras deberán desalojar apropiadamente las heces fecales y la orina a través de cualquiera de las dos opciones siguientes:

- I. Construir una fosa séptica, en su terreno, con la capacidad y funcionamiento adecuados a las necesidades de la familia que lo use, así mismo, deberán darle el mantenimiento preventivo que requiera periódicamente;
- II. Construir un sanitario ecológico seco, de acuerdo con las especificaciones establecidas por la dependencia de gobierno competente; así mismo, deberán darle el uso adecuado y el mantenimiento preventivo que requiere.

## Translation

Article 58: Owners of EcoSan units are obliged to use it correctly according to its function.

Article 59: Citizens that live in areas where there is no sewage system must dispose their faeces and urine through any of the following options:

1.- Build a septic tank...

2.- Build an EcoSan unit according the specifications established by the competent authority, also provide the adequate use and maintenance required

# Municipal Sustainable Sanitation



Untreated waste waters from the  
Community of Cihuatlán, Jalisco.



Abandoned Oxidation ponds

# Municipal Sustainable Sanitation Approach

- 1. Political will from local authorities to endeavour in a project such as this;**
- 2.- Make the necessary changes in order to ensure that the alternative method will work properly and have a long-term functionality;**
- 3.- Have an exhaustive Environmental Education program that will assure the societal commitment to the project;**
- 4.- Cross your fingers for good luck!!!**



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In the second aspect the Municipality will make the necessary changes in order to ensure that the alternative method will work properly and have a long-term functionality;

This translates into two simple modifications to the Local Environmental Legislation and the Municipal Building Guidelines:

All new buildings must:

1. Have a hydrosanitary systems that separates grey waters from black water;
2. Have a BioFilter to treat the separated grey waters for re-use.

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# BioFilter for Grey water treatment

- Is practically a big garden pot
- easily included in any architectural design;
- Low maintenance;
- It is an in-house environmental police;
- It's only 3 more square meters of construction.



# Conclusions

1. EcoSan initiatives and similar approaches to sanitation at an urban scale require political will from the local authorities;
- 2.- More research and development should be invested into the current technology available for EcoSan, since this is a major obstacle when approaching urbanites;
- 3.- Pilots such as the Dongsheng EcoTown could shed new light in the way we should tackle down urban areas;

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# Conclusions (Cont'd)

- 4.- Efficient and state-of-the-art services like the one AproSanidad Melaque could compete against traditional “Flush and forget” approaches;
- 5.- *Municipal Sustainable Sanitation* combining alternative methods such as constructed wetlands or the anaerobic ascendant flux biofilters to treat waster waters with EcoSan techniques will allow Municipalities to treat their waste waters at an affordable cost in a sustainable way;
- 6.- Extensive public awareness campaign and environmental education programs that will assure the societal commitment to the project are the key to success in initiatives like these;

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# Conclusions (Cont'd)

7.- Urbanites will be willing to accept EcoSan approaches ONLY if certain of the “luxuries” provided by the traditional flush and forget system are offered;

If we want to move EcoSan into more urban realms we still have a long way to go!!!

谢谢你

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