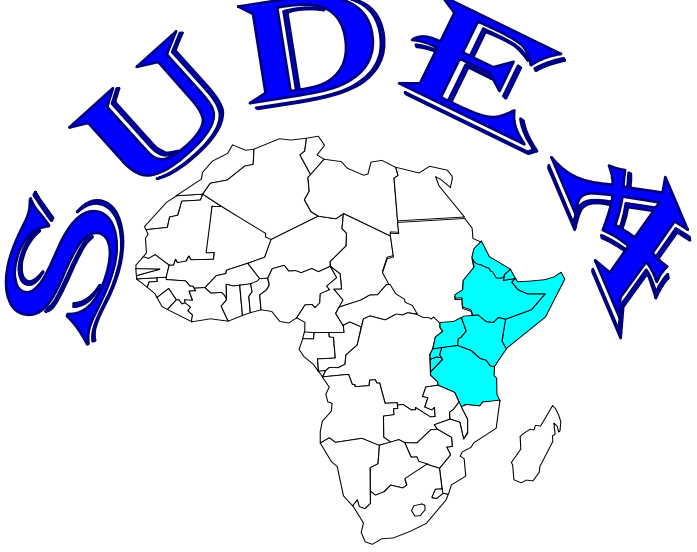


Society for Urban Development in East Africa

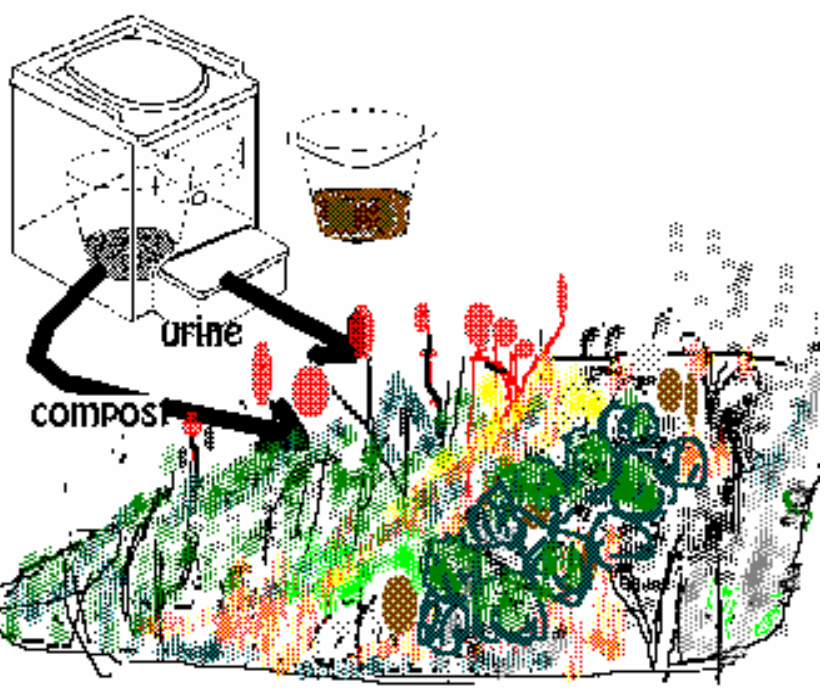
Almaz Terrefe and Gunder Edstrom

P. O. Box 31673, Addis Abeba, Ethiopia

Telephone: +251 9 200514 or 15

sudea@ethionet.et

ECOSAN
the recycling sanitation and agricultural system
by Dr. Torsten Modig – 1989
adjusted to the Ethiopian condition and implemented by
Almaz Terrefe and
Gunder Edstrom,
SUDEA in Ethiopia



ECOSAN, which stands for Economy, Ecology and Sanitation, is donated by Dr Torsten Modig from Umea, Sweden, to Society for Urban Development in East Africa, (SUDEA) in Ethiopia

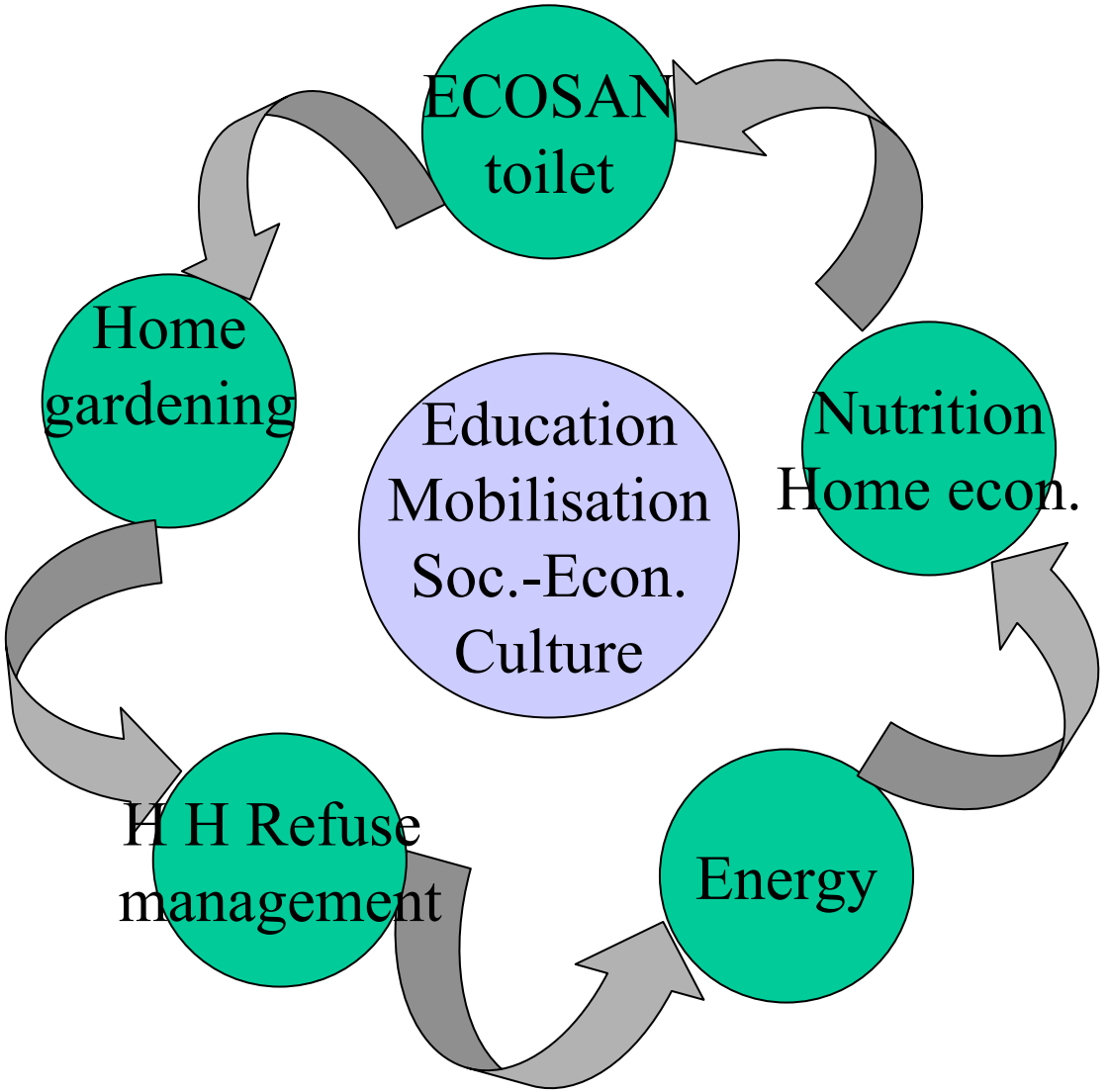
In 1995 the project proposal had been submitted to Disop, Belgium and Sida Sweden and approved gradually by both but financed by Sida.

In 1996 a pilot project, the first of its kind in Africa had been initiated by (SUDEA) financed first by Sida and later by Forum South in Sweden. We are thankful to Torsten, Sida and Forum Syd.

The contribution of the scientific advisory group and board members of SUDEA from a multi-disciplinary and multi-national background has been invaluable.

In year 2002 the pilot project was evaluated by a multi disciplinary group and recommended for up-scaling and sharing the Ethiopian experience with the rest of the world .

An Eco-system approach



Sudea@ethionet.et

ECOSAN - is a recycling **sanitation and agricultural system**, which indicates that all bio degradable substances from the house hold including human excreta are used as fertiliser **in a hygienically safe way.** The urine which contains most of the nutrients is used under the top soil. The faeces are composted with household refuse and used as soil conditioner. This leads to an increased production of food and vegetation which sustain the environment.

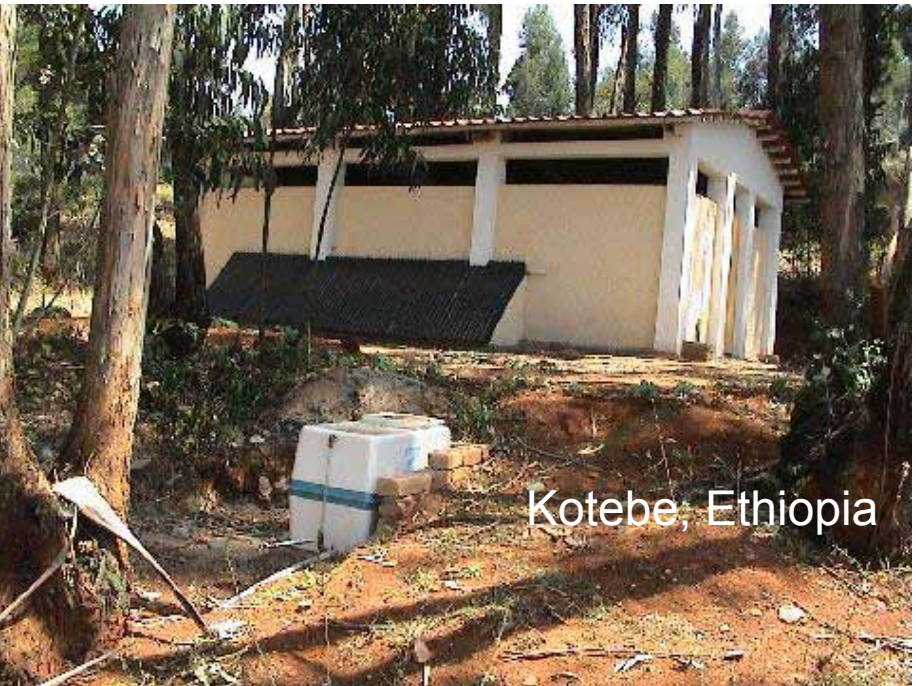
When faeces and urine are not mixed it reduces the bad smell and the breeding of flies. Besides that household refuse including human excreta used as fertilizer helps to break the vicious circle of **ill health, environmental degradation food deficiency, and poverty**.

The technique is a low cost sanitation system and the pay back time is normally less than one year if re-cycling is used.

Objective of ECOSAN

- Reduce diseases spread through, garbage and faeces
- Reduce the pollution of air, rivers and streets
- Secure food, flowers and or fodder for the household
- Reduce the need for chemical fertilisers
- Save water for drinking and irrigation
- Save energy and other natural resources
- Save the environment
- Empower women and youth in particular and the family in general

ECOSAN toilet



Sweden

Ethiopia

Ethiopia

Inside

Inside


Pottuvil, Sri Lanka

Home gardening

Grown in one mont

Used gardening techniques:
ECO-sandwich,, ECO-baskets
ECO-containers and
ECO-walls
The original idea of Growing Walls
by Gus Nilsson - Botswana

Production of seeds and natural pesticides should also be done in a home garden, to make it ecological.

Fertilising effect

Tests made on Swiss Chard at Bethlehem Training Centre, Addis Ababa, with a urine dose corresponding to 380 kg N per ha show a four times higher biomass than the control

Waste sorting

Waste management

Globe Compost

SAVE the Ethiopian trees, air and wate

Use solar cookers to save energy and

ECOSAN and ECO-lilies to save water and
produce fertilisers for food and trees!

Solar cookers are used in many parts of the world as a complement to other energy sources. With a solar cooker You can boil water for drinking and cleaning, prepare different dishes of food and dry food like *injera*, fish or mushrooms.

SUDEA is preparing a cookbook and users book for the Ethiopian household.

Energy

And any natural resource
like water and air

Nutrition
Home econ.

Community participation

When SUDEA introduces and implements the ECOSAN system it is done in close collaboration with the community. Households are involved in the process of discussing where to build the toilet, how to make use of the fertiliser and how to maintain the system. All family members are trained and in other ways informed about how to use the toilet and the

Education
Mobilisation
Soc.-Econ.
Culture

Economic value of urine and faeces as fertilisers

Estimated from the chemical content of urine and faeces the value per person is around 8.60 US$ per year

or for

Addis Ababa 38.7 million US$ per year

Urban agriculture is a new frontier to food production where 1/5 of the world population are actively engaged, producing 15% of the total food (UNDP-survey). Mostly simple, inexpensive and environmentally sensitive techniques are utilised.

The products from ECOSAN are organic fertilisers - urine and composted faeces and household refuse - very useful within home gardens.