

# Promoting Ecological Sanitation and Urban-Rural Linkage

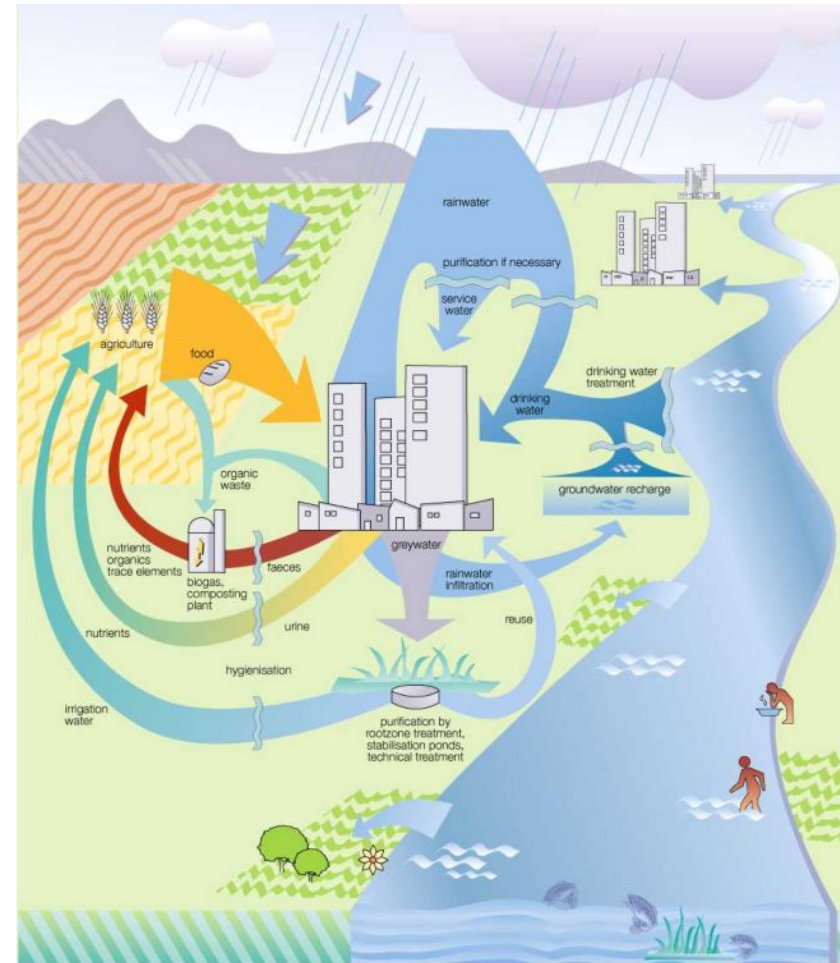
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Center for Advanced Philippine Studies

UNEP-IETC -ILEC/ 19-20 April 2010

# Three (3) fundamental principles of Ecological Sanitation

1. preventing pollution rather than attempting to control it after we pollute
2. sanitizing the urine and feces
3. using the safe products for agriculture purposes



Source: Uno Winblad, et al., Ecological Sanitation, SIDA, 2004

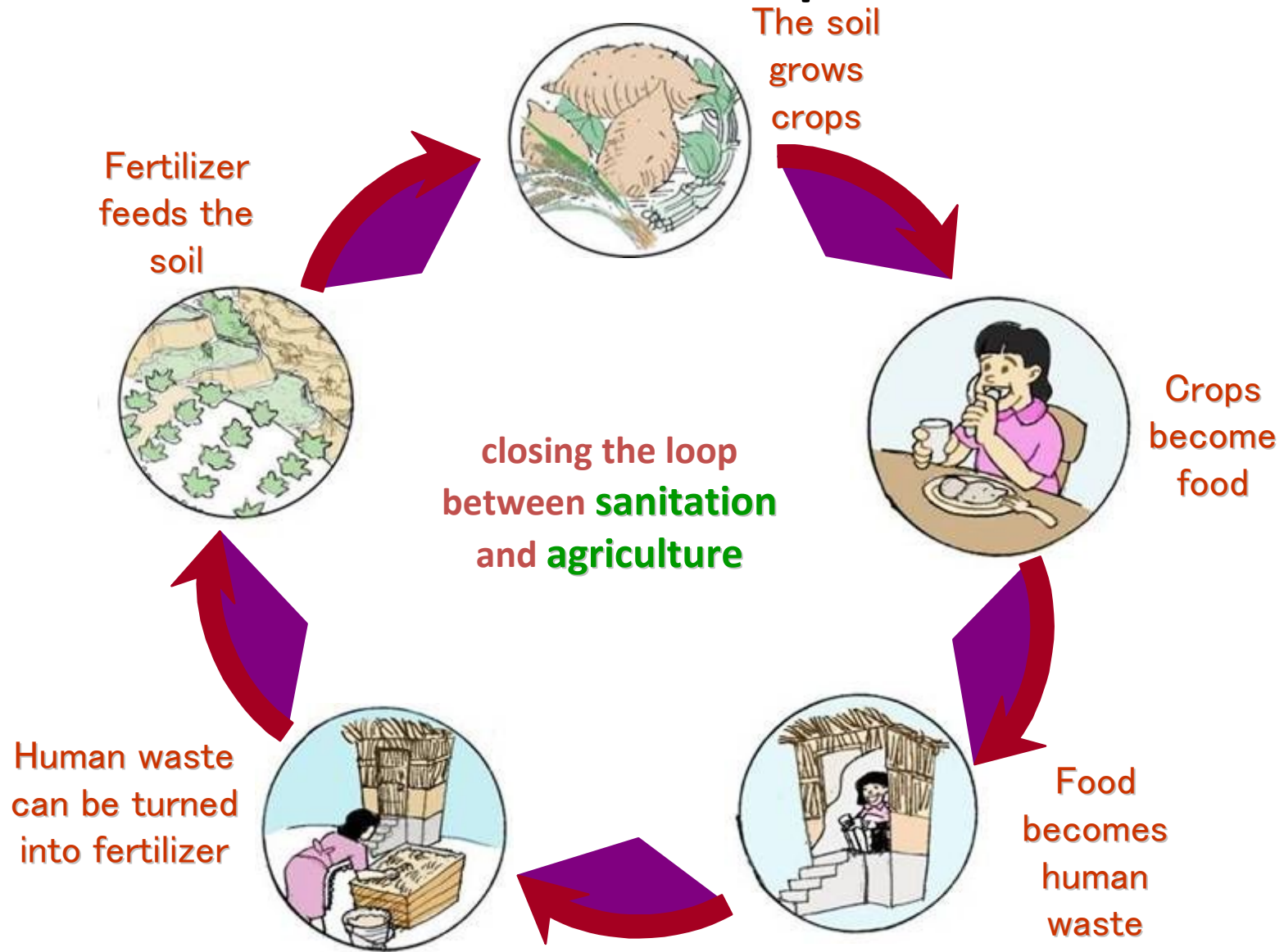
# Definition: Ecological Sanitation

- Ecological sanitation systems ***safely recycle*** excreta resources (plant nutrients and organic matter) to crop production in such a way that ***the use of non-renewable resources is minimised***

Photo: Dr Rodda. Work by D. Starzak, Univ of KwaZulu-Natal, South Africa



# Basic Principle



# Advantages

1. Improvement of health by minimizing the introduction of pathogens from human excreta into the water cycle;
2. Promotion of recycling by safe, hygienic recovery and use of nutrients, organics, trace elements, water and energy;
3. Conservation of resources through lower water consumption, substitution of chemical fertilizers, minimization of water pollution;
4. Groundwater protection;
5. Not expensive;
6. Use local materials;
7. Applicable to local sanitation practices



Soil degradation is stupid,  
future generations will need land, too...

**Poor soil can become highly fertile with  
clever management of biowaste and sanitation**

Prof. Ralf Otterphol, TUHH

# UNEP/IETC-CAPS Collaboration

- **1.** Compilation of cases of de-centralised sanitation to facilitate and guide sanitation policies (December 2010)
- **2.** Demonstration of ecological sanitation and other de-centralised wastewater management technologies for sanitation, environmental and local benefits in the Philippines. (April 2011)
- **3.** Demonstration of a rural-urban partnership on sanitation in the Province of La Union. (August 2011)

# 1. Compilation of cases of de-centralised sanitation

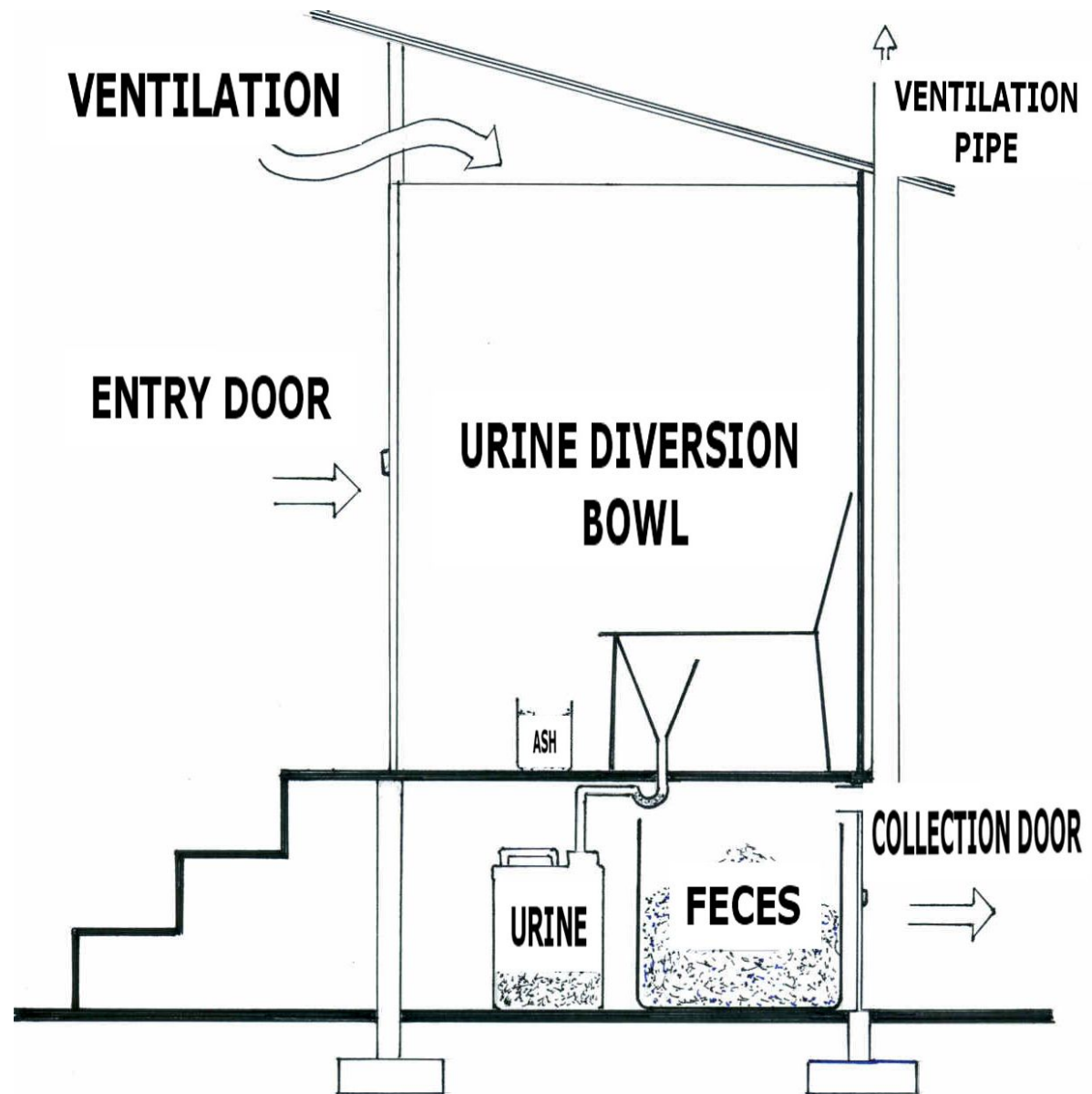
In the Philippines:

- Ecosan projects
- Low cost housing projects with WW treatment
- BORDA/BNS DEWATS Projects
- Local Government & Private Sector initiatives

Other countries

- Vietnam. Lao PDR, Cambodia

# Urine Diverting Dry Toilet (UDDT)



SOURCE: CENTER FOR ADVANCED PHILIPPINE STUDIES

# UDDT in houses, schools, botanical garden and science building



# The San Fernando City Experience



# Direct use – urban agriculture



San Fernando, LU, Philippines

# Direct use – Bonsai Garden & other crops



San Fernando, LU, Philippines

# CAPS' "ecosan" garden



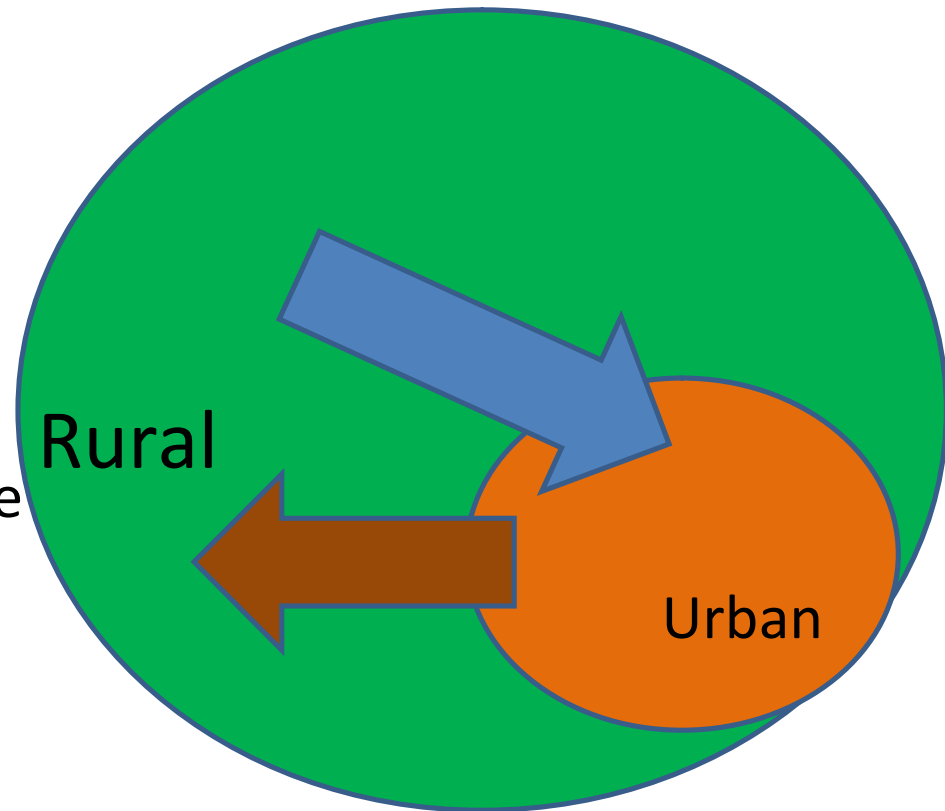
## 2. Demonstration of ecological sanitation and other decentralised wastewater management technologies

### Potential projects:

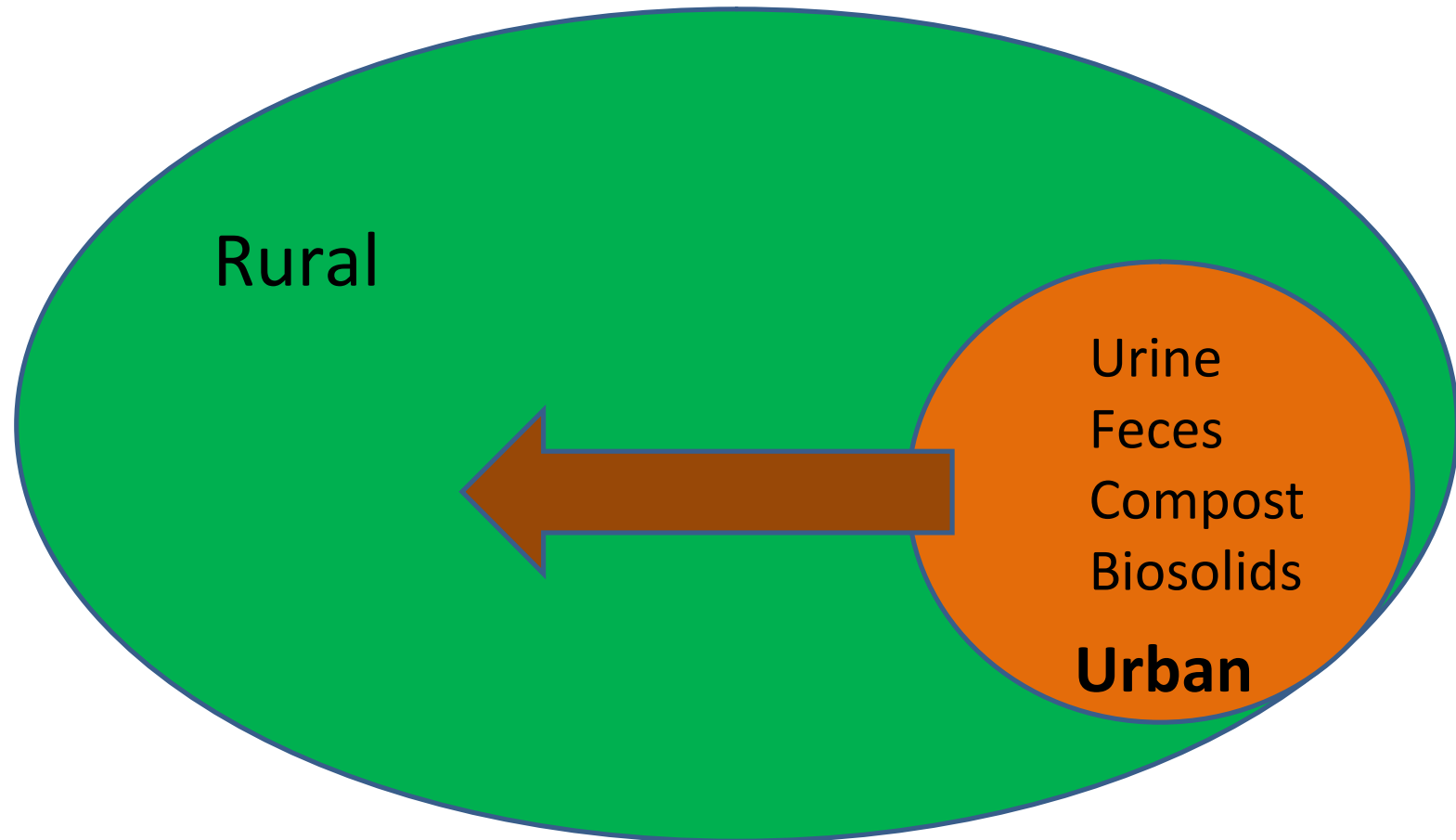
- Household level ecosan toilets
- Community level decentralized wastewater system
- Building or institution level decentralized wastewater system

# 3. Urban-Rural Linkages

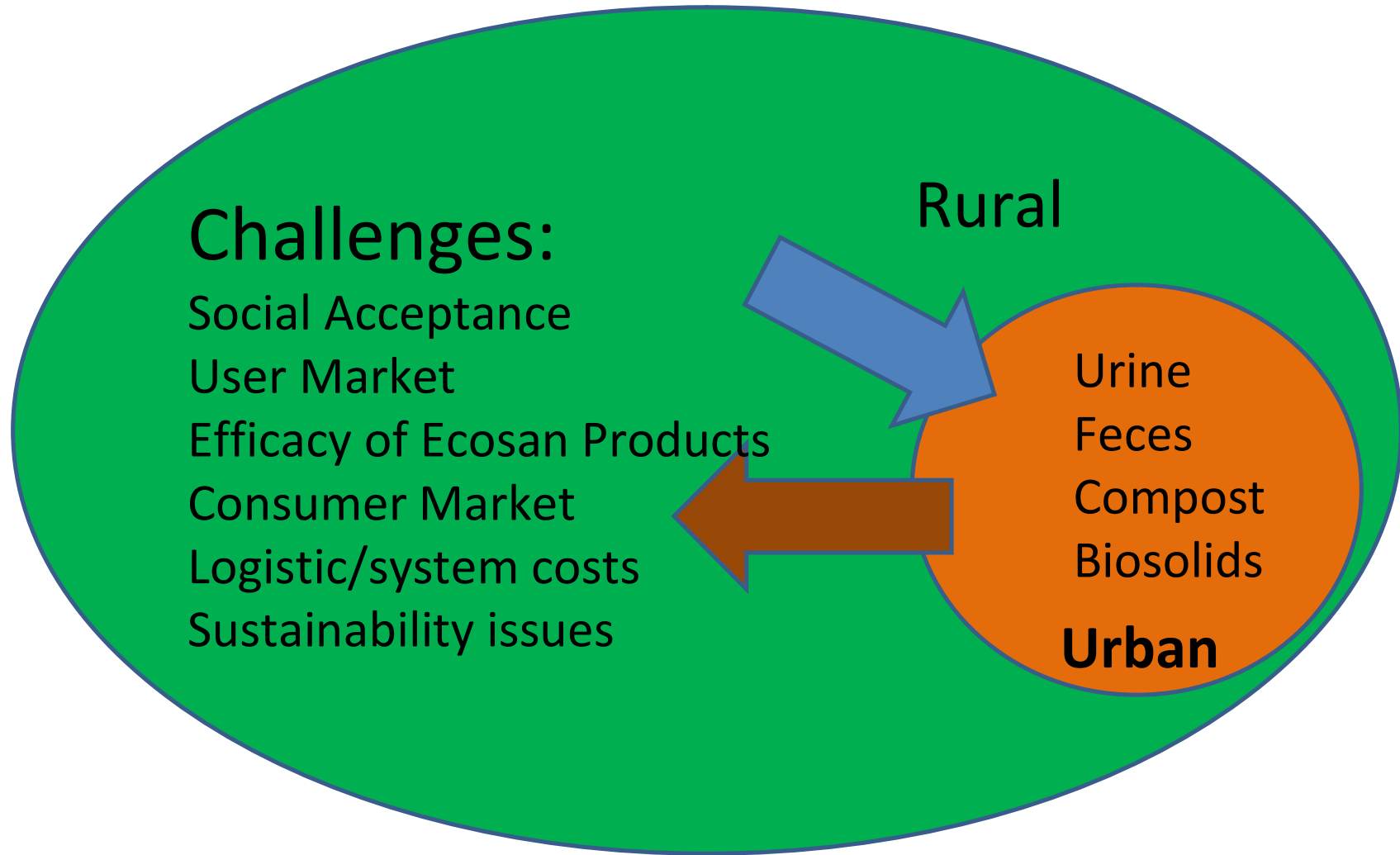
- Rural:
  - Producer of agriculture products
  - Consumer of excreta fertilizers
- Urban:
  - Consumer of agriculture products
  - Producer of excreta fertilizers



# Urban-Rural Linkages



# Urban-Rural Linkages



# Thank You!

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The leading knowledge center and catalyst for  
sustainable sanitation in the Philippines