# TANZANIA DOMESTIC BIOGAS PROGRAMME (TDBP)
# 2009 - 2013

Introduction.

# Hints on domestic energy in Tanzania

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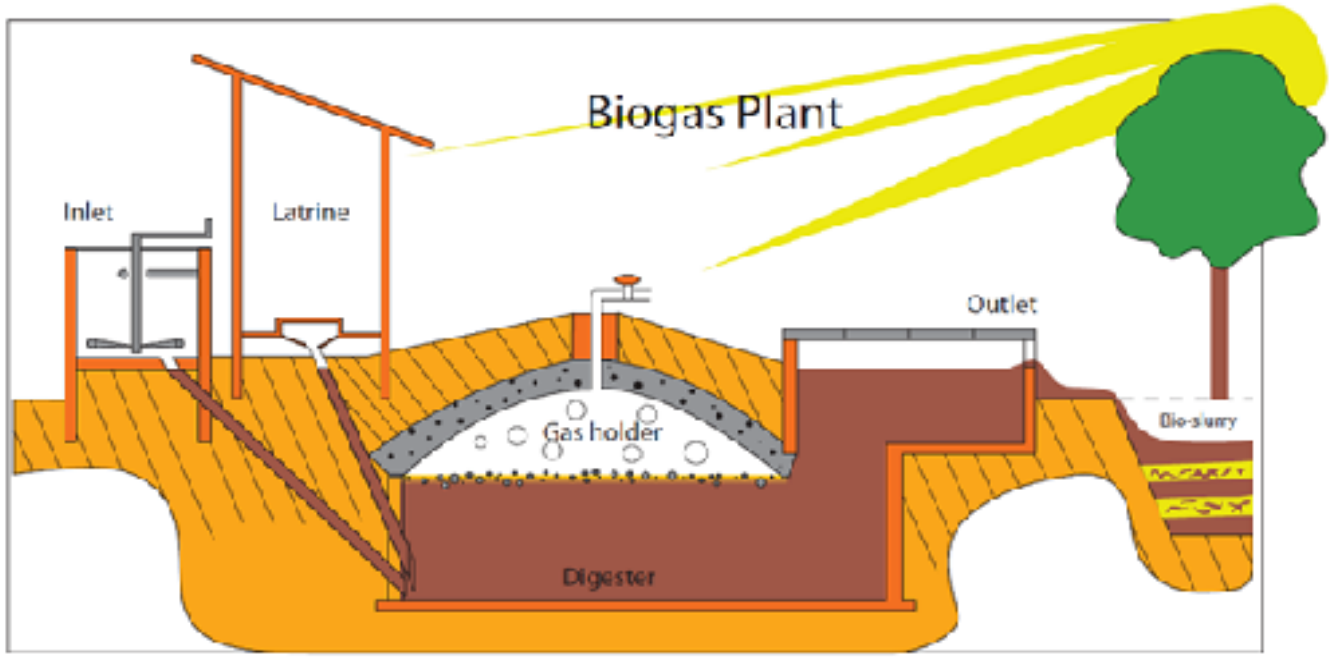
## Hints on domestic energy in Tanzania

- The high consumption of wood fuel contributes to:

- Depletion of woodland,
- Deforestation,
- Soil degradation and eventually
- Desertification threats.

# What is Domestic Biogas




- Africa USD 650-1500
- Life: > 20 years
- Gas use: cooking & lighting
- Bio-slurry: organic fertiliser

# Tanzania Domestic Biogas Programme (TDBP)

Mission of TDBP

To develop a sustainable market for biogas in Tanzania together with other stakeholders stimulating the private sector to actively take part in the construction and after sales services to provide affordable and simple biogas technology solution to the rural and peri-urban households across Tanzania.

Vision of TDBP

To improve the livelihoods and quality of life of the farmers in Tanzania

OBJECTIVES:

- Construction of 12,000 Biogas plants in Rural and peri-urban areas in five years time.

- Development of commercially viable domestic biogas sector through capacitating biogas construction enterprises (BCEs)

- Training of Biogas constructors and end users

- To stimulate realization of other benefits related to bio-slurry utilization
- Building the capacity of partner organizations
- Capacitate local manufactures of appliances for the sectors
- Gender mainstreaming in the construction and utilization of the Biogas technology.

Donors/TA:

DGIS- an initiative of the Dutch Ministry of the Development Cooperation.

- **African Biogas Partnership Programme (ABPP)**
- **HIVOS (Fund Manager)**
- **SNV- Tanzania provides knowledge brokering and capacity building services to the Programme and partners**

***Currently TDBP is hosted by CAMARTEC***.

TDBP  partners in Renewable energy;

- ✓Microfinance institutions
- ✓Higher leaning institution
- ✓Ministry of livestock and fisheries Zanzibar
- ✓Agriculture  and livestock
- ✓Government agents- VETA, LITA.
- ✓Community Development

# Dissemination strategies

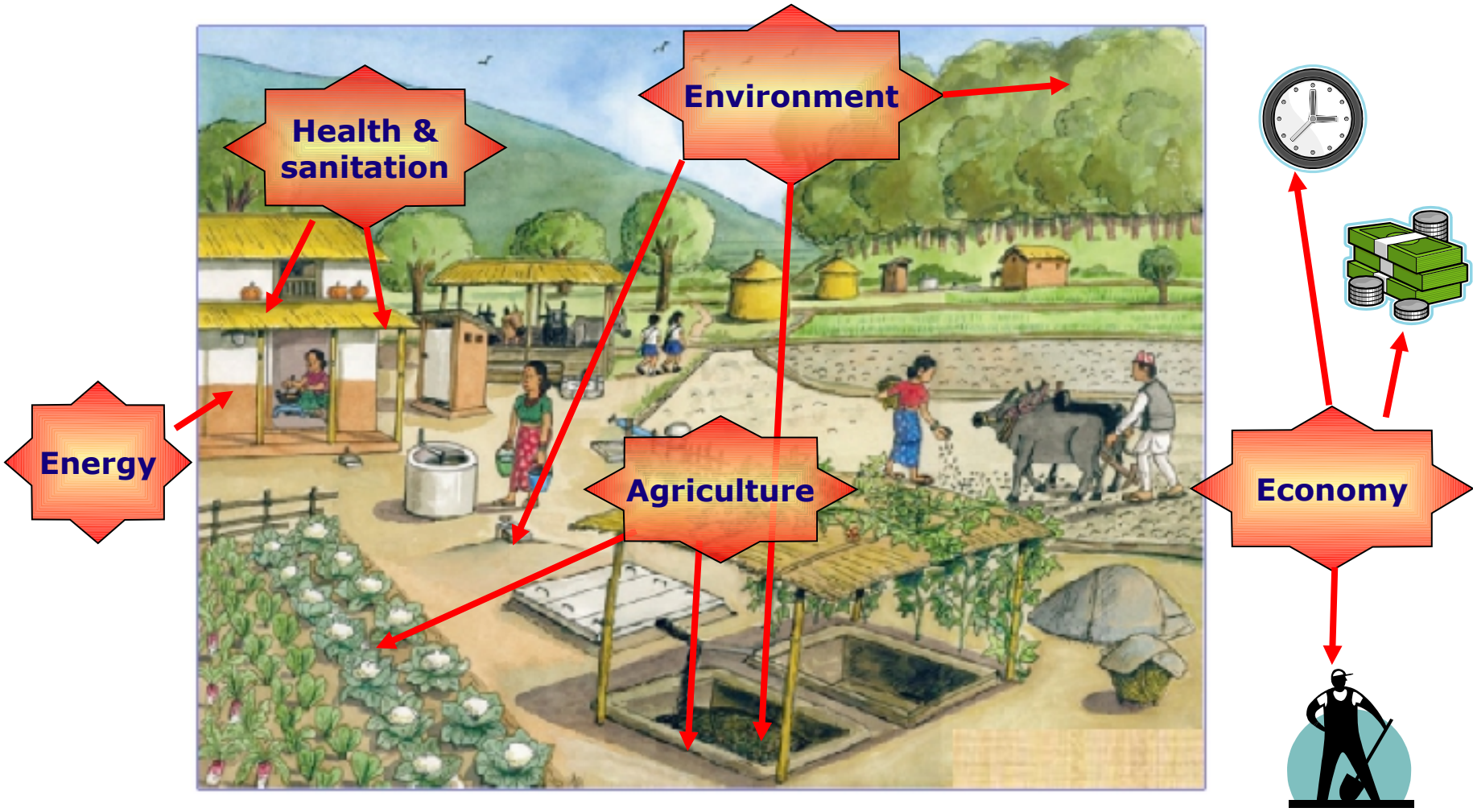
*Social medias*

*Promotional materials:* Posters, pictorial calendars, flayers, manual, labels /sign board, T-shirts and caps

Exhibitions : to farmers, seminars/workshops.

Exchange visits: demonstration plants and other functioning plants.
Door to door promotion, using promoters and programme staffs

# Multiple Benefits of Domestic Biogas Plants



# TDBP PHASE I: fact sheet

| FACT SHEET | Tanzania Domestic Programme Phase |
|---|---|
| Duration of programme | 5years, from 01-01-2009 to 30-12-2013 initially but extended to 31-12-2014 using same funds allocated. |
| Target | 12000 domestic biogas plants |
| Key outcomes | Developed vibrant markets for domestic biogas as mainstream domestic energy source: Accelerated and sustained (rural and peri- urban) access to quality services for domestic biogas construction, manufacturing, operation, application and after sales services. |

# TDBP PHASE I: fact sheet cont...

| | |
|---|---|
| Expected results | Substitution of traditional biomass mostly charcoal and firewood and improving living condition namely;<br>-saving of conventional energy source mainly firewood<br>-reduce of firewood use<br>-improved health and sanitation<br>-increase in agricultural production<br>-job creation<br>Reduction of green house gases (GHG) emission |
| Digester model | Fixed dome domestic biogas digester model Modified CAMARTEC Design both normal version and the sold state Digester and sim-Gas rural design |
| Programme area | All 30 regions of Tanzania mainland and Zanzibar |

# TDBP PHASE I: fact sheet cont...

| | |
|---|---|
| Target group | Farming households able to collect more than 25kg of dung per day, practicing integrated farming or free range cattle with over night stabling. |
| Lead agency | CAMARTEC- Ministry of industry and Trade |
| Partner organizations | Ministry of Energy and Mineral (MEM)<br>Vice President Office- Department of Environment<br>Rural Energy Agency (REA)<br>Ministry of Agriculture, Food security and cooperatives.<br>Savings & credit organization (SACCOS) and Agro- Livestock groups Private Sector Organization and Civil Society.<br>Training and Research Institute<br>Development Organizations |

# TDBP PHASE I: fact sheet cont...

| | |
|---|---|
| Technical assistance | SNV – Netherlands Development organization. |
| Investment subsidy provided | Year 1-5: TSH320,000/ 160 per biogas installation<br>Subsidy reductions by 25% come July 2013, followed by complete abolition of subsidy in January 2014. |
| Programme budget | Investments costs: 12,351,827<br>Programme support: 4,385.531 incls TA<br>Totals: 16,737,357 |

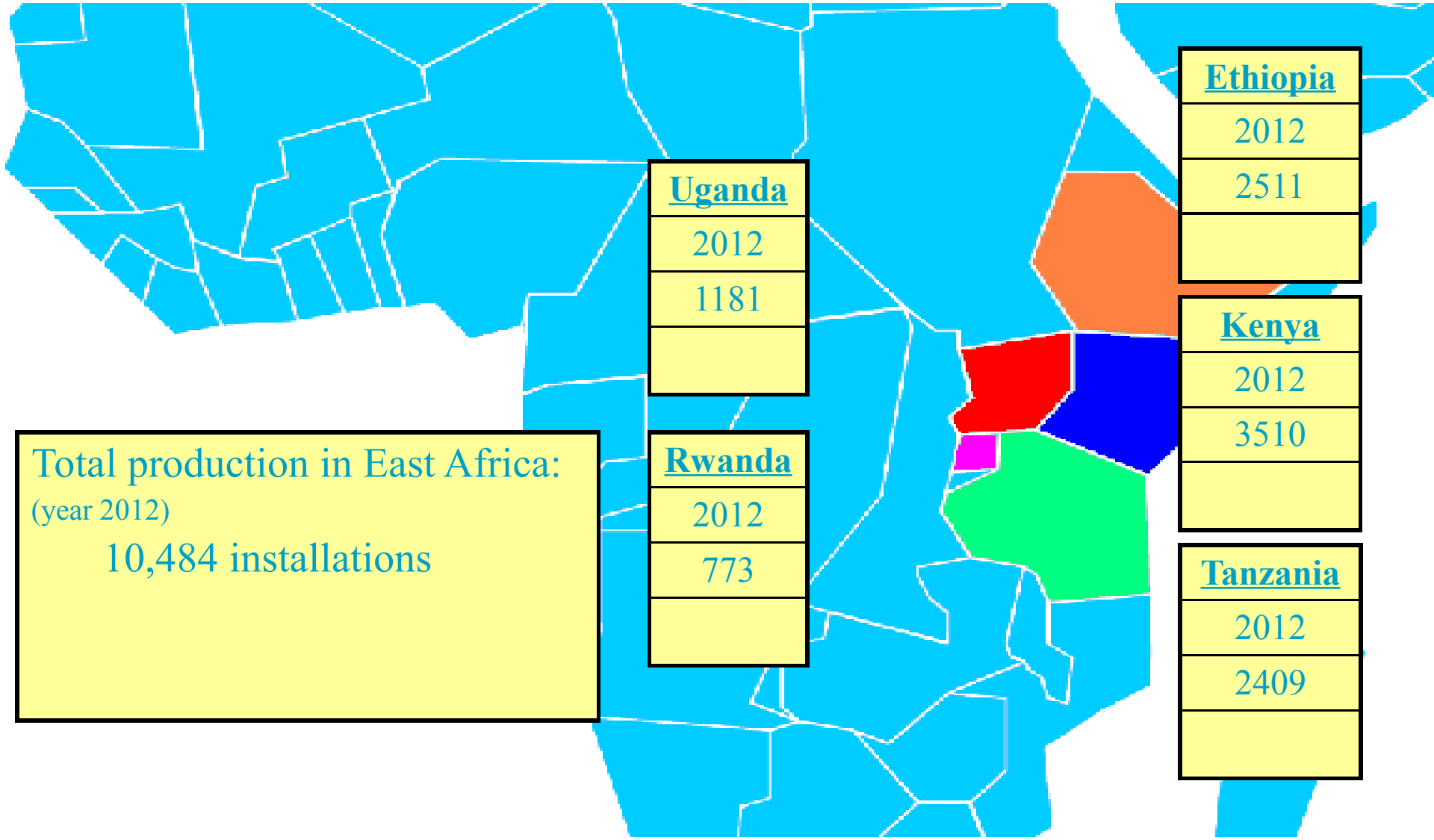
# Production charts


- Zanzibar Ministry of Livestock (New engaged IP in 2012)have constructed **7 plants**
- Contribution from independent BCEs: AB enterprise **81 out of 145 planned plants**.
- Other BCEs have constructed **140 plants** (Nyamlo, Mbozi, Oron, Efame and the rest)

# Production trend from 2009-2012

## Challenges:

- *High up front costs of digesters*
- *Lack of credit and willingness to take credit*
- *Few skilled artisans, lack of commitment and entrepreneurial spirit*
- *Few women taking part in the sector (Masonry)*
- *Some people not aware of the technology and its benefits.*


Total production in East Africa:
(year 2012)
10,484 installations
Uganda
2012
1181
Rwanda
2012
773
Ethiopia
2012
2511
Kenya
2012
3510
Tanzania
2012
2409

# Biogesi kwa Maisha Bora

# SUCCESS STORY OF MR&MRS SELEMAN OF SANAWARI – ARUSHA

Apart from other benefits realized as a result of using Biogas, is the use of slurry as a fertilizer in their household gardening – which has resulted in a remarkable improvements as shown below:-

| Before | | After | |
|---|---|---|---|
| 15small bunches of bananas x4,000x3per yr | 180,000/= | 15 big bunches of bananas x12,000x3per yr | 540,000/= |
| Flower garden = | 60,000/= | Flower garden | 150,000/= |
| Vegetables = | 20,000/= | Vegetables | 100,000/= |
| | | Dried bio-slurry | 200,000/= |
| **Total** | **260,000/=** | **Total** | **990,000/=** |

**Summary on household income after use of bio-slurry**

| | | |
|---|---|---|
| Income using Bioslurry | Tshs | 730,000/= |
| Energy Savings per year | | 369,750/= |
| **Total House hold income per year** | | **1,099,750/=** |

**Improved household garden after use of bio-slurry**