



Kitchener, ON Canada

Community-based Technologies Exchange fostering Green Energy Partnerships

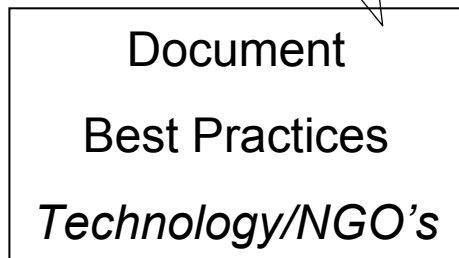
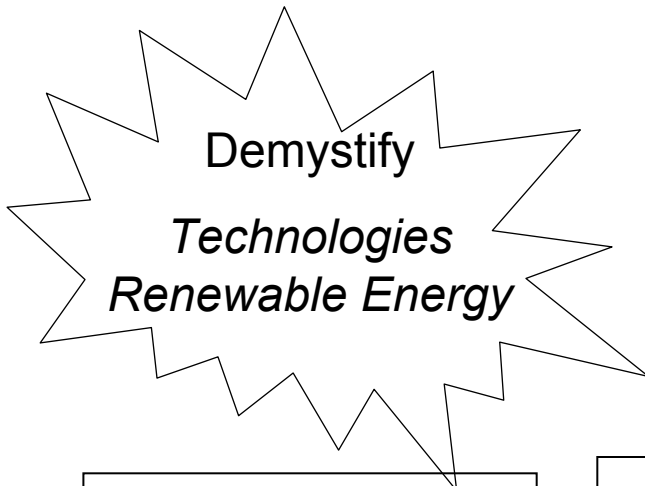
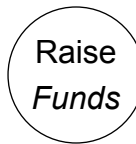
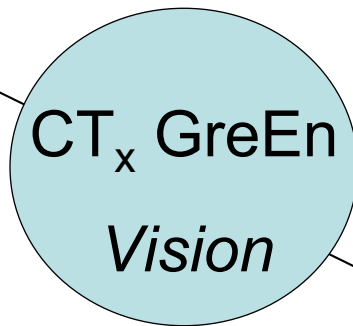
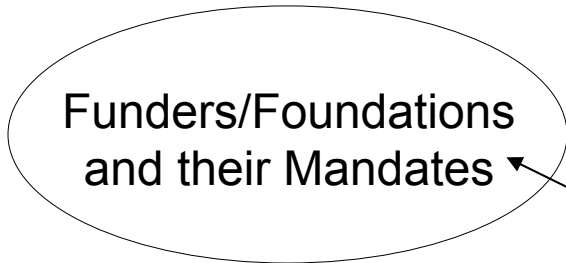
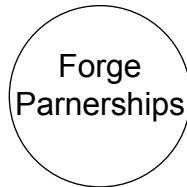
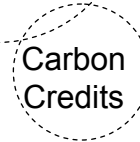
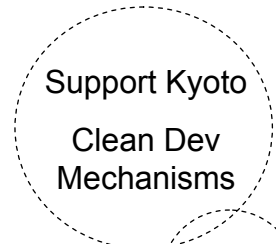
CTx GreEn *Mission*

- *To research, assess, facilitate and implement **community-based** renewable (green) energy projects in a manner that*
 - *improves the total quality of life in the community*
 - *and the environment.*



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fostering **Green Energy** Partnerships

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Scale-up Philosophy

Keeping CTx GreEn small

and yet

Maximizing Growth of Impact

by leaving behind “shadows” in NGO’s
to carry-on the work long after our exit.



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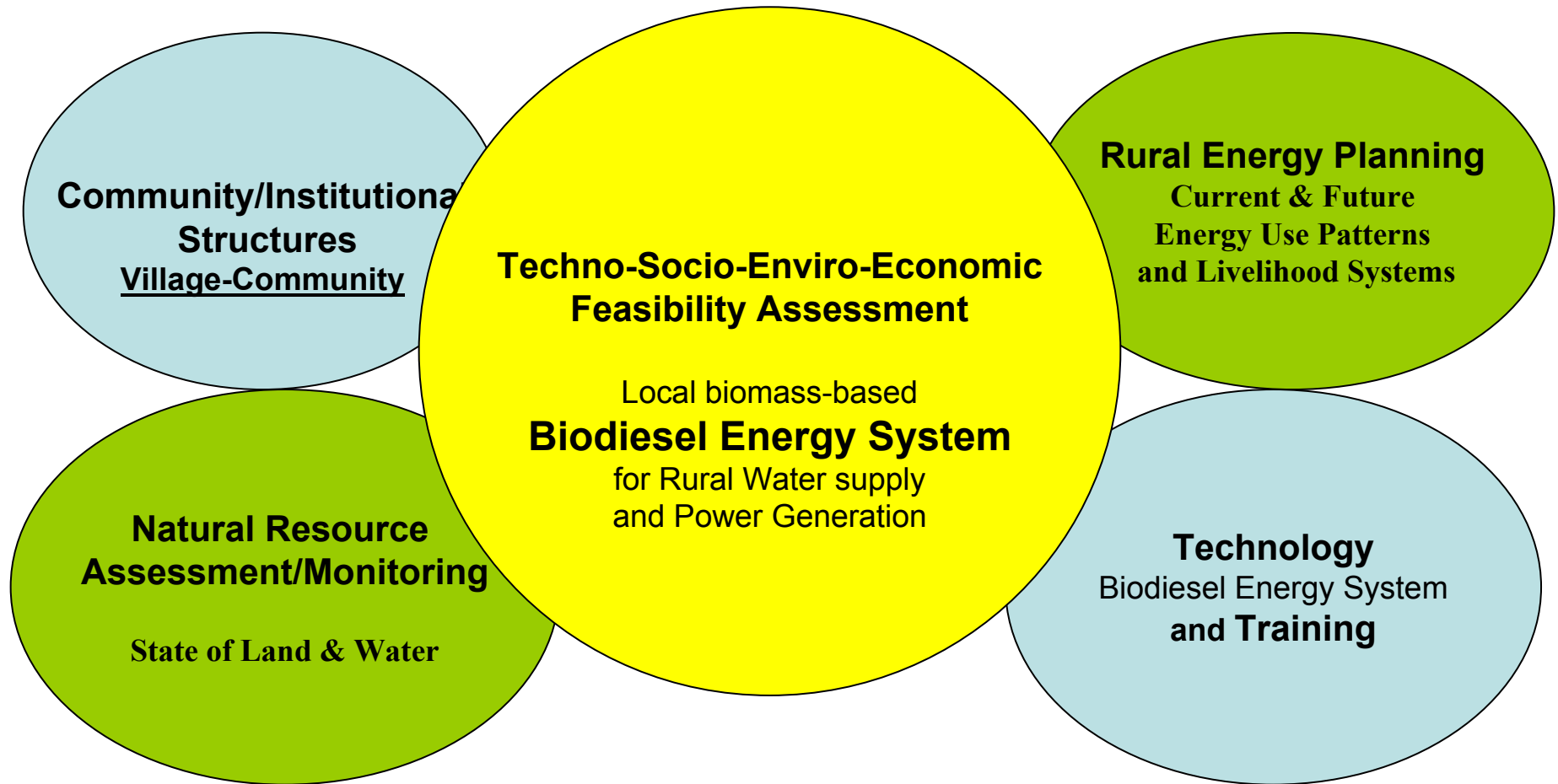
STRENGTHS

- **Innovative Technologies**
 - Biodiesel reactors – pedal-powered, small-scale
 - Ethanol Purification
- **Innovative Methodologies**
 - Training and Capacity-Building
 - Participatory processes
 - Encourage people to believe “yes, I/we can do it”
 - Rural Energy Planning (current and future energy needs)
 - Resource Assessment/Monitoring



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Technology is only one among four other aspects critical to project sustainability.



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Flagship project

Carbon-neutral Biodiesel-fuelled Energy System

for small-scale rural water-pumping and power generation

A World Bank Development Marketplace 2003 project: # 001551

Biodiesel Project Features

Small scale decentralised system to cater to productive needs of the community

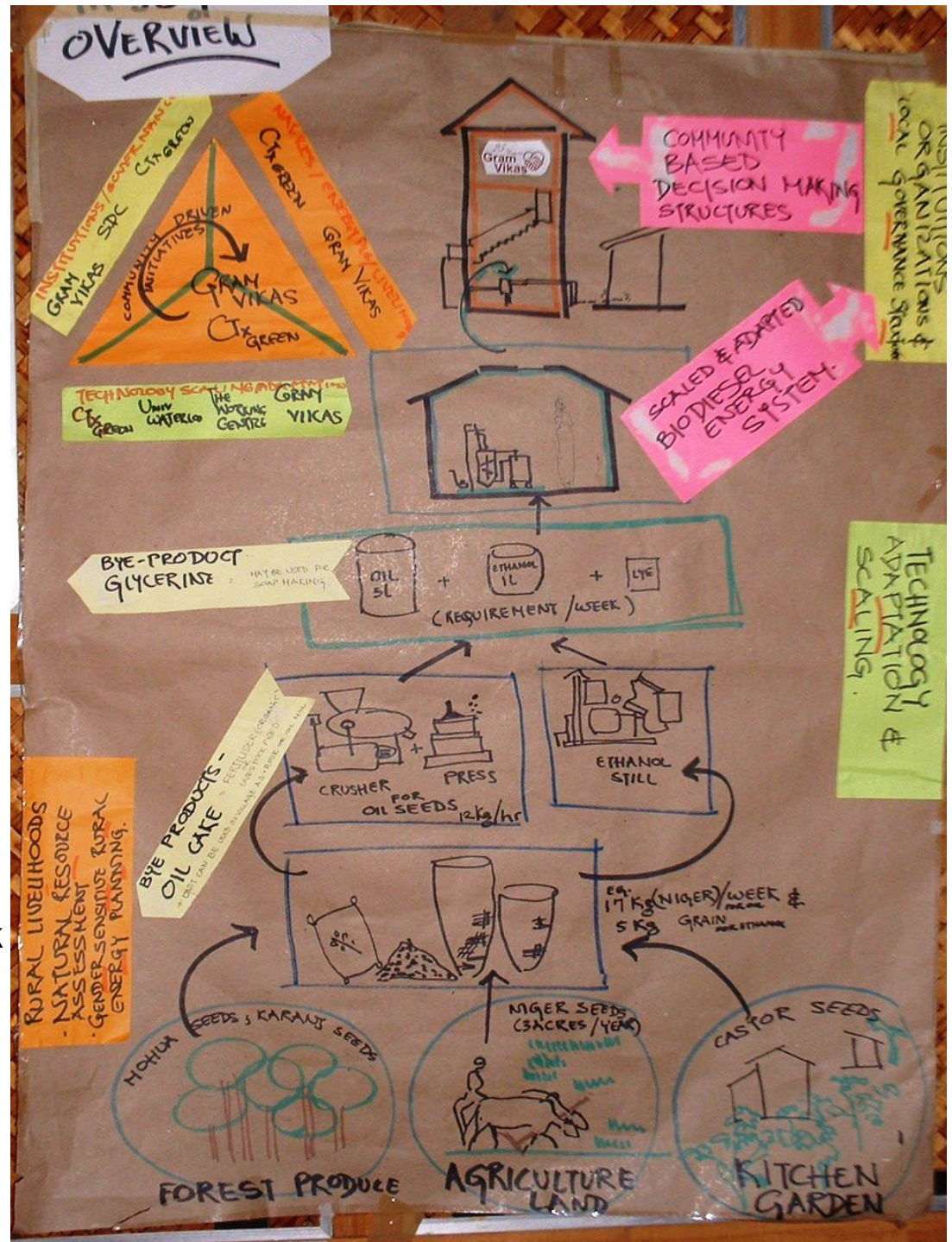
Local underutilized oil seeds as feedstock for oil

- avoid conflict with food security
- preferably non-edible oil seeds
- oil cake by-product as fertilizer

Local underutilized fruits as feedstock for ethanol

- ferment (fresh juice / dried fruit+water)
- innovative, world-1st ethanol extraction
- dramatic red'n. in energy requirement

Livelihood opportunities





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2nd Village Pilot Unit:
5-litre BD system
Kandhabanta-Talataila (36 HH) - Nov. 30 Installation

Project Office



Rural Energy Planning Focus:
•Energy Planning Survey in 12 villages around KB-TT + workshop
•Cluster level analysis to select to 2 more villages (after KB-TT)

Gajapati (ORISSA)



1st Village Pilot Unit:
5-litre BD system
Kinchling Village (16 HH)
Sep.30-Oct 31 Installation

2 Pilot Plants at Mohuda:
5-litre BD batch reactor
20-litre BD batch reactor

Project Office



Map not to Scale

	District Boundary
	River
	National Highway
	State Highway
	Road
	Railway Track
	District Headquarter
	Taluk Headquarter
	Town

Project Office

Mohuda Village Gram Vikas Head Office

Resource Assessment Focus in Tumba Project:
•Forest Assessment: 2 (+1) clusters of villages
•Livelihoods Analysis (Bogodo or shifting cultivation as a livelihood system)
•Baseline data to assess/monitor long-term impact of biodiesel project on environment and livelihoods
•Select 2 villages for biodiesel implementation

Flagship project location

Carbon-neutral Biodiesel-fuelled Energy System for small-scale rural water-pumping and power generation

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- Pedal-powered Biodiesel Reactor
Optional electric drive
(as and when resources and needs justify it)



Self-help groups and biodiesel

From oil seeds to water-pumping and
enhanced livelihoods

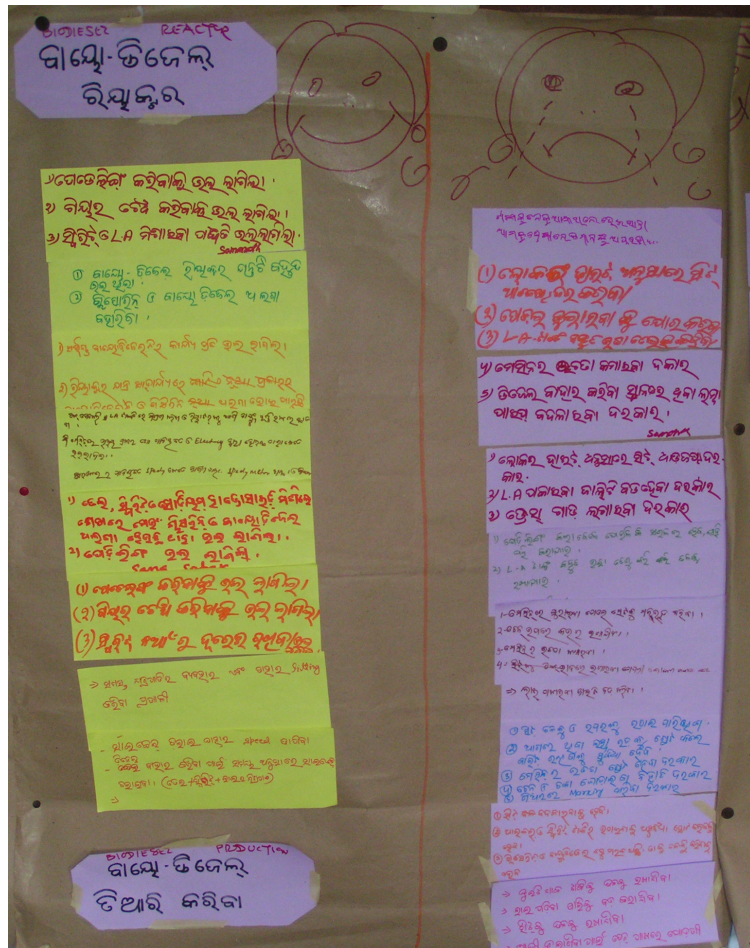


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Participatory Technology Development

Village trainees provided feed-back: what we liked, what we would like changed and why/how?



Introduction to the assembled machine by Binoda Mohanty



Santosh updating the stock register





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Tactical Plans and Goals: next 1-3 years

- Expand Biodiesel Project Impact in India
 - Incorporate in India (complete incorp'n. in Canada)
 - Validation Studies
 - Supplementary Proposals
 - IDRC (measuring/monitoring env. impact of biodiesel)
 - MNES, ICEF (extending biodiesel to rural power gen'n.)
 - Piggy-backing with ICT initiatives
 - 2005: 60% Biodiesel; 20% Proposals; 20% Feasibility studies
- Develop Feasibility and Implementation plans for other longer-term focus Projects



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Projects in different stages of visioning

- Biodiesel applications
 - Energy/Power applications (India, Nunavut)
 - Coupled with ICT projects? (10-25% incr. load)
 - Space Heating (urban inner-cities... TWC)
- Wind /hybrids
 - Nunavut (Canada), why not India?
- Renewable Energy Science Camps for disadv.
 - Southern Brazil (next 2-3 years)
- Biomass gasifiers for S.Indian Tea Industry
- Microturbines (NG/producer gas) for Assam Tea Industry

Other Core Activities

- Best practice documentations
 - Important for partnership building (got us here ;?)
 - Benchmarking renewables one against another
- Booklets on non-timber forest produce
 - Collection, storage, processing...
 - Building on data base from current project
- **Articles/Books on renewable energy**
 - Rigorous comparison
 - Socio-enviro-Techno-economic assessments



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Management Team

Board of Directors

Partner NGO & team

Dr. Ramani Sankaranarayanan

Geeta Vaidyanathan

Core Biodiesel Team

Aruk Padmanabh

Asish Panigrahi

Alok Mallick

Bhabani Sankar Sahu

Binoda Kumar Mahanty

Geeta Vaidyanathan

Nina Sengupta

Parameshwar Gauda

Prafulla Sethi

Prafulla Sahu

Ramani Sankaranarayanan

Sameer Nayak

Srikant Panda

Stan Iordanov

Village-level staff supporting Natural Resource
Assessment in the Tumba project area.

Volunteers

Rebecca Mancini

Kari Kokko

Actively supported by

Anandpur, Rudhapadar and Tumba project staff of Gram
Vikas

Gram Vikas Management Team

Gram Vikas PMED staff

Village communities of Kinchling, Kandhabanta and
Talataila.

Bogoda farmers from tribal village communities in the
Tumba project area.

Divisional Forest Officers (North and South Ghumsar)
Ganjam District Administration (Collector)

External Support Team:

Dr. Malaya Kumar Misra and team.

BN Mishra

Dr. K.C. Sahu and research team

Dr. C. Ravikumar.

Kameshwar Nayak (Kabulu)

Dr. Ram Halasya.

Sanjay Upadhyaya, Enviro Legal Defence Firm, New Delhi
Achala Savyasachi, Sa_dhan, New Delhi



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Partners

WB DM2003

001551 Carbon-neutral Biodiesel-fuelled Energy System

GSBI / CSTS

Gram Vikas

SDC (Swiss Agency for Development & Cooperation)

The Working Centre, Kitchener, ON, Canada

University of Waterloo, ON, Canada



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