

Energizing Conservation Efforts

Findings From a Review of Clean Energy Technologies in Kenya & Tanzania

Purpose & Background

Household energy is a crucial issue for organizations who are working to conserve local environments that are coming under pressure from increasing human populations and activity.



Methodology of the Study

Main Outputs:

- Learning Report
- Toolkit

Methodology:

- Desk review
- Stakeholder interviews
- Two site surveys
- Shared team experience



Available Energy Technologies



Improved Cookstoves

- Many different types exist
- Local artisan, factory made and imported
- Can vary from \$4 to \$80 for domestic type
- Often made as different components with middlemen and retailers involved



Challenges:

- Awareness
- Lack of quality control
- Distribution costs

Solar



- Lighting, television, phone charging, water pumping & productive use
- Array of systems available
- Products are imported and locally distributed

Challenges:

- Perceived high cost
- Cheap products in the market
- Improper use/ sizing
- Last mile distribution



Briquettes



- Fuel made from compacted charcoal dust and other agricultural waste
- Most made from charcoal dust
- Varies shapes & sizes depending on the production method and market
- Most producers small scale



Challenges:

- Awareness
- Competition with charcoal
- Production bottlenecks

Wind



- Electricity generation and mechanical power
- Dependent on site specific conditions
- Most systems imported

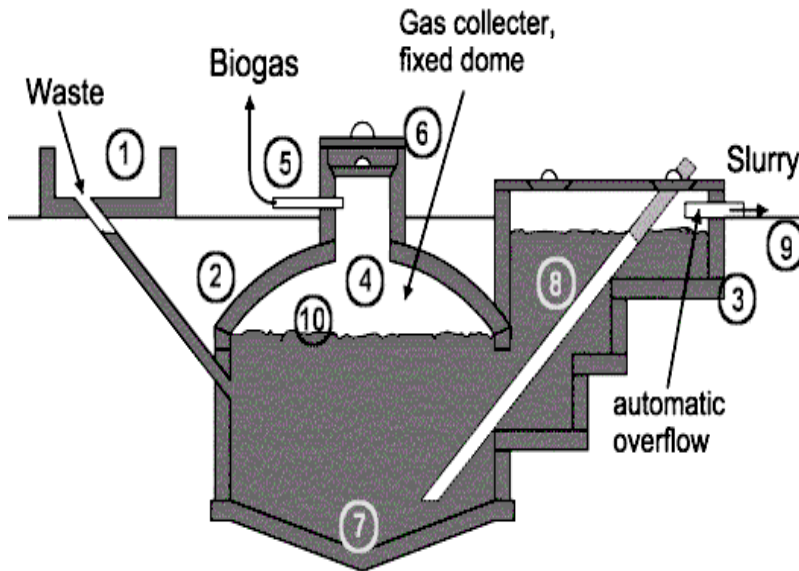


Challenges:

- Very site specific
- Back up is often required

Source: www.reuk.co.uk

Biogas



- Gas produced by breakdown of organic waste
- Most common type dome biogas
- Cost from \$500 to several thousand
- National domestic biogas programs

Challenges:

- Specific market niche
- Quality control /maintenance
- High upfront costs

Financing Options

- Energy financing is still new
- Most FI don't have specific energy portfolios
- Interest rates and requirements can be prohibitive
- Flow of credit combined with capacity building and awareness

- Consumer payment options
 - Upfront payment
 - Payment through installments
 - Pay as you go schemes (solar)

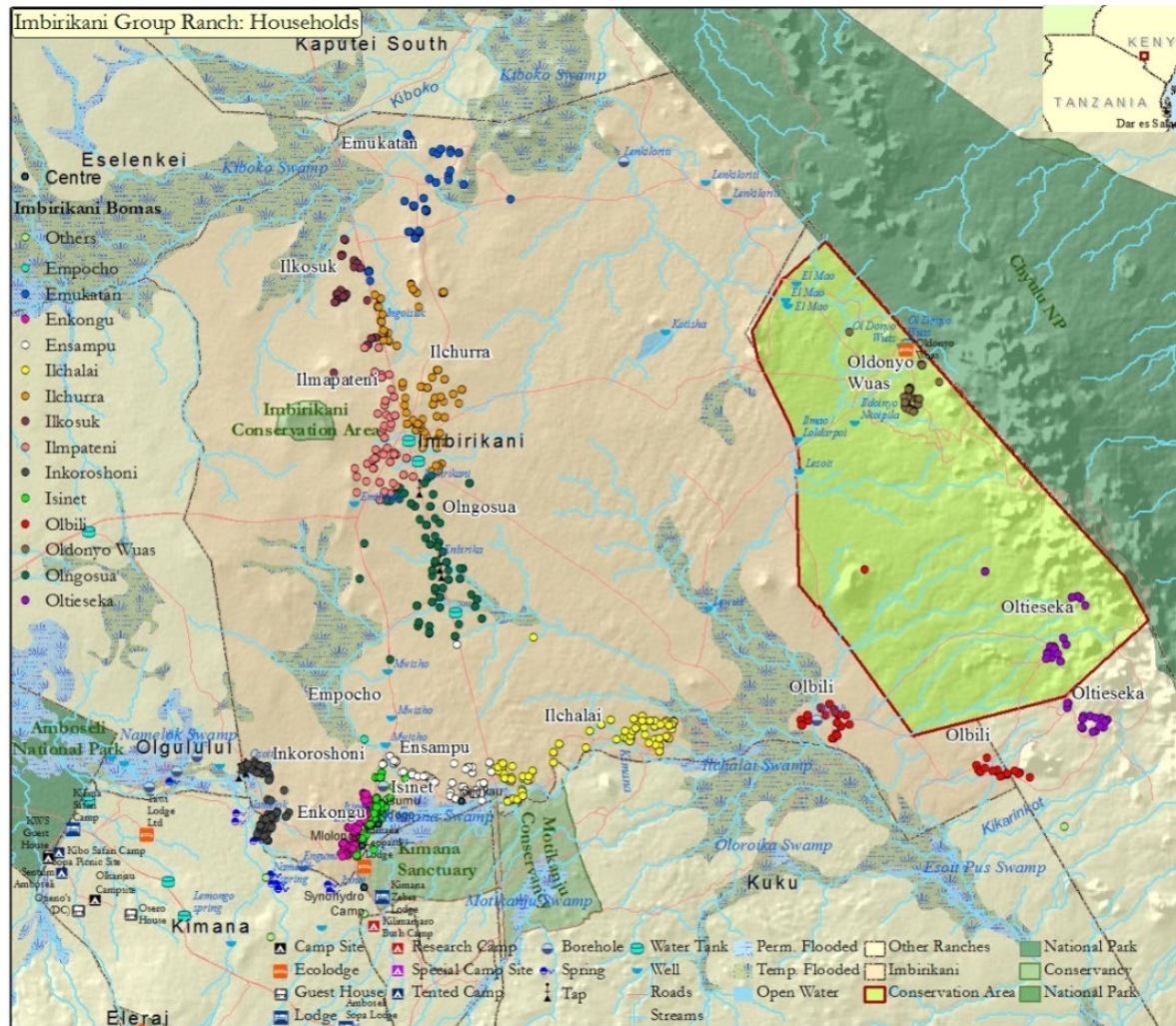
Challenges for Energy Initiatives

- Lack of available financing for consumers and entrepreneurs
- Poor quality products have left consumer disappointed
- Lack of local capacity for product suppliers
- Ensuring sustainability of approaches
- Last mile distribution
- Household don't priorities energy products

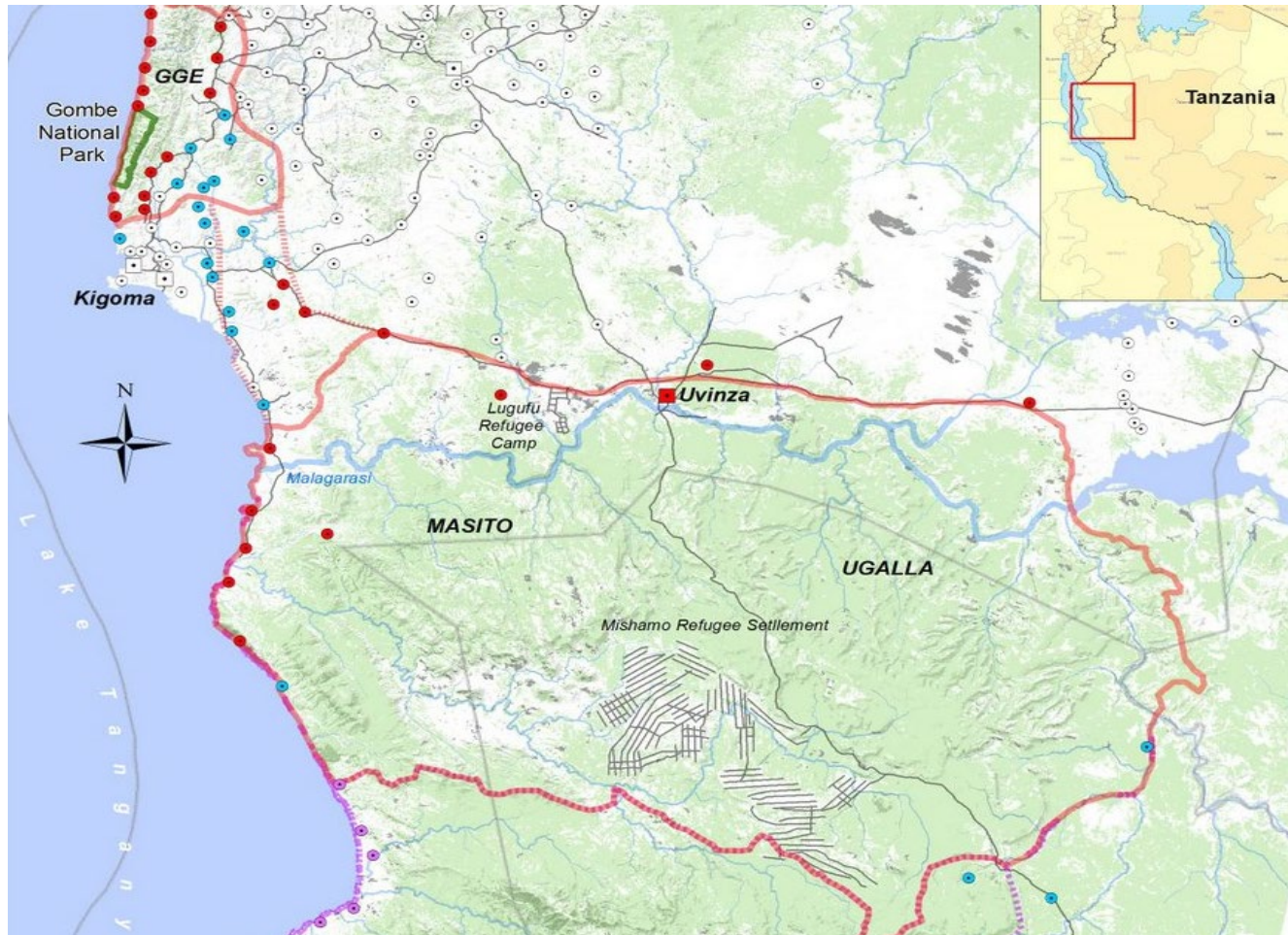
Successes and Lessons Learnt

- Get the economics right
- Strong local presence keep momentum going
- Support from government policy helps
- Tapping into existing distribution channels can reduce costs
- Identify and understand your market segment
- Show consumer tangible economic and social benefits
- Peer marketing can have a strong effect
- Expect seasonal variations
- Cultural and social factors have a strong influence
- Local availability of products, materials and skills can increase sustainability

Site Surveys – Imbirikani Ranch, Kenya



Site Surveys – Kigoma, Tanzania



Suitability of Energy Technologies – Imbirikani



Suitability of Energy Technologies – Kigoma



Recommendations

- Work with existing energy businesses to extend product range or reach
- Identify opportunities to develop new energy enterprises within the community
- Further promotion and awareness creation of energy technologies with local households and institutions
- Explore specific financing options for energy technologies working with financial institutions and local SACCOs
- Promotion of woodlots and sustainable charcoal production techniques
- Learn from existing projects and businesses
- Leverage organizations with strong community links and those that are developing similar projects

Thank you!

