

# Growing *Jatropha curcas* for Renewable Energy: Biodiesel Production in Haiti

Joe Pickowitz and Tim Lindsey

March 18, 2009



Joe & Tim's

# EXCELLENT ADVENTURE

PG



BRACE YOURSELVES  
AMIGOS  
FOR A MOST  
TRIUMPHANT VIDEO!

# Today's Topics

- Project Background
- Tim's Perspectives
- Haiti's First Biodiesel Plant
- Joe's Perspectives
- Q & A



**So, you ask, what the heck  
were you guys doing in Haiti?**





# Developing Sustainable Systems

*The Key to Sustainability!!!!*



# Haiti's Current Energy Sources

Fuel Wood	9%
Charcoal	14%
Gasoline	27%
Kerosene	13%
Diesel	37%

**Haiti is 98% deforested**  
**All fossil fuels are imported**



# The Haitian Power Grid

- There is no power grid
- All electricity provided by diesel generators
- Haiti imports \$350 million of diesel fuel
- Most generators lay idle
- Most homes do not have electricity





# Haiti's Current Electrical System



**How sustainable is this system?**



# Partner for People and Place

“Promote sustainable outcomes for humanitarian and environmental projects through ecological and community based planning.”

<http://www.peopleandplace.org/home.asp>







JATROFA  
PEPINYĚ

ECO  
DIESEL  
any. Ltd.



# Jatropha curcasa

- Native perennial shrub/tree
- Easily cultivated without irrigation or fertilization.
- Grows on marginal land too dry or poor for food crops.
- Adapted to grow in difficult places including arid mountain slopes
- Inedible by goats and grazing animals.
- Pest and disease resistant.
- Reaches full seed production within 3 years
- Produces beans for 40-50 years.
- Easily harvested by hand labor. .





# Jatropha production

- 15 to 30 tons/acre of beans after 5 years
- Beans contain 35% oil
- Oil yield = 5 to 10 tons/acre
- = 700 to 1400 gallons of oil per acre

**Note: Soybeans produce about 50 ga of oil per acre**













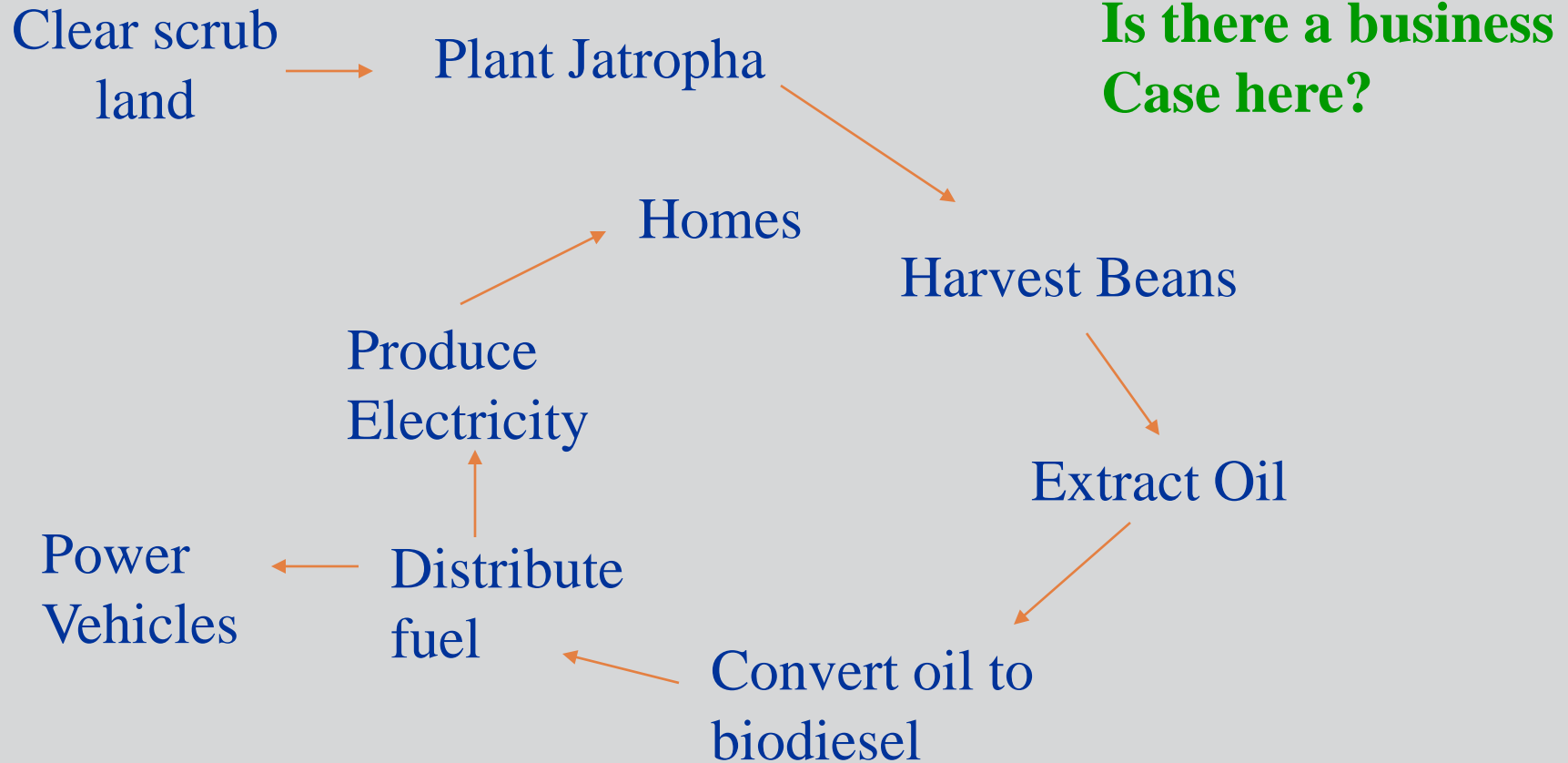








# A More Sustainable Energy System For Haiti



**How sustainable is this system?**





# Project Status

- Currently have 50 acres planted (2007) in 7 plots
- Plan to plant another 8,400 acres by 2013
- Produce 500,000 gallon of oil /year



# Experiences

*The Tim Version*







REPUBLICA DOMINICANA

ILLINOIS  
MEDICINE

















Bienvenidos a SUPER H... abón

















ALMACEN D'IVANOVA

ILLINOIS  
MEDICINE

DELTA

TSU





Avanti  
PURE  
FRUIT FLAVORED  
SODA

MANAGE













ECOLE SAINT HONORÉ











ECOLE SAINT BARTHELEMY













Ice Cream  
BAR

Prestige

Prestige

LONG ISLAND











ILLINOIS

UN

UN  
20176





# Haiti's first Biodiesel Plant





# Key Activities

- Set up Biodiesel System
- Wired Generator
  - Lights
  - Compressor
  - Heaters
  - Well
- Produced Biodiesel
- Expelled Oil from Jatropha





↑ ↑

Swamp

OC-100





ISTC

ISTC

FLAMMABLE FLAMMABLE



ANTILLEAN MARINE

10800 W. 15th Ave.  
Miami, FL 33187  
Tel: 305.251.1111









DIESEL  
**KDE 1700 TA**  
GENERATOR

Electro Power

03.03.2009



# Challenges

- Shipping
- Travel and Language barriers
- Lack of electricity
- Limited access to water
- Weather - The Rainy Season
- Limited access to materials and supplies
- Currency issues
- Limited work force capabilities













Msye Gwo Mèdsiyen



ISTC Illinois Sustainable Technology Center

03.03.2009



03.03.2009







Msiye Gwo Madsiyen

ISTC Innovative Sustainable Technology Centre

ISTC Innovative Sustainable Technology Centre

03.03.2009



03.03.2009





















03.01.2009







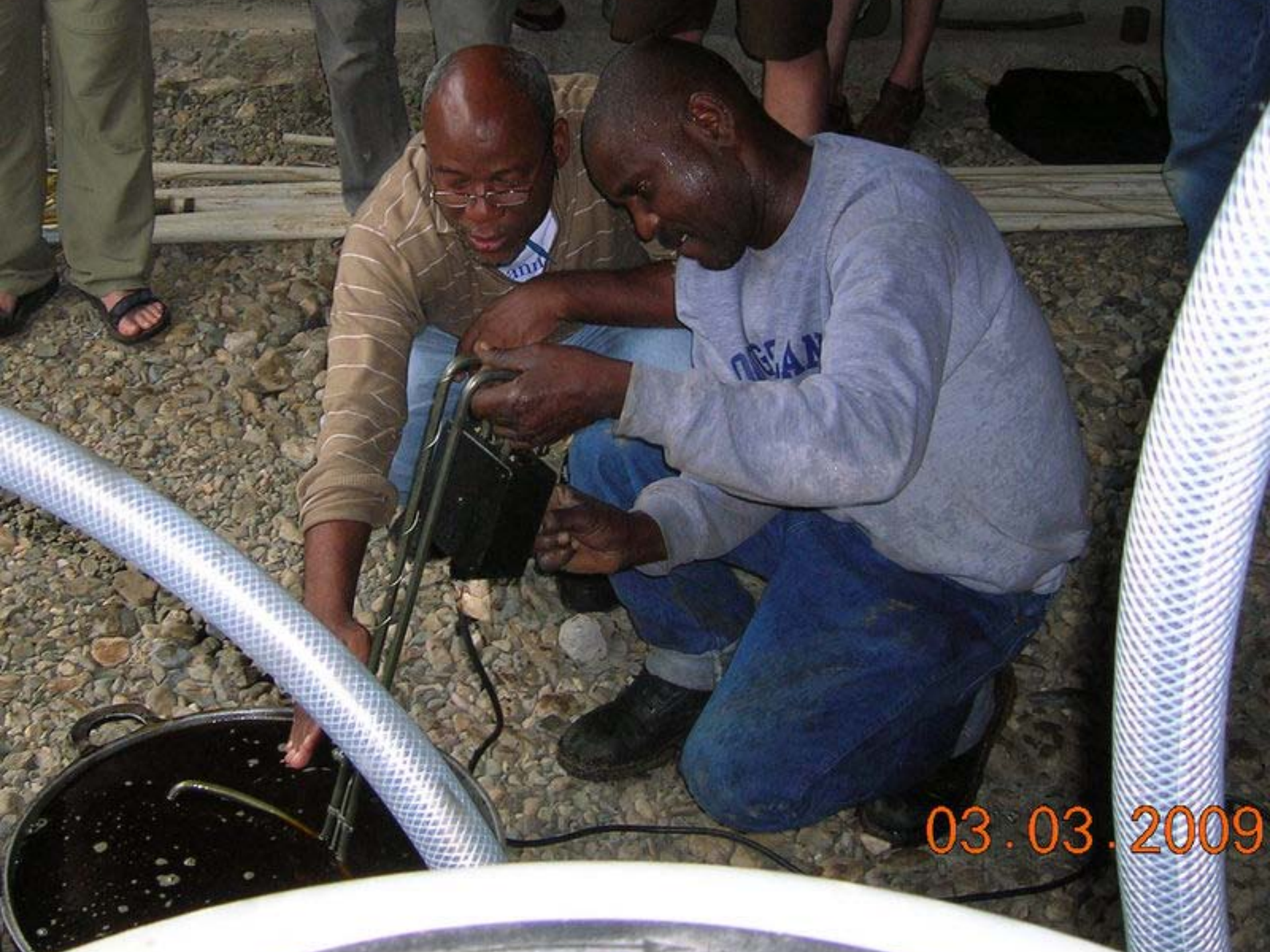
03.01.2009





03.01.2009





03.03.2009



# Experiences

*The Joe Version*









Services Financiers  
Konkoze

NCH OKAP

MoneyGram  
Transfert  
International  
d'Argent

AGENT AUTORISE  
C.A.M.

ETELEC  
QUINCAILLERIE

NOUVEAU  
CARTES  
Digital  
VOIX  
en plus de la

QUINCAILLERIE

ETELEC  
QUINCAILLERIE



























THE KEITH BROOKING  
CHILDREN'S FOUNDATION

presenting  
Run For Angels



2006











ILLINOIS  
MEDICINE

I





03.01.2009





EDSIYEN (Jatrofa)

Msye G

Digicel





MÈDSIYEN (Jatrofa)

Moya Gv





**If Haiti can Implement a  
Sustainable Biofuels Industry,  
Maybe there is Hope for the  
U.S.**

