



Japan Development Institute

Topic 1: Decentralized Biofuel Development Study in Lao PDR

Period: September 19 - 30, 2007

Objective:

1. To analyze the feasibility of applying a decentralized *Jatropha** *Biofuel Supply Chain Model* in Lao PDR and prepare a pilot supply chain development in appropriate location(s).
2. To assess the applicability of SVO** technologies in *Jatropha* production communities and develop economically viable application models for agricultural/generator engines or for some other slow engines.

Findings:

1. **Bokeo province:** Although the Thai *Jatropha* dealers, who promised to buy *Jatropha* seeds Laotian farmers produced, brought very high expectation in Bokeo, there have been such a few deals between Thai buyers and Lao farmers due to the political change in Thailand. If the unrealistic expectation can be removed and biofuel producers and farmers can work together, the *Jatropha* biofuel supply chain could be a practical development model in Bokeo. In the development model, the primary SVO users should be farmers using tractors at first, and then surplus SVO can be converted into BDF*** for any diesel engine in the future. SVO can be also used for SVO generators that enable rural communities to provide income opportunities and access to the electricity.
2. **Vientiane province:** Some commercial/governmental plantation efforts have already started, but none have produced either SVO or BDF, except in a laboratory scale. Unlike Bokeo province, *Jatropha* seeds' price is reasonable for biofuel production in Vientiane province. The SVO market would be available for paddy and other crop farmers using tractors. There are some serious BDF production plans in Vientiane and surrounding provinces, therefore, the surplus SVO can be converted into BDF relatively faster in the future.
3. **Savannakhet province:** Some private companies have been planning a large scale *Jatropha* plantation in Savannakhet area, however, there has not been a commercial facility until now. The *Jatropha* seeds' price is reasonable, however, there are no/few seed trading activities between buyers and farmers right now. The SVO market would be available for paddy and other crop farmers using tractors. The surplus SVO is likely to be converted into BDF and dealt into the neighboring countries through newly connected GSM East-West corridor.

Jatropha*: *Jatropha curcus*, **SVO: straight vegetable oil, *BDF: Bio Diesel Fuel

Study Members:

1. **Japan Development Institute (JDI):** Supervises and coordinates over all projects, and provides biofuel policy advices.
2. **Japan Bio-Energy Development Corporation (JBEDC):** Provides support for *Jatropha*

JDI/JBEDC

3-7-2 Itsuro Bld. 5F, Kandanshiki-cho, Chiyoda
Tokyo, Japan 101-0054
TEL: +81-35280-7707 / FAX: +81-35280-7708

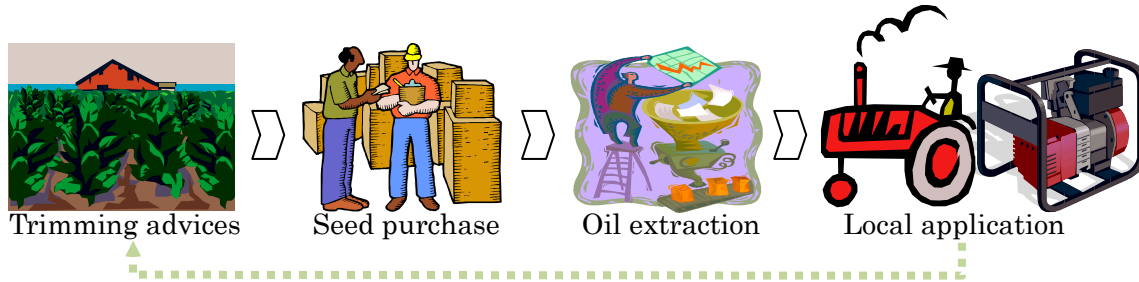
Laos Bio-Energy Corporation

Asean Rd. Ban Nakham, Shikhottabong Dist.
Vientiane, Lao P.D.R.
TEL: +856-21-263614 / FAX: +856-21-252635

cultivation and technical assistance for SVO & BDF application.

3. **Laos Bio-Energy Corporation (LBEC):** Provides all field services including Jatropha cultivation support and SVO technical assistance.

Concept of the Decentralized Jatropha Supply Chain:



Photos from Field Research:



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Jatropha used as fences (Bokeo)



Rural village with PV lighting



Jatropha plantation (Vientiane)



Jatropha Nursery (Savannakhet)



Jatropha trees used for fences (Vientiane)



Jatropha seeds (Savannakhet)

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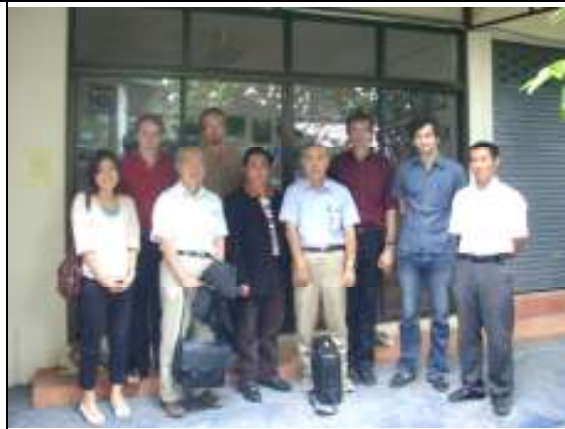
MTG with a Government Official (Bokeo)



MTG at the Ministry of Agriculture



MTG at the Ministry of Energy and Mines



Sunlabob and LIRE



Counter-Partners (Savannakhet)



Lao -Thai Bridge with the Governor
(Savannakhet)

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