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Investment in jatropha remains

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The Biofuels Act of 2006, which aims to lessen dependence on imported oil, fuelled interests in sugarcane, coconut oil and jatropha curcas as viable alternative energy sources.

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These three natural commodities are the star picks for the government's call to use sugarcane for bioethanol and coconut and jatropha for biodiesel.

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However, sugarcane and coconut oil, which are established agro-industrially, the plant has to be built from the ground up.

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Known for its hardiness, jatropha can be planted in hostile terrain and the most resistant to drought and can easily be planted or propagated through seeds or cuttings.

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Jatropha sheds off leaves during the dry season and rejuvenates during the rainy season. It starts producing seeds within 14 months, but reaches its maximum productivity level after four to five years.

Add to this, the plant remains useful for the next 25 to 35 years.

Research shows that when jatropha seeds are crushed, the resulting jatropha oil can be processed to produce a high-quality biodiesel that can be used in a standard diesel car, while the residue can also be processed into biomass to power electricity plants.

"Although jatropha oil as fuel has not yet reached optimal quality, it already fulfills the EU norm for biodiesel quality," stated researchers at Daimler Chrysler Research, which explored the use of jatropha oil for automotive use.

Jatropha's seeds are said to have roughly 40% oil content depending on the quality of the soil where it is planted.

Its seeds yield an annual equivalent of 0.75 tons to two tons of biodiesel per hectare.

The Asian Institute of Petroleum Studies, Inc. also said that jatropha oil has strong potential for use as industrial fuel, both for bunker and coal-fired power generators.

The Department of Energy (DoE) said that a total of 360 hectares of land are already planted with jatropha in the country. These are found in the following areas: 200 hectares in General Santos, 27 hectares in Camarines Sur, 120 hectares in Fort Magsaysay, Nueva Ecija, five hectares in Dacong Cogon, and in Negros Occidental, aside from locally grown jatropha in Quezon Province.

Based on a March 2006 study commissioned by the Department of Science and Technology (DoST), there are potentially two million hectares of land in the country that could be used for jatropha plantation.

"If farmers will be encouraged to plant even in field boundaries or hedges and to practice intercropping, a total of five million hectares can be utilized for the jatropha plant.

"These five million hectares can yield up to 25 million metric tons of biodiesel feedstock, enough to sustain the expected local demand for jatropha biodiesel which is pegged at 78 million liters annually," said DoST.

By 2009, the Biofuels Act will require diesel fuels to have a 2% blend of biodiesel. The local demand is expected to increase to 167 million liters by that time.

Given the country's strong potential for jatropha production President Gloria Macapagal-Arroyo endorsed the planting of this plant in idle lands. She said that this project could not only reduce dependence on imported oil but has the potential to broaden farmers' sources of income.

Mrs. Arroyo said, planting of jatropha plants and extracting oil from the seeds of these plants could give a farmer P200,000 in annual income for every hectare of land planted to jatropha.

Meanwhile, the Philippine Forest Corp. (PhilForest) said that a 10-year project has a rate of return of 31% with a payback period towards the fourth year.

"The establishment of a one-hectare plantation, with seed as planting source, would cost a total of P21,759. This is broken down into P14,615 as the set-up cost and P7,144 as the labor cost.

"The cost of the crude oil extraction machine ranges from a low of P700 to a high P10 million, with differing capacities and efficiencies.

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"These machines can process from 100 kg. of seeds per hour to as high as 10 tons a day. This is equivalent to 34.5 liters to 3,446.3 liters of crude oil. Thus, the range of land coverage of these machines also ranges from as low as 40 hectares to as high as 1000 hectares," Philforest explained in its Web site.

The National Government, likewise, eyes jatropha as a remedy to resolve the country's reforestation problem.

"Jatropha can be used to reforest denuded areas. This will not only be about biodiesel production but also about livelihood, employment and reforestation programs all rolled into one," Senator Juan Miguel F. Zubiri earlier said.

However, critics of the Jatropha project contend that while the program only targets unproductive and idle lands, there is no guarantee that lands covered by the Comprehensive Agrarian Reform Program (CARP), or CARP beneficiaries would be used.

Several oil industry players, likewise, expressed reservations over the local market potentials of jatropha.

Fernando L. Martinez, chairman and chief executive officer of Eastern Petroleum Corp. and founding chairman of the Independent Petroleum Companies Association, earlier said that the DoE has not conducted adequate testing of jatropha-based biodiesel on locally available vehicles.

"Show me the process to the point that jatropha diesel can make a car running. Diesel vehicles designed in the country could not run on pure biodiesel, unlike in Europe," Mr. Martinez commented referring to the Daimler Chrysler Research.

Meanwhile, Reynaldo H. Legaste, provincial agricultural officer of South Cotabato said that it is best to establish the viability of the "claimed crop" first before encouraging farmers to diversify from their traditional crops.

"This means at least 150% return-on-investment (ROI) is required," Mr. Legaste earlier said.

Recently, Korean firm KIBIO 2007 Co. Ltd. has started the development of a \$5-million jatropha production and processing facility in the town of San Roque, Northern Samar.

Other corporations that are into the jatropha program in the country are D1-BP Fuel Crops Phils., Inc., and Green Fuel Corp.

The DoE said that continued research and development efforts are focused on testing the oil production capacities of local jatropha varieties, to determine which of them will produce the most oil for biodiesel.

Two local varieties of jatropha are now being studied for local propagation, namely tuba-tuba (jatropha curcas) and tapul.

Website: http://codex.bworldonline.com/php/new_webget.php?htm=08/08030540.htm&uid=afrimdvo

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