Would a jatropha crisis hit the world just as the current global economic crisis hit most nations unprepared?

Some analysts are arguing that, the level of the impact of the crisis is so because early warning signals were ignored, and lessons in economic failures of the past were never learned. Is the investor community learning all they could about the jatropha or biofuel business?

Ghana has become the jatropha centre in Africa south of the Sahara.There is literally a scramble for land in Ghana by multinationals and local companies in partnership with foreigners vigorously pursuing plans in cultivation of the jatropha plant for its prized oil seed to produce biodiesel for export.

Over twenty companies from various countries are in Ghana acquiring land to cultivate non-food crops and other crops for the production of ethanol and biodiesel, mostly for export.

These companies come from Brazil, Italy, Norway, Israel, China, Germany, The Netherlands, Belgium and India. They are cultivating fields in the Volta, Brong Ahafo, Ashanti, Eastern and the Northern regions of Ghana. The main non-food crop that these companies are planting is jatropha. One of the companies, Agroils of Italy is cultivating 10,000 hectares of jatropha in Yeji in the Brong Ahafo region.

Israeli company, Galten has acquired 100,000 hectares of land and an Indian company is requesting for 50,000 hectares of land from the Ghana Investment Promotion Council (GIPC), to cultivate jatropha.

A company from the Netherlands has started a pilot project on 10 acres in the northern region and the Chinese are also doing a pilot project. Gold Star Farms Ltd., is cultivating five million acres of land to plant jatropha for the production of biofuels for export.

A Norwegian company ScanFuel Ltd., has started operations outside Kumasi in the Ashanti region to produce biofuel. The company aims to start initial cultivation of jatropha seeds on 10,000 hectares of land.

The company which has a Ghanaian subsidiary, ScanFuel Ghana Ltd., says its Ghanaian unit has contracted about 400,000 hectares of land, with up to 60 percent reserved for biofuel production, "not less" than 30 percent for food production and the remainder for biodiversity buffer zones.

Another Norwegian company, Biofuels Africa Ltd., the only one among the about 20 biofuels companies cultivating jatropha to receive an Environmental

Impact Assessment (EIA) permit from Ghana's Environmental Protection Agency (EPA) which covers 23,762.45 hectares of its project area is operating in two locations.

Even though, Ghana has no policy, regulations nor structures in place for the biofuels industry, cultivating any company cultivating anything more than 10 hectares is required to conduct an EIA for approval by the EPA.

All together, these companies are cultivating the jatropha plant on millions of hectares of land with the hope of producing biofuels for export.

The cost involved in cultivating 10,000 hectares of jatropha, one investor has said is approximately US$14 million - and that is when it is not irrigated. And this raises some questions about the commitment of some of these companies to follow through with their projects successfully.

The cost of an extraction plant if bought from India costs about US$3 million but could cost about US$9 million when bought from the West and an additional US$2 million would be required for storage and logistics.

As these companies pursue their dreams, it would be worthwhile to consider India's failure in attempting to produce biodiesel from jatropha and learn some lessons.

The jatropha tree takes four to five years to mature fully. According to Satish Lele of the Indian Biofuels Awareness Centre, during the cultivation period if the plantation is rain fed, these plants can yield 0.35 to 0.375 gallon of oil per tree or 375 gallons per hectare or 150 gallons per acre. If it is irrigated (3 to 5 liters per plant every 15 days) it can be double this amount.

Planting jatropha alone is not economically attractive, he argues further, as there is little income from it for the first two to three years. The jatropha plant is initially small in height, and he, therefore, suggests that, castor should be intercropped with it in fallow land, to get income

The Indian experience

The National, a newspaper published in Abu Dhabi in its May 11, 2009 issue, published an article titled; 'Jatropha seeds yield little hope for India's oil dream.'

The article referred to a project that was embarked upon by Professor R. R. Shah in 2005, when he sent a team to Navsari Agricultural University's most parched and desolate strip of land, a farm in the Vyasa district of India's northern state of Gujarat.

The team was instructed to set up a model farm for jatropha, the hardy shrub with oil-rich seeds that were then emerging as one of the most promising alternatives to crude oil. At the time, jatropha's promise seemed boundless. A. P. J. Abdul Kalam, the president of the University, even used his presidential address that year to extol the virtues of jatropha.

"Jatropha can survive in the most arid wastelands", the story went. And so vast barren swathes of India could be put to productive use. It is inedible so it would not cause a backlash by competing with food crops, it said.

The government, according to the publication announced a scheme to plant 13 million hectares, enough to generate nearly 500,000 barrels of jatropha oil per day.

But as Prof Shah's project in Vyasa nears its end this month, the dean of agribusiness at Navsari is sceptical. "There is no yield," he says. "The literature said that with dry land, after four years' growth, you can get a yield of 1kg per plant. For us, it is hardly 200g per plant."

The consensus of the team of experts after evaluating India's jatropa projects from 22 agribusiness colleges across the country was that, indeed, jatropha would grow on wasteland, but would give no appreciable yield.

"This is not a wasteland crop. It needs fertiliser, water and good management. Yes, it grows on wasteland, but it doesn't give you any yield," the publication quotes Dr Suman Jha a researcher on Prof. Shah's team as saying.

If this observation is anything to go by, then the persistent argument that jatropha could grow on unproductive agriculture land should be looked at again. This argument also challenges the assertion that investors are not a threat to smallholder farmers,whose productive agriculture land stands to be annexed by powerful multinationals for the cultivation of biofuel crops.

Non of the projects cited in The National story, including D1 Oils', a London-listed biofuels company, which has planted about 257,000 hectares of jatropha, mainly in India was successful. The company moved far too early.

The report indicated that D1 is also having some nasty surprises on yield. It said in 2006 that it aimed to produce 2.7 tonnes of oil per hectare from areas planted with its new E1 variety, and 1.7 tonnes of oil from normal seed. That is equivalent to about 8 tonnes and 5 tonnes of seed per hectare respectively, or 3.5kg and 2kg a plant.

According to the report, Pradip Bhar, who runs the company's D1 Williamson Magor Bio Fuel joint venture in India's north east, admits he has yet to achieve a fraction of that.

"Hitting 500g is the challenge," he says. "Mortality is quite high. But if we can reach 500g in two years' time, after that the bush will continue to grow. Our expectation is that after the fourth year we will hit 1kg. The 1.5kg mark we haven't touched as yet."

Those are the results from the fertile state of Assam, According to the report. The yields in other, dryer states such as Jharkand and Orissa, he says, are much worse.

Mr Bhar intends to hold the area under cultivation steady at about 132,000 hectares this year. As his plantations account for more than half of D1 Oils' Jatropha crop, the company's goal of planting 1 million hectares by 2011 looks like a tough one. He is concentrating instead on ensuring his small contract farmers continue tending it for the two or three years needed before it becomes profitable.

This challenge is one of the reasons why Prof Shah doubts the 500,000 hectares of jatropha the Indian government estimates has been planted so far. Only last month, he unsettled an annual meeting of the universities researching jatropha and India's National Oilseeds and Vegetable Oil Development Board by reporting that only 5,000 hectares was actually under lantation in Gujarat, half the official estimate, the report added.

The Indian experience can provide sufficient evidence for a careful, and thorough, cost-benefit analysis of Ghana's jatropha dream, before the bubble most probably bursts.

From May 27 to 28, an international conference on jatropha in Ghana would be considering the benefits of the crop to the global economy. Hopefully, the conference would not hype the benefits of jatropha and neglect the possible pitfalls. An objective consideration of all the possibilities, including that of possible failure, as the Indian experience has shown so as to minimize any collateral damage in the long term is necessary for the move forward.

The companies investing in jatropha and other non-food crops for the production of biofuels including the ones from India, have lots of lessons to learn from India's example, so as not to repeat the mistake.