The period from 2005 until now has experienced unprecedented growth in global biodiesel demand, production, and production capacity. During this time, the increasing demand for traditional feedstocks (rapeseed and soy), and the rise in imports of palm oil from southeast Asia have contributed to a host of new challenges for biodiesel producers. These include sustained high prices for feedstocks; rising demands for alternative, lower cost feedstocks and increased scrutiny from political and consumer groups.

Despite these challenges, the growth of the biodiesel industry in Europe, the US, Asia and Latin America have continued on a rapid pace, and has spawned a variety of new opportunities for developers to meet growing demands for lower cost, non-food, non-rainforest-based feed stocks for biodiesel. These demands are producing non-edible seeds that contain 30-40% oil ideal for biodiesel production. One hectare of jatropha can produce between 1.5 – 2.5 tonnes of seed oil.

Since jatropha plants are non-edible and grown in marginal, non-agricultural areas, the growers can produce volumes of plants that are not affected by rising food prices, require little water for cultivation, and do not compete with existing agricultural resources. Jatropha is now emerging as one of the prime contenders for biodiesel feedstock supply in the years ahead.

Biodiesel 2020: A Global Market Survey observes three key trends in the jatropha feedstock markets. The first is the expansion of commercial-scale jatropha production from India into Africa, southeast Asia and Latin America. This expansion includes pilot programmes and larger-scale ventures now underway in China, central Asia, south/central America, and southern parts of the US.

The second trend observed is the participation by governments and energy majors in the cultivation and production of jatropha. The governments of India, Indonesia, Mozambique, Malawi and Brazil have announced major initiatives around large scale jatropha production. An increasing number of private companies such as UK-based BP are establishing partnerships to invest significant capital in medium and large-scale commercial plantations capable of delivering high oil seed yields for biodiesel markets.

The third key trend identified is that jatropha-based projects are being developed as dual purpose entities – one for government programmes, and another for addressing rising global biofuels demands. In the case of government projects, jatropha offers nations the prospect of decreasing petroleum import dependency, while establishing a means for sustainable economic development in rural areas.

In many cases, government projects are supported by larger industry interests for the export of the crop, as a means of economic development within countries, and to alleviate concerns among larger biodiesel consumers worldwide related to elevated feedstock and food prices. Jatropha production is quickly expanding its scope from its nascent stage of community development projects to a larger scope that includes multiple, large-scale commercial projects.

Biodiesel 2020 finds clear signs of progress and intentions to expand hectare production on a global scale. The governments in south Asia and Africa have identified between 20-50 million hectares of suitable land for jatropha cultivation. Since 2005 India has announced plans to develop large scale plantations totalling over 350,000 hectares. During that same time period nearly 300,000 hectares of planned
production projects were established in more than four African nations. More recently, more than 200,000 hectares of projects were announced in southeast Asia – primarily in Indonesia, Malaysia and the Philippines. India has leveraged its early mover advantage by establishing public-private partnerships and is currently developing large scale plantations with financial commitments to develop over 350,000 hectares. High estimate plans include the cultivation of nearly 2,000,000 hectares by 2012. And India’s vision is much larger – various reports have identified over 60 million hectares classified as agricultural wastelands that are suitable for jatropha cultivation. The entry of energy industry participants and investment in India is helping to provide the investment and technology to enable larger-scale production. Between 2004-2007 UK-based D1 Oils announced major joint ventures with Mohan Bio Oils, and Williamson Magor, which is one of India’s largest tea plantation companies. In July 2007 D1 Oils announced a joint venture with BP and will now begin heavy investments in India-based jatropha production. These partnerships alone could lead to the cultivation of nearly 1,000,000 hectares of jatropha in India by 2012. India has received additional investments from Australia-based Mission Biofuels to serve and its partnership with Agro Diesel to manage a 100,000 hectare plantation. Some of this biofuel will likely be used by Mission to serve its native countries and growing biodiesel programmes from Europe, the US and Asia. This article was written by William Thurmond, Emerging Markets Online. The information provided is a series of excerpts from Biodiesel 2020: A Global Market Survey.

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Apart from the Indian, African, and southeast Asian jatropha projects, the trend in pilot and small scale projects is being initiated in new countries, including China where 650,000 hectares of plantations have been announced for the Yunnan Province. In the US, Florida-based Xenera will soon begin a pilot project on 5,000 hectares of its patented high octane jatropha line. In Mexico, California-based SE Technology is currently testing a small jatropha pilot project that includes a low-cost mechanical harvest technology intended for cultivation in Mexico and southwest America. Brazil has announced plans for multiple jatropha projects in the excess of 100,000 hectares and remains closely involved in supporting projects in Africa. Jatropha production for biodiesel is likely to enter the mainstream at the beginning of 2008, and will grow in greater volumes from 2010 and beyond. Initial production volumes will start with India, then African and southeast Asian nations, and eventually arrive from Latin American exports. As this occurs, investment and interest will continue from major biofuels investors such as BP, D1 Oils, Duelco, and Mission biofuels, as a long-term commitment to producing lower cost, non-food based crops.

Jatropha projects will serve three key roles – first, to continue as energy crops for local and community projects; second, to contribute a larger role in the national petrol independence programmes of dedicated countries; and finally to supply larger, commercial-scale projects in an effort to supplement the expansion of biodiesel programmes from native countries and growing global biodiesel demands from Europe, the US and Asia.

...plans for expansion in other African countries as well, including Malawi, Burkina Faso, and Madagascar. Given the increasing support from private sector stakeholders, lower costs of production, and the ideal growing climate, Biodiesel 2020 forecasts long-term, sustained investments and growth in Africa-based jatropha production.

Southeast Asian nations are now working on large-scale jatropha plantations, including Indonesia, Malaysia and the Philippines. Indonesia has identified nearly 23 million hectares of jatropha land potential. Private companies are now investing, including Swedish BioEnergy’s $143 million investment in a 100,000 hectare plantation in Indonesia. BP also plans to develop a 100,000 hectare area in Indonesia. Mission Biofuels has also made a significant investment in Malaysia – both in processing plants and jatropha crops. D1 Oils has an operations centre based in the Philippines and state-owned Philippine National Oil Company has announced plans to construct two biofuel processing facilities with UK-based NRG Chemical. These plans could include cultivation of over 1,000,000 hectares of jatropha.