

Simple *Jatropha* fuels Belgian scholar's imagination & studies

'A Host Of Options With Precautions'

By Rajiv Mani/TNN

Allahabad: While the general public is realising the importance of '*Jatropha*' as the alternative fuel, academicians and researchers are brain storming on the cultivation of the crop and its economic implications. Among these researchers is a 22-year-old engineer from Belgium who has travelled across India and has discovered facts about *Jatropha*.

A reasearch scholar from the 'division of Forest, nature and landscape' Wouter Achten of K U Leuven, department, Land Management and Economy, Heverlee, Belgium, is visiting Allahabad University regarding his study on *Jatropha*. Achten's project is a study on the environmental and socio-economic impacts of the manufacture of bio-diesel from *Jatropha*. This research is funded by the Flemish Inter-University Council-University Development Co-operation, VLIR-UOS and is a collaboration between K U Leuven, Belgium, and ICRAF Nairobi, Kenya, and Dr V P Singh from Delhi.

Wouter has visited Bawal in Haryana,

Udaipur in Rajasthan, Ladwa in Haryana, Allahabad, Raipur, Hyderabad and, Coimbatore. Furthermore, he has also visited Thailand and collected vital information. Wouter says that *Jatropha* cultivation for bio-diesel purposes is generally quite young in India where it is cultivated by three systems — as a living fence which also controls erosion, small-scale farmers initiatives with low-management input and commercial scale cultivation. Further, more there are some agro forestry and intercropping options too, he adds. He says that the Indian government policy only allows use of inedible oils for bio-diesel production and only allows wastelands to be allocated for *Jatropha* cultivation.

He says that civilisation has to take precautions in selecting the land for *Jatropha* cultivation because if natural forest is destroyed to provide land for *Jatropha* it would have severe impacts on the greenhouse gas balance and land use. Thus, living fence systems are believed to have an overall positive impact on land use, while mono-crop plantation will

probably have a negative impact on local biodiversity and vegetation structure. Hence, agro-forestry and intercropping systems are a a midway option, he suggests.

He further says that the efficient use of by-products of different production steps is very important. The fruit husks can be gasified to produce 'producer gas' or can be used as direct combustible for heat production or can be digested for biogas production. Likewise, the seedcake, which is left over after pressing the oil out of the seeds, can be used to substitute artificial fertiliser and can also be digested for biogas production. The glycerin left over after converting the *Jatropha* oil to bio-diesel can be used for burning as also for soap production. If all the by-products are used properly, the total life cycle impact of the bio-diesel from *Jatropha* will be reduced, says Wouter. However, he cautions that shipping bio-diesel to remote, foreign, Western markets will not be beneficial for the life-cycle, environmental impact of bio-diesel for *Jatropha*.