

## **IIT student works on India's first bio-diesel tractor**

*The Indian EXPRESS, Friday, June 3, 2005*

**PRADEETYA** Sahoo has no time to take a breather. The PhD scholar at IIT Delhi is working at breakneck speed to spruce up what's being touted as the first bio-diesel tractor in the country.

Last week he was at Panchkula, where the tractor was launched by Escorts at a one-day workshop on jatropha, a source plant for bio-diesel. But the experiment doesn't stop here for Sahoo and his guide, Dr LM Das of the Centre for Energy Studies at the IIT. "I'm trying three combinations-one with 20 per cent bio-diesel, another with 50 per cent of both bio-diesel and diesel and the third with 100 per cent bio-diesel," said Sahoo. He can't reveal the exact engine specifications of the tractor because he is yet to submit his thesis.

**PhD scholar and his guide look at on three combinations, using vegetable oil seeds that are biodegradable, non-toxic**

The experiment is aimed at minimizing emission levels during combustion of petro-diesel. "As a

renewable source of energy, bio-diesel has a favourable impact on the environment and can replace diesel completely for use in engines. Extensive utilization of bio-diesel fuels can reduce the dependence on petroleum, which is currently the main source of energy," said Das.

And using vegetable oil seeds-like jatropha, karanja, polanga-which can be produced domestically, adds to the punch because these substances are biodegradable and non-toxic.

It's good news for the farmers too, as it's not too hard on the pocket. This is because, due to its low sulphur content and enhanced lubricity, no major modification is required in the engine of the tractor.

But Sahoo wants to wait till the tractor becomes fully operational in the industry. "We may come up with better fuel efficiency with less and less engine modification. Right now we are in the very same process in the R & D department of Escorts. Hopefully we will deliver," said Sahoo.

## **Cola ground water can fix ground rules**

*THE PIONEER, Tuesday June 7, 2005*

**THE FIGHT** over use of ground water between perumatty Panchayat in Kerala and a bottling company where Coca Cola is produced could have far-reaching nationwide implications over ownership of water resources.

Hindustan Coca Cola Company, the bottling plant, was set up at Moolathara, Plachimada, after obtaining

necessary permissions. However, Perumatty Panchayat refused to allow the plant to operate, forcing it to shut down, claiming that it was drawing huge amounts of ground water, whose ownership it said was vested in the people.

According to the bottling company, it requires 3.75 litres of water

to produce one litre of beverage. If the plant operates at maximum capacity, it will annually require 232,010 cubic metre (m<sup>3</sup>) of water to produce 61, 869 m<sup>3</sup> beverage.

The dispute went to the Kerala High Court where a single judge bench ruled that underground water belongs to the public and the state and its instrumentalities should act as trustees of this great wealth.

The court added that the state has a duty to protect ground water against excessive exploitation.

Hindustan Coca Cola Company and Perumatty Panchayat challenged the order of the single judge bench that had directed the company to stop excessive extraction of ground water and the Panchayat to renew the licence. Subsequently, the division bench of the Kerala High Court has directed the local body to renew the licence of the Hindustan Coca Cola Company.

The division bench ruled that, "A person has right to draw water, in reasonable limit, without waiting for permission from the Panchayat and the government. This alone could be the rule, and the restriction, an exception."

The court said the Panchayat acted "arbitrarily" and "was not justified" in revoking the plant's local license to operate.

The court allowed the plant to reopen after an expert committee concluded that drawing 500,000 litres of ground water (five per cent of the available water in the area) a day would not cause drought as claimed by the Panchayat.

Perumatty Panchayat on Monday decided to allow Hindustan Coca Cola Company to resume production for a period of three months.

According to the company the plant was drawing 460,000 litres of

water a day at the time of its closure and water supplies continued to decline even after the facility was shut down a year ago. The company attributes falling water tables to drought and truant monsoons. It also claims to have installed the best rainwater harvesting system in the state.

Within two years of its inauguration, and especially since April 2002, protests had become a regular feature in front of the Coca Cola bottling unit, as people living in several neighbouring villages, including 10 colonies of Dalits and tribal people, began experiencing a severe drinking water shortage.

Residents claim that indiscriminate extraction of ground water has dried up many wells and polluted several others.

Perumatty Panchayat now plans to take the legal battle to the Supreme Court where proceedings will be closely followed by bottling plants across the country. The ramifications of the Supreme Court's judgement will be phenomenal.

There are several water-based industries in the rural area. Cola manufacturers, mineral water bottlers and distilleries that depend on ground water could be affected by the judgement.

A judgement against the Panchayat would mean that the people stand to lose control over common natural resources like ground water. Most legal experts favour a wider interpretation of Article 21 guaranteeing clean air and unpolluted water to be the rule rather than exception.

"Local bodies should have more power on the scarce natural resources for the larger interest of the society. The right to clean air and unpolluted water

forms part of the right to life under Article 21 of the Constitution of India,” advocate Sreedharan Pillai said. At present, there are no laws governing ground water usage. New laws and regulations have to be made to keep pace with changing realities, feel experts.

On the other hand, a judgement favouring Perumatty Panchayat will be a setback for several industries in rural areas. It could be interpreted by

Panchayats as arbitrary power to cancel licences of companies when any conflicts arise over ground water usage.

“The government should have thought about such things long back and formulated regulations to this effect,” advocate Philip T Vargheese said. An apex body like the Pollution Control Board that can monitor and decide in such situations has to be set up for governing ground water usage, he added.

## **Residues of ‘cocktail of pesticides’ found in Punjab villagers**

**THE HINDU, Wednesday, June 8, 2005**

Terming it as a “wake-up call”, a study by Centre for Science and Environment, the Delhi-based premier research and advocacy organisation, has found “very high levels” of pesticides residues in human blood samples taken from Punjab villages. “The study tested 20 randomly selected blood samples from four villages—Mahi Nangal, Jajjal and Balloh in Bathinda district and Dher in Ropar district. Each sample, which was tested using an internationally accepted methodology, was found to contain 6-13 different pesticides,” CSE director Sunita Narain told a press conference here today.

The recent study conducted by the Centre’s Pollution Monitoring Laboratory claims to have found levels of certain persistent older generation pesticides called organochlorines (OCs). “The levels of OCs in the samples were found astounding: 15-605 times higher than those found in blood samples of people in the United States, tested by the US Centre for Disease Control Prevention in its report of 2003. The levels of lindane, a restricted pesticide in

India, were shockingly high at 605 times than those found in US population. The levels of DDT were 188 times higher,” said the Director of the CSE, which shot into prominence after it made public its study on bottled water and pesticide presence in the soft drinks couple of years back.

Narain said the study detected hexachlorocyclohexane (HCH) in all the blood samples and DDT in 95 per cent of the samples taken.

Asked why CSE had chosen Punjab for the study, Narain said that anecdotal reports of high incidence of cancer had been coming from certain areas of the state for the past few years. Narain said that CSE does not claim that the “cocktail of pesticides” or the contamination found in the blood samples was leading to a particular disease among the people of the state, but stressed that “we have found that they are much higher than the safe limits”.

“The study is one of the first in India to test for organophosphorous pesticides (OPs), far more toxic than

OCs, in human blood. These were found in equally high levels. Industry claims that these pesticides are not persistent and will degrade quickly. But the supposedly low-persistent OP pesticide monocrotophos was detected in 75 per cent of the blood samples, while chlorpyrifos was present in 85 per cent of the samples,” she said.

She claimed that the average level of monocrotophos in the Punjab blood samples (0.095 ppm) were found to be four times higher than the short-term exposure limits for humans set by the WHO and Food and Agricultural Organisation.

“The presence of OPs in blood is especially worrying. OPs touted by industry as non-persistent and degradable, are much more toxic than the previously used OC pesticides like DDT. The CSE analysis points out that while blood samples seem to be already contaminated with high levels of older OC pesticides, newer OP pesticides are now adding to the body’s burden,” she said.

She said that when it comes to pesticide usage, Punjab’s case was not unique, “but what we have detected in parts of the State should act as a wake-up call for other state in the country”.

## **Pesticide-in-blood report challenged**

**Hindustan Times, Thursday, June 9, 2005**

**A DAY** after the Centre for Science and Environment (CSE) released a report stating that the pesticide level in the blood of farmers in Punjab was high, the Agrochemical Promotion Group (APG)-an industrial body comprising over 200 agrochemical companies in India-criticised the report, calling it unscientific and statistically inconsistent.

The APG alleged that the report was based on only 20 blood samples, an inadequate number for a survey.

Slamming the report as unscientific, Salil Singhal, APG member, said that while the CSE compared its findings to a 2003 study by the United States Centre for Disease Control, the corresponding sample size was much less than that used by the US study-which was 9,282.

The APG argued that CSE failed to acknowledge the part where the US report stated that the measurement of an environmental chemical in a person’s

blood or urine does not by itself mean that the chemical causes diseases.

It reiterated that DDT—which was banned in India in 1989—was only being used in malaria vector control by the health department.

“But DDT does not disappear from the body easily. It is still found in human blood.”

To drive home its point, the Agrochemical Promotion Group cited a US study wherein it was revealed that 99 per cent of Americans carried varying levels of DDT in their blood, despite DDT being banned in America 30 years ago.

The APG maintained that the World Health Organisation report had stated that the safety record of DDT had been exceptionally good. It alleged that the CSE report failed to answer queries on the age group under study, manner and period of exposure to the chemical, method of study, etc.

Stating that the CSE was prejudiced in its approach, the APG questions why the centre didn't survey

other chemicals like mosquito repellants, paints and soaps.

## **Indo-French team suggests ways for groundwater Flower, vegetable plants in 5 per cent of plots to be helpful THE HINDU, Friday, June 10, 2005**

Scientific data available with an Indo-French team has pointed to sustainable groundwater resource management if the farmers grow vegetables or flowers in 5 per cent of the area in every one-acre plot once in two years.

The team comprising scientists of the National Geophysical research Institute (NGRI) here, Indo-French Centre for Groundwater research (BRGM, France) and the Groundwater Department organised a meeting of farmers at Maheswaram on the city outskirts on Thursday where its findings were discussed.

The team is involved in a collaborative project to carry out groundwater management studies in the Maheswaram watershed covering five adjacent villages.

Making a presentation on behalf of the team, the NGRI Deputy Director, K. Subrahmanayam, said the farmers could continue to cultivate paddy over 95 per cent of the plot but leave the remaining 5 per cent for vegetable or flowers every alternate year.

This would sustain groundwater requirement for agriculture for the next few years. Dr. Subrahmanyam said there was little improvement in the groundwater position through artificial recharge methods.

The structures constructed under the Neeru-Meeru programme of the previous TDP Government proved a

waste of expenditure, as there was not enough runoff water to percolate. There was no maintenance of the structures either.

- **Studies carried out in the Maheswaram watershed covering five adjacent villages**
- **Artificial recharge methods of little help due lack of enough runoff water**
- **Borewell owners to be asked to promote new technique**

Perhaps, a combination of artificial recharge methods and changing crop pattern over a limited area of 5 per cent of the plot would help, he added.

K. Raju, Principal Secretary, Panchayatraj and Rural Development, said the experiment of alternate cropping in Maheswaram had the potential of becoming a case study if it was successful.

He said the Rural Development Department would take the initiative to convene a meeting of owners of all the

700-odd bore-wells in Maheswaram to promote the technique.

The NGRI Director, V.P. Dimri, and BRGM representatives, Jean-Marie

Gandolfi and Benoit Dewandel, were present.

## **Panchayat nixes Coke plea for a two-year licence**

**THE PIONEER, Tuesday, June 14, 2005**

**THE PERUMATTY** Panchayat has rejected Hindustan Coca-Cola Beverages Ltd's application for a two-year production licence for its Plachimada unit. The Cola company, at present, does not have the panchayat's permission for the production of soft drink.

The company had filed for a fresh two-year licence following the rejecting of the three-month conditional licence given by the panchayat on the ground that it violated the High Court order.

"The panchayat council has decided against the application. It has the right to decide the duration of the licence," said A Krishnan, Perumatty Panchayat president on Monday.

Legal experts are of the view that the panchayat has gone by the High Court order to give permission to the company within a week of the verdict and, as it stands today, the company has lost the chance of commencing production.

With monsoon having arrived, the company could have approached the court after production to seek a further extension of the licence, said legal expert Philip T Varghese.

Experts do not discount the possibility of a bigger game plan by the company to discredit the panchayat council for not obeying the division bench order when the case comes up for hearing in the Supreme Court.

The Kerala High Court had directed the Perumatty Grama Panchayat to renew the licence of soft drink giant's beleaguered plant at Plachimada in Palakkad district within a week. The division bench issued the direction to the panchayat to renew the licence for the Hindustan Coca-Cola Beverages on a petition filed by the latter.

The bench comprising Justice M Ramachandran and Justice K P

**It comes close to an earlier three-month conditional licence that was also rejected by the panchayat**

Balachandran further said if a formal licence was not issued by the Panchayat within a week, it should be deemed that the company possessed such a licence and it would be within its right to carry on with the functioning of the factory with effect from June 10 for a period of two years.

The company insists that the court order is virtually a sanction for production for a period of two years. "This would have been the case if the panchayat had not given sanction within a week, but the right to determine the duration of a licence vests with us," Mr Krishnan said.

The village council had also insisted on 13 conditions while granting the three month licence, which the

company rejected saying that they were outside the powers entrusted to the panchayat under the Panchayati Raj legislation for governance.

The conditions insisted by the council include the need to convince the

authorities that the company complied with the court order of extracting only the quantity of water as ordered by the court. The company also had to ensure that the products did not contain any harmful residues.

## **No pesticides, higher crop yields**

**Villagers have demonstrated that pesticides are not only harmful but also unnecessary.**

**THE HINDU, Tuesday, June 14, 2005**

**IT WAS** in 1999 that a tiny village in Andhra Pradesh's Khammam district successfully began experimenting with non-pesticidal management practices. In the next few years it charted an easy escape route from the multiple rings of harmful pesticides. The contaminated environment began to change. Soil and plant health looked revitalized, and the pests began to disappear. Restoring the ecological balance brought back the natural pest control systems. The crop yields were still higher.

Punukula is not the only village to have escaped from the vicious cycle of poison. Thousands of villages in the country have clearly demonstrated that pesticides are not only harmful but also unnecessary.

### **Scientists proved wrong**

In Bangladesh, 2,000 poor rice farmers with average farm incomes of Rs 4,000 a year have proved mainline agricultural scientists completely wrong. Gary John, senior scientist at the International Rice Research Institute (IRRI), Manila, was completely stumped by the change they brought about in just two years. "To my surprise when people stopped spraying, yields didn't drop—

and this was across 600 fields in two different districts over four seasons. I'm convinced that the vast majority of insecticides that rice farmers use are a complete waste of time and money."

Bangladesh rice farmers conclusively demonstrated that insecticide can be eliminated and nitrogen fertilizer applications reduced without lowering yields. "We've reduced insecticide use among participating farmers by 99 per cent and by 90 per cent among non-participating farmers in the same villages," Dr. John added.

What is more, in less than a decade, most of Bangladesh's 11.8 million rice farmers will have eliminated the use of insecticides, the IRRI hopes.

The Indian Council for Agricultural Research (ICAR), however, continues to move on the beaten path of agricultural production by intensive chemical use. Farm scientists and the agricultural extension machinery in the States continue to promote chemical pesticides.

Some agricultural scientists have begun to realize that chemical pesticides are not necessary. The tragedy is that this recognition has come much late--only after poisoning the lands, contaminating the groundwater,

polluting the environment, putting millions to health risk and fatalities, and killing thousands of farmers and farm workers. The World Health Organisation (WHO) estimates that some 20,000 people die every year from pesticides poisoning. By that reckoning, pesticides have killed more than 600,000 people worldwide over the past 30 years.

In the Philippines Central Luzon province, the decline in insecticides use has been accompanied by an increase in productivity-from an average of 2.75 tonnes a hectare to 3.25 tonnes a hectare in 2002. It also resulted in savings on an average of up to 1,000 pesos a hectare for the farmers.

In Vietnam, almost two million rice growers in the Mekong Delta have been persuaded to cut back on using harmful and unnecessary farm chemicals.

### **Green Revolution's "mistakes"**

The former IRRI Director-General, Robert Cantrell, had this to say: "It shows that the mistakes of the Green Revolution-where too much emphasis was sometimes put on the use of chemicals for pest control-have clearly been recognized and corrected.

In fact, he had all the praise for recognizing the wisdom of the farming communities. "Because of their toxicity,

insecticides really should be used by farmers as a last resort, and we are very pleased to see that farmers have realized this for many years, especially here in the Philippines." he had remarked.

Traditional and simple technologies unfortunately do not find any mention in agriculture textbooks. With the advent of modern science, which began to view everything traditional as backward and sub-standard, the collective wisdom of generations of farmers was lost. The result being that while expensive and unwanted pesticides are being promoted and pushed by scientists and extension workers, farmers are looking for safe and ecological alternatives. Is it not a fact that the chemical industry, which gained commercially from the surge in wide spread use, has very cleverly used agricultural scientists as its promoters?

The chemical industry has meanwhile moved into life sciences. It now decries pesticides and sings the virtues of the new "promising technology"-genetic engineering. Pesticides are now being replaced with genetically modified crops, which perform the same functions. Agricultural scientists need to think whether they are once again being used as promoters of a technology, the negative impact of which have not been fully studied.

## **Panchayat blows whistle on Gurgaon land grab**

*The Indian EXPRESS, Thursday, June 16, 2005*

AN attempt to grab 19.5 acres of prime land on the Gurgaon-Sohna Road has been foiled with a village panchayat blowing the whistle on the scam.

The land has been restored to its rightful owners- the panchayat-but Gurgaon is still buzzing with allegations that its administrative machinery,

including senior officials, conspired with the land grabbers.

Located on the Gurgaon-Sohan Road, the Land is part of an area that is fast becoming the newest destination point for colonizers and builders. It also falls near some prime projects being constructed by leading builders.

It all began on September 19, 2004 when a group of seven persons- Satnam Singh, Sewa Singh, Charanjit Singh, Sarjit Singh, Ranbir Singh, Harinder Pal Singh, Gurminder Singh-approached the court of Gurgaon Sub-Divisional Magistrate and staked claim over 19.5 acres Badshahpur village.

“They claimed that they had been cultivating this land for the past 60 years although the village panchayat has records to show that this land has always been leased out to individuals for set periods following a bidding process,” says Ashok Yadav, one of the many Badshahpur villagers who helped blow the lid off the scam.

On February 7, 2005, the SDM’s court passed an order awarding the ownership rights of the land to the claimants-within four months of the claim being filed. The SDM Vivek Padam Singh has since been transferred.

Once the claimants were awarded the land, whose market value is estimated to be around Rs 50 crore, they allegedly sold off 11.5 acres to two parties-one from Chennai and New Delhi.

**Reclaims 19 acres on the Gurgaon-Sohna road after contesting an sub-**

**divisional magistrate’s order awarding plot to 7 men**

“Some property dealers in Badshahpur got a wind of parties trying to sell of this land and that’s when we got know about the scam,” says Yadav.

After hearing the appeal and visiting the site, Gurgaon Deputy Commissioner Sudhir Rajpal finally quashed the decision of the SDM-cum-Assistant Collector’s court on June 14. “The order passed by the court of Assistant Collector had some flaws and discrepancies. Hence, my court has cancelled that order and restored the land in question to the village panchayat,” Rajpal told *The Indian Express*.

Rajpal added that the district administration had probed the matter. “It was this inquiry that revealed the various discrepancies and we have forwarded the report to the government,” said Rajpal.

As fallout of this case, Rajpal has ordered an inquiry into allegations of similar nature emanating from various villages in and around Gurgaon. “All the cases will have to be dealt on merit. However, we’ll not allow any panchayat land to fall prey to land grabbers,” the DC Said.

## **Centre plan: EC to hold panchayat elections**

*The Indian EXPRESS, Friday, June 17, 2005*

**THE** Centre is set to bring a Panchayati Raj Amendment Bill in the monsoon session empowering the Election Commission to hold panchayat elections and to enable professional firms to audit the accounts of the panchayat bodies.

Worried over reports of corruption in the panchayati system, the Centre is ready to incorporate some

recommendations of the 11<sup>th</sup> Finance Commission. It has included the amendments after a series of discussions with the state governments.

Though decentralization of power has been taking place, the elections never took place under the EC. Now, the EC will prepare a ‘Model Code’ to regulate the elections. The bill also envisages more powers to the chief

electoral officers and election officials of the state for smooth conduct of the panchayat elections.

**Bill also provides for a system of internal audit of accounts of panchayat bodies**

The bill will also introduce a system of internal audit of the accounts of the panchayat bodies at every stage. The external audit would be done by the CAG. The bill also has provision for a

National Accounting Standard Board and a Public Accounts Committee which will report to the state assemblies. The state government can also be allowed to choose professional audit firms to look into the accounts.

The Bill, if passed, would also ensure that professionals-like engineers-are appointed to undertake development work at the panchayat level.

## **Kannamali mangroves a model for entire Kerala**

**THE PIONEER, Friday, June 17, 2005**

**THE MANGROVES** of Kannamali and Kumbalangi in Ernakulam district have attained great significance after the December 26 tsunami. Experts say that Kerala should develop mangroves at all possible spots along the coast as bio-shields against the fury of the sea. The man behind the efforts for the development, maintenance and conservation of the Kannamali mangroves, K Ittoop, is happy seeing the new-born interests of environmentalists and scientists in his mission.

The thick row of mangroves one sees in the Kandakkadavu area of Kannamali is the result of the untiring efforts of Mr Ittoop. He has not received any official financial assistance from the government or help from NGOs. Despite this, he has made conservation of mangroves his life's mission.

"I started to cultivate mangroves in 1997. As a layman my aim is to locate, identify and conserve the mangroves. I had got support from a group of local people and scientists like Dr M Sivadasan of Calicut University and Dr K Sajan of Cochin University of Science and Technology", says Mr Ittoop.

Developing mangroves as a natural shield against the sea is essential but there is one problem, says Dr Sajan. "That mangroves can be a substitute for a sea wall is not scientific or practical. Mangroves do not grow on sandy beaches. But in marshy coastal areas mangroves can serve as a natural resistance," he says.

"The destruction of mangroves will have serious ecological impacts including decline in marine fishery resources and coastal erosion," says Dr Sajan, adding that the thick mangroves between Kumbalangi and Kannamali are an example of the commitment shown by the natives towards conservation.

The area covered by mangroves in the state has reduced considerably over the last few years. Kerala now has only 1,400 hectare of mangroves from 70,000 hectares a few years back. "Mangroves play a significant role in the conservation of inland water and rivers. As the authorities failed to convince people about their significance, most mangroves have been destroyed for commercial purposes. The increasing number of shrimp farms along the Kerala coast is another reason for the

shrinkage of mangroves”, says TP Ramesh, lawyer and president of Mangalavanam Samrakshana Samithi.

Efforts are on to conserve Mangalavanam, the only mangrove site left in Kochi. “As Kerala has a long Coastal stretch prone to sea erosion, the need to cultivate mangroves is very significant. The other advantage of a coastal bio-shield is the fixing of nitrogen and carbon dioxide: carbon sequestration. This will also be very useful in addressing global warming,” adds Mr TP Ramesh.

“Every monsoon, thousands of natives of the coastal area bear the brunt of the furious sea. They lose their property and other valuable assets.

According to authorities, construction of sea wall is the only way to resist high tides. But it is not the scientific way to resist waves. Not even a single study has proved that sea wall construction is the scientific method to resist high tides,” Mr Ramesh points out. The mangroves can resist high tides more effectively. “Is the government willing to experiment to prove the efficacy of mangroves in coastal areas?” asks Mr Ramesh.

The dense mangroves are home to many rare species of animals and birds, especially migratory birds. All the bird sanctuaries in the state including Kumarakom, Kadalundi and Mangalavanam have mangroves.

## **NR to plant four lakh jatropha saplings**

**THE PIONEER, Tuesday, June 21, 2005**

**GOODBYE EUCALYPTUS** trees, says the Northern Railways (NR). Now its time for ‘bio-diesel’ plants, if you have heard about it. In its pilot project, the NR has planted about four lakh saplings of the Jatropha plant, which according to researchers worldwide, has the capability of producing huge amount of fuel, natural gas and is known for its medicinal values.

Jatropha is now being planted at a large scale around the proposed Anand Vihar Railway Station terminal in the Capital. “NR has decided on this plant which is environment friendly and has various significant valuable properties. The railways is likely to be the single organisation in the world which will plant this tree at a large scale,” said Rajiv Saxena, chief public relations officer, NR.

The NR has taken the daunting task of planting Jatropha in its total area of about 34,000 hectares. “By the time these trees grow (within five-six years of time) research and development R and D) going for Jatropha to make it a fuel-based plant will be successful. Many countries have switched over to this plant in lieu of eucalyptus which damages fertility of soil,” said a railway official. Although Eucalyptus has medicinal values, it also damages the soil.

The Jatropha weed have been traced in large scale at Brazil, Fiji, Honduras, Jamaica, Panama, Puerto Rico and Salvador. It can be grown in tropical weather, very dry or moist sub-tropical surroundings or in wet rain forests. The trees are very sturdy and do not require much water and has enough green foliage.

According to research the plant can be used as an energy-producing living fence post. The clear oil produced in the seed has been used for illumination and lubricating, and recently has been suggested for energetic purposes. One ton of Jatropha nuts has the capability to produce 70 kg refined petroleum, 40 kg gas-oil leger (light fuel oil), 40kg regular fuel oil, 34 kg dry tar / pitch / rosin, 270 kg coke-like char. So far palm oil has been considered energetically most promising.

IIT and various other institutes are also conducting research and

development work on Jatropha to make it a Bio-diesel plant.

With this ambitious project, the railway is attempting to give back to nature after exploiting it for centuries to make sleepers, griders, and for other purposes. "It's high time we pay back. More than crores of Jatropha will be planted the entire NR zone, around the stations, abreast the tracks," said the official.

Mr. Saxena further said that the railways took the daunting task after consulting environmentalists, agriculturists and ecologists who okayed the plantation of Jatropha.

## **Project to develop green cover in Kerala cities**

**"Environmental and other organisations will be involved"**

**THE HINDU, Wednesday, June 29, 2005**

The Kerala Forest Department would promote a Project to develop wooded areas in cities and villages, the Minister for Water Resources and Forests, Thiruvanchoor Radhakrishnan, announced here on Tuesday.

At a press conference here, the Minister said the objective would be to increase the forest cover of the State by five percentile points.

He said 28 per cent of the State's territory was forests. This needed to be increased to 33 per cent.

The Minister said that the environmental and other organisations would be involved in the effort to use fallow areas in cities, towns and villages for planting. Around 20 lakh seedlings would be distributed in the first stage of the afforestation programme.

He said that a meeting of those interested in the programme would be called on July 5. State and district-level steering committees would be formed to carry out the programme.

The Minister also announced that the Government had drawn up a scheme to issue titles to trees grown on Government land by private parties. Citizens, especially Kundumbashree members and other poor people, would be encouraged to plant short duration trees on unused Government land. They could cut them after ten years provided that they plant three trees per every tree marked for felling. Though any type of tree could be planted, the poor would be encouraged to plant fast-growing trees so that they could get the benefit earlier.

He said that the Government was yet to take action on the decade-old report of the Estimate Committee of the Assembly that recommended against planning of trees in reserve forests.

Trees needed to be planted in areas where there are hardly any trees. In Kambakallu and Kadavari areas, planting would be taken up only in areas without trees. Surveys were being undertaken for this purpose.