

NOTE

## Is Biofuel Anti-People?

**Bharat Jhunjunwala writes :**

Government has made it compulsory for oil companies to mix 5 percent ethanol in petroleum products. This is to be raised to 10 percent shortly. Ethanol can be produced from molasses-a by-product of sugar industry. Molasses is used to make alcohol presently. It can be used to make ethanol instead. Brazil has obtained great success in this. Sugarcane juice is directly converted into ethanol in that country. Minimum 20 percent ethanol has to be mixed with petrol. Cars have been designed to operate on 100 percent ethanol. This has helped Brazil reduce its dependence on imported oil and people have got employment in the production of sugarcane. Government of India seems to be trying to replicate Brazilian experiment.

Biofuels are produced from crops like sugarcane and *Jatropha* that absorb carbon-dioxide (CO<sub>2</sub>) from the environment. Production of coal and crude petroleum also absorbs CO<sub>2</sub> but this was done long time in the past. Biofuel absorbs this here and now. The amount of CO<sub>2</sub> emitted in the burning of biofuel is absorbed in its production. Thus biofuel is considered 'clean'.

This advantage of biofuel is accepted. But case for biofuels is not made on this basis alone. One has to compare the benefits with alternate uses of the same land. There is no gainsaying that the farmer must cultivate his land. The tricky part, however, is to determine which crop to grow. Similarly, there is no gainsaying that degraded lands must be regenerated. The point is to determine between biofuel and other alternatives. Compare *Jatropha* cultivation with growing natural forest on degraded lands. In truth the natural forest will absorb more carbon due to its biodiversity. It will also create more jobs. People can gather *kendu* leaves, berries, fuel wood and grasses. In contrast only *Jatropha* seeds are collected once a year. The wood of this plant does not serve as fuel. Its leaves are not used as fodder. Similarly, more jobs and income is generated for the local people in the cultivation of paddy, wheat and other food crops instead of sugarcane. The former provides them with jobs in ploughing, planting, weeding, harvesting etc. many times through the year. Thus case for biofuel cannot be made on the grounds of carbon absorption or employment generation.

There are other disadvantages of biofuel. Water is consumed in large quantities in cultivation of sugarcane. Water that is probably sufficient to grow three crops of wheat and paddy on four acres of land is consumed in growing single crop of sugarcane on one acre land. Biodiversity is not promoted in cultivation of *Jatropha* either. Large trees, small trees, shrubs, grasses and vines all grow together in a natural forest. Not in a *Jatropha* plantation. The latter is like a public garden with a huge lawn without flower beds, ornamental trees or fountains.

The experience of Brazil is not applicable to India. Here land population ration is very different. 45.4 square km of land is available per 1000 population in that country against only 2.7 square km in India. 32.5 hectares cultivable land is available in that country per 100 persons against only 14.8 hectares in India. It is

possible for Brazil to use large tracts of land for cultivation of sugarcane without impairing its food security. Not so for India. More cultivation of sugarcane necessarily translates into lower production of food grains. Water is no different. Brazil has 29,066 cubic metres per person of renewable sources of water against only 1,152 cubic metres in India. The level of ground water is falling steeply across the country because of overexploitation of this historical resource. More cultivation of sugarcane will only put greater pressure on this scarce resource and it will affect Indian food security adversely

Biofuels are being promoted not because they are clean or because they provide more employment or incomes to the poor. They are being promoted because they provide benefits to the rich. □□