Chapter 3 - What can we learn from the great eucalyptus debate?

The storm over eucalyptus, with its epicenter over the social forestry programmes of India, must be regarded as one of the most interesting chapters in the brief history of social forestry. With passions on both sides of the controversy still running high, one raises this topic at great risk to the good will of one's readers—almost regardless of what one has to say about it. Nevertheless, our purpose here is not to enter into the debate on one side or the other, nor even to recount the various arguments pro and con, but merely to identify the kinds of issues that have been debated in order to see what light they might shed on the socioeconomic attributes of trees and tree planting practices.¹

We must begin by acknowledging the fundamental paradox in which the controversy is nested. On the one hand, the planting of eucalyptus appears to have been a dramatic success. Adoption rates have often been unprecedentedly high, targets for distribution of seedlings have been continually exceeded in many projects, and by widely used economic standards many eucalyptus plantations have shown very positive returns on investment (benefit/cost ratios > 5, internal rates of return > 50%). On the other hand, no tree has ever been so vilified and vigorously protested, even to the extent of being uprooted by the thousands in mass eucalyptus demonstrations. What is going on here?

Unfortunately, the debate itself as carried in the public media of India has done little to resolve the paradox. For every argument there is an equal and opposite counter-argument. For every piece of evidence there is counter-evidence. Once the dust and dust has settled, wherein lies the truth?

More than a question of species choice

On closer examination of the issues, it appears that while most of the debate has been couched in ecological terms, many of the underlying issues are social and economic in nature. Ostensibly the debate was about species choice but in fact much of it centered on eucalyptus as a symbol of popular disenchantment with many aspects of government development programmes. The part of the debate that is about species choice is complicated by the fact that such choices are always embedded in a complex of interrelated decisions about other aspects of the tree growing practice. Thus, what was being debated in many cases was not the appropriateness of eucalyptus per se, but the whole technology and style of eucalyptus promotion.

The general conclusion that emerges from an analysis of the debate is that the socioeconomic impact of trees like the eucalyptus varies greatly from one situation to another and is characterized by a lone positive (sustainable rather than a strict determinant. In other words, while the commonly used species of the genus do indeed have attributes that permit them to be used in ways that may limit their suitability for certain categories of users (i.e., "crop" tress compatible with high-density, food- and labour-displacing monocultures), there is nothing inherent in the species that compels them to be always used in these ways. (The corollary to this is that simply changing the species won’t necessarily solve the problems of an inappropriate tree growing practice.)

The analysis revealed that most of the critics of eucalyptus in India actually objected to was the promotion of

<table>
<thead>
<tr>
<th>Eucalyptus planting by</th>
<th>high density</th>
<th>low labour</th>
<th>monocultures</th>
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<tbody>
<tr>
<td>trees</td>
<td>(arrangement)</td>
<td>(inputs)</td>
<td>(beneficiary)</td>
</tr>
<tr>
<td>on private farmland</td>
<td>as a cash crop for sale</td>
<td>to urban industries</td>
<td></td>
</tr>
<tr>
<td>(beneficiary)</td>
<td>(location)</td>
<td>(function)</td>
<td>(beneficiary)</td>
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What most of the critics said the social forestry programmes should have concentrated on instead was:

A variety of multipurpose trees planted by small and marginal farmers

(species) (beneficiary)

integrated with other useful plants in commons and wastelands

(arrangement) (function)

for household cash and subsistence needs

or:

A variety of multipurpose trees planted by small and marginal farmers

(species) (beneficiary)

integrated with crops in and around homesteads and farmland

(arrangement) (location)

for household cash and subsistence needs

(funcrion)

Disaggregating the issues in this way shows that the controversy was much more than a question of species choice. In fact, it was not just eucalyptus but the whole farm forestry approach that was being called into question, along with the economic development strategy in which trees were grown (e.g. the pruning, lopping, coppicing, pollarding, thinning or harvesting regimens, which is in turn determined by the spatial arrangement in which the trees are planted (i.e. the pattern and density of planting, either singly or in combination with other trees or crops), which is strongly influenced by the location within the landscape at which the trees are planted—all of which still depend upon the specific function the tree is intended to perform for a particular user within a particular socioeconomic context and an overall economic development strategy.

If we want to avoid this kind of controversy in the future it seems that we must tailor our tree planting programmes to meet the needs of all relevant user groups, base our planning on a careful assessment of the needs, constraints and tree planting opportunities of each group, and that we must make a deliberate and systematic effort to carry these findings forward as specifications for the design of appropriate tree planting interventions.

Table 5. A partial list of socioeconomic issues raised in the context of the eucalyptus debate in India

<table>
<thead>
<tr>
<th>FACTOR</th>
<th>ISSUES RAISED AND DEBATED</th>
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<tbody>
<tr>
<td>Function</td>
<td>Whether trees should be planted for cash income (i.e., vs. subsistence uses (food, fodder, fuel, medicines and other subsistence needs) vs. students and landless labourers</td>
</tr>
<tr>
<td>Location</td>
<td>Whether eucalyptus should be planted in cropland, thereby displacing food crops and employment opportunities for landless labourers while driving food prices up; whether they should be planted in private cropland (i.e., the farm forestry approach where only landless farmers could benefit) vs. in the commons (where smallholders and marginal farmers could benefit); whether the planting of eucalyptus woodlots on farmland was forcing adoption of eucalyptus as the only crop that could compete with adjacent woodlots; whether eucalyptus woodlots had played a role in government allocation of villages common lands; whether the planting of eucalyptus woodlots on the commons was displacing former and other multipurpose plantations; whether eucalyptus woodlots had enabled large landowners to meet minimal cultivation requirements and thereby avoid redistribution of land under new land reform legislation</td>
</tr>
<tr>
<td>Arrangement</td>
<td>Whether trees should be planted in block plantations (fully occupying the land) or in mixed species woodlots or agroforestry inter-cropping systems or along boundaries, etc. whether polycultures should be favoured over monocultures for ecological reasons; whether high-density, short rotation plantations (as practiced by some commercial eucalyptus farmers) are ecologically sustainable</td>
</tr>
</tbody>
</table>
Who benefits from tree planting?

The issue of who benefits from a particular tree planting intervention is at the heart of the eucalyptus debate. One of the most important lessons we can learn from the controversy is that in assessing local tree growing needs and potentials great care needs to be exercised in the differentiation of client groups.

Much of the early debate centered on the charge that only large farmers were benefiting from eucalyptus farm forestry, but information on actual adoption patterns soon revealed that even relatively small farmers were adopting eucalyptus woodlots and doing quite well with them. What seems to have been given insufficient attention in the whole debate is that the whole point between adopters and non-adopters, between beneficiaries and non-beneficiaries, was not between the large and the small farmers, nor between the rich and the poor—but between the landed and the landless or near landless, between the poor and the very poor. It is not surprising then that the parts of India in which eucalyptus planting was most fiercely protested (certain districts of Karnataka) are areas where the landed or near-landed constitute nearly half of the population. The problem of the landless presents us with a paradox. Direct production to meet subsistence needs is a major economic strategy of small farm households in developing countries, and there are many agroforestry options to support this. But this is not a viable household strategy for the landless, who may have only a house site or less, nor for the large category of rural poor classified as marginal farmers (those whose landholdings are insufficient to meet subsistence needs). Their households necessarily depend upon wage or non-wage income-generating activities as their primary survival strategy.

There are an increasing number of technically and economically viable small-scale tree growing innovations. No one could benefit more from these innovations than the poor and the disadvised. Unfortunately, many tree planting projects have found that no one is willing to benefit from such innovations than the people. Eucalyptus farm forestry is a prime example of a technology that has brought significant cash income to many of those who have been able to adopt it, including some marginal farmers who put their small plots under eucalyptus woodlots and went off to work in the city (Shepherd 1986). But what about the landless and marginal farmers who lack access to employment opportunities? What about minority group land users who are “socially disadvantaged”?

It is a fact of development that, all too often in challenged societies, as soon as an innovation begins to generate a significant cash flow it attracts the attention of all those who are living from the poor, and is taken away from the poor. One strategy that has emerged to deal with such frustrations is to restrict the projects to those who use a particular-oriented interventions in order to avoid attracting undue attention from local elites. This is what many of the critics of eucalyptus forestry say should have been the strategy of the community forestry programmes that focused on common property management (CPM). That is one solution. Are there no others? If we should be ready to abandon the idea of commercial tree planting for the poor of the poor and simply accept that those who could benefit most from such income-generating activities are inevitably blocked from doing so.

**Ways to bring the benefits of tree growing to the landless**

Fortunately, there are exceptions to this discouraging pattern. Cases have been reported from India, which have succeeded in providing a sufficient outlet for “excess” population, the focus of employment generation, and local or at least, promising, approaches. No doubt there are more. Comparing these four cases to the controversial eucalyptus farm forestry approach reveals some of the differences that can make a difference in bringing the benefits of tree planting to the landless and near landless (Table 6).

**Table 6. Differences in the technology and social organization of tree growing that make it possible for the landless and near landless to benefit from tree-based production systems.**

(Euca = eucalyptus, MPTS = multipurpose trees and shrubs)

<table>
<thead>
<tr>
<th>TREE PLANTING APPROACH</th>
<th>PURPOSE</th>
<th>SPECIES</th>
<th>CHARACTERISTICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eucalyptus farm forestry</td>
<td>Cash</td>
<td>Euca</td>
<td>Monoculture woodlots on private farms</td>
</tr>
<tr>
<td>Alternatives approaches</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPTS on common lands (the traditional alternative)</td>
<td>Subsistence</td>
<td>Euca</td>
<td>MPTS</td>
</tr>
<tr>
<td>Commercial development of MPTS in common property forests and small farm woodlots in Mahanartha (Shah and Warren 1987)</td>
<td>Cash + Subsistence</td>
<td>Euca</td>
<td>MPTS</td>
</tr>
<tr>
<td>Agroforestry (various forms) on farms and public spaces in Bujpur (Hoekstra et al 1985)</td>
<td>Subsistence = Cash</td>
<td>Euca</td>
<td>MPTS</td>
</tr>
<tr>
<td>Group farm forestry on redistributed “public” land in West Bengal (Shah 1987)</td>
<td>Cash</td>
<td>Euca</td>
<td>Social infrastructure (tenure) change necessary</td>
</tr>
</tbody>
</table>

The results are interesting. In three of the four cases a change in tree growing technology was involved (i.e. a change in one or more of the following: species, function, location, arrangement or management). One of these cases represents the traditional alternative to eucalyptus woodlots on the commons, i.e. a multipurpose mixture of trees for a variety of subsistence uses. The example from Mahanartha entailed the commercial development of such trees and other indigenous plants of the full commons for traditional medicines and foods through a processing and marketing cooperative run by the local tribal people with assistance from an NGO (Shah and Warren 1987). This success story involved not only a different technology but also some important social institutional innovations.

The third case involving a different technology has not yet been validated by local experience but is part of an agroforestry research proposal resulting from a diagnostic and design study that was carried out in the Bujpur area of Karnataka (Hoekstra et al. 1985). Because the inhabitants of the watershed study area view the forest as a matter of standard methodological practice, differentiated into the diagnostically different categories—in this case the “resource rich” and “resource poor” land users—the overall design for agroforestry interventions was able to incorporate elements that specifically addressed the needs and opportunities of the marginal farmers and landless labourers within the watershed. That such a procedure was followed from the start in designing the controversial community forestry programme, the controversy in Karnataka might have been avoided altogether.

In one successful case (West Bengal) no change in technology was necessary. A social institutional innovation, the allocation of long-term tenure rights in marginal land to landless families, was all that was required to secure for them the benefits of conventional eucalyptus farm forestry.

These examples demonstrate beyond the shadow of a doubt that, far from being merely a question of species choice, the right combination of changes in both technical or socioeconomic design variables may be all that is needed to bring about a favourable rearrangement of production factors so that even the poorest of the poor can participate in the benefits of tree growing. What these examples show is that we are far from exhausting the potential for creative solutions to the land of issue that has dogged the eucalyptus debate. We still need a lot of underutilized technological and socioeconomic options in our bag of tricks.

In the long run, however, as the example of the processing cooperative in Mahanartha reminds us, it is unlikely that concentration on primary production systems alone will be able to solve the problems of steadily increasing rates of landlessness in many rural areas of the world in the twenty-first century. The historical record of areas of high rural population density in developing countries is clear on this point: when rural populations begin to exceed the labour-absorbing capacity of primary production systems, and when cut-migration ceases to provide a sufficient outlet for “excess” population, the focus of employment generation in the rural areas shifts from the primary to the secondary production sector and we witness the development and proliferation of labour-absorbing small-scale rural industries.

**Conclusions**

In summary then, the most important lessons we can draw from the eucalyptus debate is that a constructive change in the way we design tree growing interventions would appear to be:

1) There is need for greater openness and imagination in the use of a systematic, client-oriented approach to the design of tree planting interventions based on a much expanded repertoire of tree growing practices and the recognition that what we are dealing with are always the attributes of a particular species in the context of a particular technology intended for a particular user within a particular socioeconomic setting in support of a particular development strategy. There is no use in blanking a tree for human errors at all levels of the decision making process.

2) In order to secure the benefits of tree growing to all potential beneficiaries it is crucial to transcend the narrow focus on primary production systems to discover and develop the full range of secondary, marketing, extension support and other infrastructural arrangements which collectively constitute the necessary and sufficient precursors of rural development, particularly where landlessness is prevalent and population threatens to exceed the human carrying capacity of primary production systems.

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