The potential and importance of trees as savings and security for many of the rural poor of the South has long been overlooked and neglected by outsider professionals. This professional neglect can be understood in terms of three tendencies.

Professional Biases

Whatever is important to the poor tends to be neglected because of foresters' concerns with industrial and conservation forestry, agronomists' concerns with field crops, and the absence of a profession with energy and fuel as its central concern. The recent emergence of agroforestry as a profession is a first step towards countering these biases. Temperate climate biases have also tended to blur recognition of the rapid rates of tree growth, and so of appreciation in the value of trees, in many tropical conditions.

Lags in Learning

All professions tend to lag in their knowledge of rural realities in the South. This has been true of the long-term increase in the value of trees and tree products. This trend has been due to deforestation and declining common property resources reducing supplies of tree products; while rising populations, urbanisation, and higher incomes have been increasing demand.

Misunderstanding Deprivation

Deprivation is usually described as poverty, and equated with low incomes. Poor people are also thought to be incapable of saving. In fact, poor people are as much concerned about vulnerability, indebtedness and assets as income. Costs of meeting contingencies, like sickness and accidents, have risen in many parts of the Third World. At the same time, as patron-client relations and the supports of the extended family have weakened many poor people have become more vulnerable to contingencies than before. They now want and need alternative forms of support. More and more evidence is coming forward that poor people who are not absolutely desperate will make great sacrifices to hang on to assets, whether land or trees, and will save for future needs and for security.
Contingencies

Contingencies may take numerous forms. They may be sudden and unexpected; they may be slow in onset; or they may be large needs that can be foreseen. They can be classified according to the following five categories:

1. **Social conventions** including dowry, bridewealth, weddings and funerals;
2. **Physical incapacity** including disablement: sickness: accidents: old age: and the child-bearing sequence of pregnancy, childbirth the post-natal period;
3. **Natural disasters** such as droughts. floods. death of animals. epidemics of plant or animal disease:
4. **Human-induced disasters** such as theft of assets. civil disturbance, war and excessive demands and illegitimate acts by the powerful (such as exorbitant interest rates charged by moneylenders. intimidation and blackmail):
5. **Unproductive expenditure** such as failures in small enterprises, litigation or gambling; and fees for schooling or apprenticeship that do not pay off.

For a poor household, any of these can lead to further impoverishment, in which assets have to be mortgaged or sold, or damaging obligations accepted. This often has a ratchet effect, being difficult or impossible to reverse.

The Use of Trees to Meet Contingencies

There are many examples of poor people using trees to provide security or insurance against contingencies.

Direct Use

Direct use of trees and tree products to meet contingencies takes two forms. The first is where trees provide resources to deal with seasonal shortages (Chambers and Longhurst, 1986). Trees can be sources of recurrent flows of food, fodder and other useful material: they can help households get through the slack or lean months. For human food, examples include mangoes at the beginning of the rains; and the locust bean (Parkia sp.) maturing in the dry season in West African savanna. For fodder, one example is Acacia albida, which drops its pods in the dry season when other fodder is scarce.

The second form of direct use is where a contingency entails a one-off need for trees or tree products. Examples are: firewood for feasts and funeral pyres; poles and timber for hut and house building after fire, flood or house collapse; replacing a lost boat/canoe or broken plough; providing food when there is severe hunger caused by drought or civil disturbance. In these cases, ownership of, or access to, suitable trees can meet the need; while lack of ownership or access can mean impoverishment, through the need to dispose of other assets or to take on debts.

As a Source of Cash

Trees are sold or mortgaged to cope with a variety of contingencies. Some examples are given here, grouped by category of contingency.

1. **Social conventions**

These often require larger sums of cash than do other contingencies. In a study of palm trees in Kilifi District in Kenya the greatest and most common contingent expenditure causing poorer men to dispose of their land and palms was marriage and bridewealth (Parkin, 1972). Marriage was also a frequently mentioned contingency in two villages of eastern Gujarat, where the sale of trees was the most frequently cited means of raising cash (Conroy, 1991b).

2. **Physical incapacity**

Another reason for selling trees that Parkin mentions is the costs of having a traditional doctor during a long illness of a family member (Parkin, 1972). In eastern Gujarat, 12 households in which a member had experienced a physical incapacity requiring medical treatment, four had sold trees to pay for it (Conroy, 1991b).

3. **Natural disasters**
The best documented form of natural disaster is drought. The resultant fall in food production and/or income from crop sales makes it necessary to obtain food or cash from other sources. In East Africa, members of a Swahili community sold a few coconut trees during very dry years partly because of their "sheer lack of cash" - they needed to do so "to make ends meet" (Caplan, 1975). During a drought in Maatisar village, Gujarat, India, in 1987, between 150 and 250 trees were sold by the villagers, to raise capital to purchase seeds and other inputs or to meet contingencies (Chen, 1991). During a localised drought in Jhalod Taluka, eastern Gujarat, in 1989, almost half of the households that experienced a food shortage in two villages (where tree-growing is almost universal) sold trees to buy food (Conroy, 1991b).

In the humid tropics, rainfall irregularities can have as disastrous an effort on food production as drought has elsewhere. In Sierra Leone, for example, rice production is sometimes damaged by early rain. Farmers often respond by mortgaging or pledging cocoa or coffee trees, or selling timber trees, to obtain cash to buy food (Leach, 1990).

There are hardly any reported cases of the sale of trees to cope with man-made disasters or unproductive expenditure. This may be partly due to a reluctance to talk about such contingencies, especially matters like gambling, alcoholism and exploitation. One case of trees being used in connection with unproductive expenditure involves the Mende farmers in southern Sierra Leone. They often mortgage coffee and coffee trees to raise cash to pay court fees and fines, or to buy food because litigation has depleted their other cash resources (Leach, 1990).

The Use of Trees as Savings

Trees are often planted or retained as part of deliberate long-term strategies for savings and security. Sometimes this is done to meet specific foreseen needs. For example, Casuarina in South India for daughters' dowries; eucalyptus, cypress and pine in Western Kenya to pay for school fees; eucalyptus in Ethiopia as savings towards a child's education; and a cooperative plantation in Benin to provide support in old age. Young men in parts of the West African forest zone plant oil palms, cocoa and coffee as an investment for marriage, both to pay bridewealth and to support their wives and children (Leach, 1990). In many countries the sale of firewood and the preparation and sale of charcoal are means for poor people to get by during bad times.

In some areas trees may be substituting for cattle as cashable savings. This is most likely to occur in areas of dense population, small landholdings and limited common grazing lands, since the latter two factors reduce the amount of fodder available for cattle. There is circumstantial evidence for this hypothesis from Kakamgega, Kenya, where the per hectare density of planted trees is greatest where the human population density is high and the size of the holding is relatively small (Bradley et al., 1985).

The value of trees in strategies for savings and security is enhanced by their use to obtain credit. Tree pledging or leasing is practised in Nepal, Nigeria, Sierra Leone and Ghana (Fortmann, 1989). In Kenya, the pledging of palms is a sure and fast way to raise cash to meet contingencies (Parkin, 1972). In Sierra Leone, farmers often mortgage cocoa and coffee trees to obtain a loan, and the creditor harvests the produce until the loan has been repaid (Leach, 1990).

In India, there are examples of trees being used as security (collateral) for loans: a consumption loan made by an enterprising bank manager (Aloysius Fernandez, pers. comm.); and an informal loan to a widow from a fellow villager (Conroy, 1991b). In the latter example, the widow was unable to repay the loan, and the creditor duly collected trees from her of equivalent value to the loan plus some interest. Where people have rights to trees this may generally enhance their creditworthiness, even if the trees are not explicitly designated as collateral for a loan (Conroy, 1991b).

Trees may also be used to redeem debts and mortgages. In eastern Gujarat, out of 28 farmers who had sold trees, five had used some of the income to pay off debts and three to release mortgaged jewelry or land (Conroy, 1991b).

Trees are sometimes cash crops for small and poor farmers. For example, smallholder cocoa, coffee and oil palm production for cash have been well-established in the West African forest zone since the middle of this century, involving poor as well as wealthier farmers (Berry, 1988).

In two districts in Kenya, Kakamgega and Kisii, where landholdings are very small, and where aerial surveys have shown up to 30% of the agricultural land under planted and managed tree cover, small farmers who cannot afford to plant coffee or tea plant trees instead. In the words of Peter Dewees (pers. comm) "Trees seem very much to he the cash crop of the rural poor in some areas of Kenya". In other circumstances, however, trees may not be
suitable cash crops for small and poor farmers - see below.

Uses of Income

The importance of income from trees in reducing poor people's vulnerability and improving their standard of living is supported by a recent analysis of social forestry projects in India (Shah, 1988). Shah looked at the uses of income by 59 poor and almost landless tribal families, who were among the first to benefit from the sale of their trees grown under the West Bengal Group Farm Forestry Programme. Of the sums received by sellers, 38% were spent on the purchase of land, 21% on other productive expenditure, and 14% on housing, making a total of 73% on capital investment: while 22% went on marriages and 4% on other contingencies. Almost all the cash from tree sales was thus used by these poor people to better their economic or social condition in some long-term manner.

In a study of an NGO-managed social forestry programme in eastern Gujarat, 28 small farmers were asked how they had used their income from tree sales. The four most frequently mentioned uses were buying bullocks (2), buying clothes (11), cash gifts/bridewealth for marriages (10) and children's education (8) (Conroy, 1991b). Several farmers had also used their income to reduce their liabilities and/or improve their asset base - by paying off debts, releasing mortgaged assets, and acquiring new ones (in the form of livestock, jewelry and wells).

These studies contradict the views of cynics, who expect poor people to dissipate the cash from the sale of trees and tree products.

Advantages of Trees

The comparative advantages and disadvantages of trees and other assets are summarised in Table 1. Whether or not trees are an effective form of savings and security for the rural poor will vary according to economic, social and agronomic circumstances.

Trees can have several advantages for poor people. They are cheap to establish, usually appreciate rapidly in value, are in manageable and divisible units, and often (but not always) regenerate after cutting. In these respects they compare favourably with other assets: large livestock are costly to acquire, and come in lumpy units that may be too big to fit a need well; small stock may be harder to hang onto, being more easily bagged by relatives, or demanded by social custom, than trees. The rate of appreciation of trees can be much faster than jewelry, land, or bank deposits, provided the prices for trees are not falling. Furthermore, other assets do not ' coppice' when cashed.

These advantages have applied in eastern Gujarat, during the last few years. Tribal farmers there have been receiving support in establishing their trees from government agencies and a local NGO, the Sadguru Water and Development Foundation. The main species initially was Eucalyptus, a particularly fast-growing tree, and the price of Eucalyptus poles in the area has been increasing. One farmer there was probably speaking for many when he explained his preference for Eucalyptus over jewelry and other assets as follows:

"I prefer Eucalyptus because it grows very fast - and you can take the crop a second and third time. I prefer not to mortgage jewelry because I have to pay interest on it, whereas I don't if I sell Eucalyptus" (in Conroy, 1991 b).

Table 1. Tendencies with some assets of the poor: costs, risks and benefits compared

<table>
<thead>
<tr>
<th>Positive values</th>
<th>Jewelry</th>
<th>Large stock (cattle, buffaloes, camels etc)</th>
<th>Small stock (sheep, goats hens etc)</th>
<th>Land</th>
<th>Bank deposits</th>
<th>Trees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low costs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low unit starting costs</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>=/-</td>
<td>0</td>
<td>+</td>
</tr>
</tbody>
</table>
The sale of trees (or any other asset) is preferable to the mortgaging of assets (or obtaining a loan) in that it does not involve interest payments. On the other hand, the sale of assets has the disadvantage, vis a vis mortgaging, that it will be more difficult to reverse the action, and recover the asset, in the future. Where trees can be coppiced their sale has the advantage of no interest payments while avoiding the disadvantage of losing the asset: they will be recovered when the tree regenerates.

<table>
<thead>
<tr>
<th>Property</th>
<th>0</th>
<th>+</th>
<th>+</th>
<th>+/-</th>
<th>+/0</th>
<th>++/0**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low maintenance costs - herding, protection etc.</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>++</td>
<td>+/-</td>
</tr>
<tr>
<td>Low Risks</td>
<td>++</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>++</td>
<td>+/-</td>
</tr>
<tr>
<td>Low vulnerability to theft</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>++</td>
<td>+/-</td>
</tr>
<tr>
<td>Property rights and cashability secure</td>
<td>++</td>
<td>+</td>
<td>++</td>
<td>+</td>
<td>++</td>
<td>=/0*</td>
</tr>
<tr>
<td>High Benefits</td>
<td>0</td>
<td>+</td>
<td>+</td>
<td>+/-</td>
<td>+/0</td>
<td>++/0**</td>
</tr>
<tr>
<td>Rises fast in value (appreciates, breeds etc)</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+-</td>
<td>+/0</td>
<td>++/0**</td>
</tr>
<tr>
<td>Rises in value</td>
<td>++</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>++</td>
<td>++</td>
</tr>
<tr>
<td>Easy to pledge, mortgage or use as security for loan</td>
<td>++</td>
<td>+</td>
<td>0</td>
<td>+</td>
<td>()</td>
<td>+</td>
</tr>
<tr>
<td>Stores well</td>
<td>++</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>++</td>
<td>++</td>
</tr>
<tr>
<td>Provides flow of income, food etc.</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>0</td>
<td>+</td>
</tr>
<tr>
<td>Easy to transport</td>
<td>++</td>
<td>+</td>
<td>+</td>
<td>()</td>
<td>++</td>
<td>-</td>
</tr>
<tr>
<td>Divisible/small units for sale</td>
<td>+/-</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+/-</td>
<td>++</td>
</tr>
<tr>
<td>Good price for small amount</td>
<td>0</td>
<td>()</td>
<td>+</td>
<td>0</td>
<td>++</td>
<td>+/-</td>
</tr>
<tr>
<td>Steady price</td>
<td>+</td>
<td>0</td>
<td>+</td>
<td>+</td>
<td>(++)+</td>
<td></td>
</tr>
<tr>
<td>Avoids obvious distress sale</td>
<td>+</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>++</td>
<td>+</td>
</tr>
<tr>
<td>Regenerates after disposal</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+/-</td>
</tr>
</tbody>
</table>

0: more or less neutral
-: usually negative (bad)
=: strongly negative (bad)
+: usually positive (good)
++: strongly positive (good)
+/-: sometimes positive, sometimes negative

* This is highly variable, but complete freedom to cut and sell appears to be exceptional where government regulation or programs are involved.

** In good conditions, There are major differences between high rates of growth in much of the humid and semi-humid tropics, and slower rates in temperate climates and in the semi-arid and arid tropics.
Trees can be mortgaged as well as sold. When they produce recurrent products (eg fruit) these are often used as interest on the loan, in the same way that crops are used as interest when land is mortgaged. This gives them an advantage over jewelry, which does not generate its own interest payments.

During their first few years, trees are a form of forced saving, having little or no direct sale value. Then, as they mature, their rapid rise in value may provide a heightened incentive to poor families to stint and save in order to gain more later. This very solidity and fixity of trees may be an advantage by making saving rather easier, and cashing rather more difficult, than with most other assets. However, the fact that tree-growing can 'lock-up' savings during the first few years can also be a disadvantage if the owner urgently needs cash during that time.

After the first few years, some trees have the advantage of being harvestable and saleable for timber or firewood at any time, and so provide a 'bank balance' that is easy to cash when needed, giving the grower greater flexibility than most other cash crops. This, combined with their relative robustness to climatic extremes, makes them a valuable source of income at times of drought or flooding when annual crops have failed.

Disadvantages of Trees

Where farmers are growing large numbers of trees for the first time (as was the case, for example, in north-west India during the 1980s) risks may be at their highest, due to failure to obtain seedlings in time, or unfamiliarity with silvicultural practices or with markets for tree products. This is particularly so where trees are being grown primarily as a cash crop, and where there is a significant opportunity cost, as when trees are grown on good agricultural land, instead of cereals or pulses. Cash cropping may also involve increased dependence on alien institutions - middlemen, forest rangers, and wood markets" (Saxena, 1990). Some potential disadvantages of trees are discussed further below.

Insecure Rights

If trees are to be effective savings banks and forms of insurance the producer must have unequivocal rights to them. Several social forestry projects in India have failed to define poor peoples' rights to trees clearly, as have projects in pastoral areas in the Sahel. As a result, people were not motivated to manage and protect them.

Administrative Restrictions

In many countries (including Ethiopia, India, Nepal and some countries in West Africa) rights to trees on private land are curtailed or unclear, because of government restrictions on the cutting, transport and/or sale of trees. Not surprisingly, such regulations induce precisely the behaviour they are designed to prevent: unsure whether they can cut and sell their trees, farmers cut and sell them while they can, and do not plant more. Obtaining permits often involves long waiting, much hassle, and bribes. It increases the likelihood of middlemen exploiting farmers, particularly small ones, by paying them only a fraction of the market price (Chambers et al, 1989; Saxena, 1991).

Market Risks: Ignorance and Exploitation

Ignorance about the workings of the market is sometimes another reason why prices are low, as has been the case in Gujarat, Kamataka, Tamil Nadu and West Bengal (Shah, 1988; Saxena, 1991). For example, in Bhavnagar District, Gujarat, farmers had no market information about pole wood, and a city trader could easily talk them into selling their produce at a low price (FAO, 1986).

Market Risks: Demand for the Product

Where farmers are growing trees as a cash crop for the first time, they are more likely to be poorly informed about markets and prices for their product, and hence more prone to financial disappointment. Despite the fact that demand for, and prices of, trees and tree products have generally been rising, there is sometimes a risk of over-supply and falling prices. The growing of trees as a cash crop is sometimes promoted by government agencies without proper consideration of the market opportunities available (for a Kenyan example, see Hosier, 1989).

For example, in some parts of India tree planting has been so intensive that the pole market could not absorb the excess supply. Prices fell and production became unprofitable (Saxena, 1990; 1991). Farmers producing tree products for export may also experience declining or fluctuating world prices (e.g. cocoa, coffee). These problems are not, of course, limited to tree crops.
Risk of loss of trees as assets is a less clear-cut disadvantage. In the early stages of growth, and especially if they are planted on common land, browsable species require protection from grazing animals if they are to survive. When trees are older and more valuable, theft may become a problem, especially if they are planted some distance from where the owner lives, as was the case with some 'patta' land in West Bengal (Shah, 1988). Finally, there is also the risk of a pest outbreak, especially where there are block plantations of only one species, as happened with Leucaena leucocephala in Asia during the 1980s (Hughes, 1988).

**Long Gestation Period**

The fact that trees take several years to mature can be a disadvantage, especially if they are being grown as an alternative to seasonal crops, which provide a more immediate return. Farmers may require an alternative source of income, or a loan, to tide them over the period when the trees are not generating income: this can be a particular problem for poor farmers (Saxena, 1990, 1991).

**Conclusions and Policy Implications**

The importance of trees as savings, security and sources of cash for the poor is only now beginning to be recognised. Trees are not a panacea for the rural poor, but the examples given show that they are often valuable assets for them. Favourable situations are likely to be characterised by:

- secure rights;
- low opportunity cost (for example, where trees are grown on marginal land or field boundaries);
- the growing of trees for direct use as well as for sale (so that the farmer can switch between the two);
- multiple species (to meet various subsistence needs and guard against pest outbreaks and/or risks - but with cash crops larger and more uniform lots may fetch a higher price);
- distribution of seedlings based on poor people's species preferences; and
- familiarity with the markets for tree products.

Some of the disadvantages of trees, particularly administrative restrictions and insecure rights, stem from inappropriate official policies, legislation and attitudes. These should be reversed where necessary. Small farmers should be given full rights to do what they will with their trees, and freedom to market without hindrance so that exploitation by middlemen can be avoided.

The benefits of secure rights are illustrated by the following two examples. The Agroforestry Project in Haiti found that once poor farmers were convinced that they could harvest and market their trees free from controls, they planted vastly more trees than anticipated, and cut and sold fewer than had been expected (Murray, 1986; Conway, 1987). In Gujarat, where administrative restrictions on Eucalyptus, Subabul and Casuarina have been removed, small farmers in at least one District have been able to bypass intermediaries and sell Eucalyptus directly to buyers at reasonable prices (Conroy, 1991b).

Rights to trees are generally clearer on private land than on common land, and as a result farm forestry has been more successful. But this should not be used by governments as an excuse for abandoning attempts to plant on wastelands, particularly where there are many landless people (Shepherd, 1988). It is imperative that government afforestation projects on common lands do define rights clearly, preferably in legally binding documents, and publicise them well so that people are aware of them (Chambers et al, 1989). 'Tree tenure' can sometimes give sufficient security for tree planting and use even when rights to land are held in common (Fortmann and Bruce, 1989).

Governments can improve the effectiveness of projects on common lands by actively involving people in the selection of species and the management of the project (see Poffenberger 1990 for examples). This will increase their motivation to protect the trees, reducing risk of loss, as has been shown by numerous forest protection committees in West Bengal (Malhotra and Poffenberger, 1989).

Where farmers are unfamiliar with markets for tree products, governments or NGOs may be able to help them market their products by providing information about market prices (FAO, 1986); giving training in marketing; or helping producers to coordinate their marketing activities (possibly through cooperatives), including the transport of trees or tree products to urban markets. This has been done, for example, by the Aga Khan Rural Support Programme in northern Pakistan for fruits (Conroy, 1991a).

In many rural areas in the South the potential seems large for trees to provide small farmers with more of the savings, security and income which they need now more than ever. Changes in government policies could help
many millions more of them to struggle up out of indebtedness and dependence, and to gain in self-respect, independence and freedom.

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