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SOCIAL FORESTRY NETWORK

TREES TO MEET CONTINGENCIES: SAVINGS AND SECURITY FOR THE RURAL POOR

Robert Chambers and Melissa Leach

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Robert Chambers is a Senior Research Fellow at IDS, University of Sussex.
Melissa Leach is working for her doctorate in the Anthropology Department, School of Oriental and African Studies, London University.

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TREES TO MEET CONTINGENCIES: SAVINGS AND SECURITY FOR THE RURAL POOR

Poverty and Vulnerability

In normal professional usage, 'poverty' is a synonym for deprivation. Reflecting the urban and industrial origins of poverty studies, poverty is defined in terms of low incomes or outlays. In late Victorian England Charles Booth in London and Seebohm Rowntree in York measured 'earnings', and established poverty lines based on estimates of a minimum necessary income. Contemporary poverty line measurements in India and elsewhere are similar in assessing poverty in terms of flows, whether of income or consumption. They do not take account of stocks or assets.

Poverty defined in this way encompasses only one dimension of deprivation. Others include physical weakness, isolation, powerlessness and vulnerability. Of these, it is understandable that vulnerability is frequently overlooked. Professionals who define 'poverty' are usually not themselves vulnerable. In contrast with the poor, they are cushioned in various ways against contingencies. If they live in rich countries, they have a safety net in social security, and in cases of sickness or accident, medical services are likely to be free or heavily subsidised. If they live in poor countries, they are likely to be relatively well-off and to have some means to meet sudden or large needs. Not themselves vulnerable, it is then easy for members of professional elites to underestimate the importance to the poor of vulnerability to contingencies.

Contingencies can take many forms. They may be sudden and unexpected; they may be slow in onset; or they may be large needs which can be foreseen. Classified in a commonsense manner, five categories can be identified:

social conventions	such as dowry, bridewealth, weddings, and funerals and other ceremonial and social needs
disaster	such as theft of assets, loss by fire, death of animals, floods, droughts,

	epidemics of plant or animal diseases, civil disturbance and war, and food shortages and famines
physical incapacity	including disablement; sickness; the child-bearing sequence of pregnancy, childbirth and the post-natal period; old age; and accidents
unproductive expenditure	such as failures in small enterprises, ligitation or gambling; and fees for schooling or apprenticeship which do not pay off
exploitation	including excessive demands and illegitimate acts by the powerful, such as demands of exorbitant interest by moneylenders, expropriation of property, intimidation, and blackmail

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. Contingencies are especially harmful when they entail a loss of food or income. This can result from the contingency itself - the death of an animal, the wrecking of a fishing boat, a physical injury or sickness - or from the asset disposal used to meet the contingency, such as the sale of ploughing oxen, tools, or land. When a productive asset is thus lost, it is even harder to get back to the previous position.

The Neglect of Contingencies and Assets

Reducing vulnerability to contingencies is, however, rarely a direct objective of government anti-poverty rural development programmes. If anti-poverty programmes are successful, they may reduce vulnerability through flows of food and income which meet consumption needs at bad times of the year, or which allow savings and investment. But few

programmes try to reduce vulnerability directly by enabling poor people to gain disposable assets which they can realise at will to meet contingencies. In many countries relief work programmes, often Food for Work, allow poor people to earn food or money when they need it, and so help them to meet the contingency of seasonal deprivation; but this is through food or wages for work rather than through disposable assets. India's large-scale Integrated Rural Development Programme (IRDP) does provide poor people with economic assets, but these are intended to generate income which will raise them above the poverty line, not give them lump sums to meet contingencies. Whether the assets are milch buffaloes, or goats, or sewing machines, they are precisely not meant to be sold or disposed of. But the priorities of the poor are not necessarily those of the planners. In a survey in Gujarat, Indira Hirway (1985: 140) found people not in the IRDP who wanted the scheme for its cheap subsidised asset, seeing it as a desirable acquisition because of good resale value. 'The asset therefore can be used to meet any type of emergency like social functions (marriage, death, birth etc), illness in the family, or consumption needs'.

This priority of the poor themselves can be understood in terms of changes which have been taking place in many agrarian societies. In two ways, the needs of poor people for such assets have generally become more acute. First, in many rural areas the costs of meeting contingencies have risen as have dowry prices in India, and health treatment in much of sub-Saharan Africa and elsewhere. Second, mutual help through 'primitive' sharing and patron-client relations has eroded or disappeared. Earlier, patrons often provided security by advancing loans to help their dependent clients meet large or sudden needs. With labour now more on an employer-employee cash basis and with weaker mutual social obligations, poor people face a new defencelessness. To meet contingencies, they need a substitute for their former patrons' support, but in government programmes this need is normally overlooked.

Nor have scholars and practical analysts often treated contingencies and asset disposal as central concerns. Some ethnographic studies

have, however, described contingencies and how they are met. Among these are F G Bailey's (1957) account of sales of land and jewellery in a village in Orissa, David Parkin's (1972) study of sales of land and palm trees in Kilifi District, Kenya, and Mead Cain's (1981) study of reasons for sale of land in three villages in India and one village in Bangladesh. Careful and useful though these are, they are limited in their geographical and cultural context and in the range of assets which are considered.

Nor, to our knowledge, has there as yet been any comparative analysis across cultures of types of contingencies and assets to indicate the relative value to poor people of different types of assets; or of how poor people use assets, and in what sequences, to deal with contingencies and to prevent or mitigate impoverishment. Yet assets can take many forms - land, crops, large and small domestic animals, rights of usufruct, huts, cooking pots, furniture, clothing, bicycles, carts, tools, weapons, cash, bank accounts, gold and silver and other ornaments, jewellery, future labour and so on; and the mortgaging, forfeiture, or sale of assets is so widespread as to be almost universal.

A further oversight in this context has been trees. In an earlier discussion of assets, vulnerability and poverty ratchet effects (Chambers 1983: 114-31) the only trees mentioned were Parkin's (1972) palms. A subsequent literature search for evidence of trees acting as buffers against contingencies conducted along several apparently promising tracks, has reaped little fruit. The literature dealing with small farmer production systems focuses almost exclusively on the crop and livestock combinations which provide the family's main means of economic support. Trees grown on farmland or in kitchen gardens are mentioned only peripherally if at all, and never paid enough attention to indicate their importance as assets. Some social anthropologists have considered farmland trees in detail, but more often in relation to cultural traditions surrounding them than to their place in a poor household's domestic economy (Srinivas 1976: 136, Malhotra and Basak 1984). Even where trees are an integral part of cropping or livestock systems their role in buffering contingencies seems to be ignored.

Studies of traditional agroforestry systems, for example the home gardens of South East Asia (Wiersum 1982), emphasise the reduced seasonal vulnerability provided by a continuous flow of products throughout the year. The role played by the tree component as a savings bank against other crises has received little attention.

A search of available literature which can be broadly grouped under the term 'social forestry', particularly that dealing with India, has revealed a disappointing lack of information about how the trees planted under farm and community forestry projects ae actually used. In part this reflects the relative newness of most schemes, but it also reflects a real gap in research. The prevailing view among most State Governments and their sponsoring agencies has been that planting trees is an end in itself; hence 'official' project evaluation documents have stressed seedling adoption rates and target acreages of planting achieved (World Bank 1983a, 1983b). The spate of critical literature which argues that social forestry is failing to reach, and to meet the real needs of the poor (CSE 1985, Mahiti Project 1983, Shiva et al 1981) has started a fierce debate about who participates in social forestry projects. In its midst, the question of why the poor might want to participate has largely been ignored. Few studies have explored small farmers' motivations in undertaking farm and community forestry and none, to our knowledge, has examined in detail how those trees which have been planted contribute to the domestic economy. Hence evidence of their actual or planned use as savings banks has not come to light. Some researchers have been stimulated by the social forestry debate to look at the traditional uses of spontaneously planted farmland trees (Brokensha et al 1983, Campbell and Bhattarai 1983, Poulsen 1983). However, like the agroforestry literature, these studies emphasise flows (of fuel, fruit, fodder and other products) rather than the meeting of contingency crises. The few authors who mention the potential of trees as savings banks do so more in passing (Mascarenhas 1983: 57; Shah 1984: 65; Murray 1986) than as a central theme or focus.

These gaps in knowledge and analysis have many explanations. Professionals usually neglect the things that matter to the poor. As

already noted, normal professional analysis of deprivation defines poverty as lack of flows of food and income rather than lack of assets. Nor have professions been organised to notice trees in villages or on farmland; agricultural scientists have been concerned with crops, veterinarians and animal husbandry specialists with domestic animals, and foresters with trees in forests and plantations, rather than on private land. Foresters and others have also been influenced by rich country and temperate climate experience, where slow tree growth limits the value of trees as assets, with growth rates of the order of only one-tenth of those in the tropics (Douglas et al 1982: 195). For their part social anthropologists tended until recently to concentrate much of their attention to people, often either in remote locations where trees and tree products were abundant and therefore had little value for meeting contingencies, or in pastoral areas where trees were not a good source of money. A further factor has been the time lag in recognising the implications of the rapid rise in value of timber, fuelwood, charcoal and other tree products. Trees which had little capital value before the penetration of the market and the fuelwood shortages of the energy crisis, have now become prized capital assets, but policy has been slow to adjust to the change. Finally, tree tenure has recently been better recognised as a comparative subject, (Fortmann and Riddell 1985), emphasising that rights to trees are often separate from land tenure, sparking new ideas about tree reform.

Thus, in many rural areas of the Third World, costs of meeting contingencies have risen at the same time as traditional means of meeting them have weakened. Simultaneously, the market for trees and tree products has expanded and their value has risen. Together, these trends raise and sharpen questions about the past use and future potential of trees as savings banks of the rural poor to help them meet contingencies.

The Use of Trees to Meet Contingencies

There is much scattered evidence to show that trees and tree products are used to cope with contingencies. This evidence could be categorised according to type of contingency, the scale of need, whether the need is sudden or of slow onset, or whether it is unforeseen or foreseen. A more useful classification for our purposes is between direct use of trees or tree products, and their sale or mortgage for cash. This distinguishes subsistence and consumption (direct use) from market relations (sale or mortgage). Direct use tends to involve small quantities, while sale or mortgage can involve both small and large quantities. Moreover, it seems likely that with economic and social change, direct use has and will become relatively less significant and sale for cash more so.

(i) 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: 45-7). Trees can be sources or recurrent flows of food, fodder and other useful material. When these flows are counterseasonal they help households get through the slack or lean months. For human food, examples include mangoes at the beginning of the rains; uvilla (Pourouma cecropiaefolia), a small tree of Brazil, Coloumbia and Peru which produces a small fruit over three months of the wet season; ber (Zizyphus spp) in North India in the late dry season; and the locust bean (Parkia spp) maturing in the dry season in West African savannah. For animal nutrition, some tree fodders similarly become available for livestock in the late dry seasons, for example Acacia albida which drops its pods when other fodder is scarce. Trees and tree products which help people and livestock to survive the worst times of the year reduce vulnerability at that time and diminish the dangers of impoverishment through sale of assets to buy food or through loss of livestock.

The second form of direct use is where a contingency entails a one-off need for trees or tree products. Examples are firewood for funeral

pyres or feasts, poles and timber for hut and house-building after fire, flood or house collapse, and replacing a lost boat or canoe. 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 debts.

The penultimate contingency for which poeple make provision is old age. In Benin, Marilyn Hoskins (pers comm 1986) found members of a cooperative rented land to plant trees as savings for their old age when they would not be able to do heavy fieldwork. The trees were to be harvested as need arose. With declining obligations to the aged accepted by the young, and in the absence of State social security schemes, this use for trees may become more common.

The ultimate contingency is death, with costs of a funeral and wood for a funeral pyre. In India it is reported to be quite common for trees to be reserved for funeral purposes. One old lady agreed to sell her land only when the purchaser agreed to leave in her possession three Acacia arabica trees for her funeral pyre (pers comm P K Aiyasami).

(ii) As a source of cash

Contingencies requiring cash are of two main types: those where a large sum is required, often suddenly; and those where only a small sum is need but people are poor or desperate. Trees are found playing a part with both.

A large sum can be needed urgently for medical treatment, a funeral, rebuilding a house or hut or replacing lost or damage capital equipment (draught oxen or buffalo, a fishing boat or net, etc). Large sums may be borrowed but often the debt cripples.

Examples of trees being used to meet contingencies are provided by David Parkin's (1972) study of palm trees in Kilifi District in Kenya. Transactions could be for palms and land together, or for palms on their own. Parkin noted that the greatest and most common contingent expenditure causing poorer men to dispose of their land and palms was

marriage and bridewealth. Others were expenses for a funeral or sacrifice; the costs of having a traditional doctor during a long illness of a family member; and money for food after a poor harvest or for other similar contingencies. Of these he found that costs of bridewealth and funerary expenditure had risen greatly. In addition:

> 'Natural or man-made misfortunes, of which the greatest is sickness, strike into the lives of men and their families with a suddenness which defies resistance or delay. Cures must be sought, sometimes at great expense, from a range of traditional doctors, whose various techniques are applied until success, or death, ensues. A poor harvest - a frequent occurrence after a drought or untimely heavy rains - causes people to turn to the shops or their more enterprising neighbours for purchases of maize. Adultery with another man's wife or seduction of a man's unmarried daughter is liable in the government court to compensation. Taxes, though a recurrent form of expenditure, may be due during what happens to be a lean period in the life of a family. Other needs may be minor but frequent, and debts accumulate. All these needs must be met in cash. Whatever the 'last straw' contingency is, the sale or pledging of palms and land is the surest way to raise cash quickly' (ibid 59-60).

The best documented type of crisis is need for cash to buy food. This can follow some natural disaster such as drought and floods or may result from a series of other contingencies and of needs for money. Patricia Ann Caplan's (1975) study of a Swahili community on the East African Coast was conducted during very dry years when one reason for the sale of trees was 'sheer lack of cash; several people sold a few (coconut) trees here and there to make ends meet' (1975: 42). Distress sale of trees because of drought is reported from Tamil Nadu, indicating 'that the villagers resort to short term exploitation of fuel resources in dorught periods when their incomes fall drastically, unmindful of the long term consequences or their act' (Neelakantan et al 1983, cited in Foley and Barnard 1984: 56). The widespread cutting and selling of trees to combat disaster can also be inferred from Bangladesh where a strong correlation is reported between

the areas mapped as liable to famine and those mapped as having few trees. For Mbeere in Kenya, Brokensha and Riley (1980: 127) found that for many families burning and selling charcoal was the only way of raising money 'to meet expenses such as school-fees or even for the purchase of food when the rains fail'.

A tragic example of the cutting and sale of trees to buy food has been vividly recounted by Hartmann and Boyce in their book A Quiet Violence, (1983: 160-167) about a Bangladesh village. A landless family - Abu, Sharifa and their six children - had suffered a long impoverishing sequence, selling land in a famine, doing badly in land inheritance divided between four brothers, and mortgaging and selling their wooden bed, cow, plough and land bit by bit to meet a succession of needs including medicine for Abu's sick mother and for Abu himself when he had paratyphoid. Sharifa's earrings and gold nose pin followed. Out of food, in debt, with creditors pressing for repayment at a time of year when cash and food were short, and needing money to buy seed to plant on sharecropped land, Abu cut down first the young mango tree, and then the young jackfruit tree on their small plot to sell the wood and roots for firewood. In the words of the book:

'Abu chops off another root, and continues, "There is no rice in my household and I have six children to feed. In June I cut down my mango tree and now I am chopping up my jackfruit tree. My children will never eat fruit - how can I afford to buy it in the Bazaar? Rich people in this country don't understand how my stomach burns".

Yesterday I went to Mahmud Haji's house and asked him to advance me some mustard seed. The ground is ready for planting, but I have no cash to buy seed. He told me, "Buy it yourself. My sharecroppers have to provide their own seed". He has bags of mustard seed in his house. How can a man be so mean?"

Abu arranges the cut roots into a neat pile. "I'll sell the roots as firewood too", he says, "Tomorrow I'll carry the wood to town".

(ibid: 167)

The case is cruel. The loss of the trees was a loss not just of appreciating capital, but also of future benefits from fruit. But the practical point is that where there is a local market for firewood, trees on homestead plots are assets which can be cut and sold at short notice to meet urgent needs.

The Use of Trees as Savings

It is not just that poor people in practice use trees to meet contingencies. They also plan to do so. Trees are often planted or retained as part of deliberate long-term strategies for savings and security. With the increased privatisation of land, and fewer trees on common property, the incentives and opportunities for using trees in this way have increased.

Examples are reported from many parts of the world. In Costa Rica and Ecuador it is common for farmers to plant a few trees around their dwellings in their fields, and cut and sell them for timber when money is needed for a wedding or a major cash outlay (Foley and Barnard 1980: 40). In Garhi village in Uttar Pradesh, Varun Vidyarthi (1984: 829) found that though most trees belonged to the large landholders, others did own a few trees and that they were planted in their courtyards or on bad patches of land. The wood from such trees was used only on special occasions or emergencies, such as a marriage feast or burning of the dead. In Kerala, although land holdings are often very small, large numbers of trees are grown. Though the principal species are coconuts and cocoa, farmers often include a few timber trees as well, and slow maturing species such as teak and mahogany are sometimes grown as long-term investments (Foley and Barnard 1980: 40-1). In Kakamega District in Kenya, exotic trees are planted as crops, or as a form of investment, to pay school fees, etc (Chavangi et al 1985: 11).

Dowry and wedding expenses can be provided for by trees. In Turkey, it is reported (Foley and Barnard 1980: 40) to be traditional to plant trees on the birth of a female child, as a kind of 'down payment' on her wedding. The same occurs in South India. Casuarina trees (Casuarina equisetifolia) were introduced into South India by

R H Elliot, a coffee planter in Mysore, in 1859 and spread rapidly among the wealthier farmers (Hill 1982: 165). In his classical study Some South Indian Villages (1918) Gilbert Slater, after noting the several benefits of the tree, concluded

> 'Hence a plot of barren land planted with casuarina is a splendid savings bank for a ryot who can foresee a period of heavy expense in six or seven years' time: as, the marriage of a daughter, or the education of a son at the University' (Slater 1918: 5).

In 1974, a large clump of casuarina beside the Cheyyar river in Tamil Nadu was pointed out as a matter of no exceptional interest as the dowry for a farmer's daughter. The planting of casuarina in parts of South India as the source of dowry or money for children's education may well be widespread.

The value of trees in strategies for savings and security is enhanced by their use to obtain credit and liquidate debt.

Concerning credit, tree pledging or leasing is practised in Nepal, Nigeria, Sierra Leone and Ghana (Fortmann 1985: 232). In Kenya, Parkin (1972: 60) noted the pledging of palms as a sure and fast way to raise cash to meet contingencies. In India a case is reported where an enterprising bank manager gave a consumption loan with trees as security (pers comm Aloysius Fernandez). From her field research in Karnataka, Polly Hill reports that

> the possibility of letting out small plots for wood planting provides impoverished men with a reliable type of credit, since the lump sum granted them at the outset is automatically liquidated by the landowner's share of the net value of the wood when it is sold, which is usually agreed as one half (Hill 1982: 159).

Concerning liquidating debt, only one example is known to us. This is a farmer, Kalji Chatra of Thala village in Panchmahals District,

Gujarat, who pledged an acre of land to raise Rs3,000 to marry his son. Since the pledgee had the right to cultivate, there was no interest payable, which makes this a favourable case for redemption. The farmer planted 200 Eucalyptus on a small plot of land, and cut and sold them after only three years for Rs5,000 with which he redeemed the acre and invested in a better pair of bullocks (interview, February 1986).

Both the Karnataka practices of leasing out small plots of land, and the Panchmahals example of redeeming a debt by growing trees on a small plot, indicate the potential of tree-growing for avoiding or escaping from damaging debt. In the Karnataka practice, not only is credit obtained and indebtedness avoided, but at the end of the lease the lessor receives half of the net value of the wood as a further lump sum; nor is there any interest on the credit to be paid in the interval. In the Panchmahals example, it is noteworthy that it did not take long to repay. In good growing conditions, the appreciation in value of trees is like a very high interest rate in a savings bank, suggesting that poor people with suitable small plots of land may be able to accumulate wealth in trees fast enough to pay off debts even when interest rates are high.

Trees as Poor People's Assets

As savings and security against contingencies for poor people, trees can be compared with other assets. Whatever comparisons there will be local exceptions. The ratings in Table 1 are based on a priori reasoning as well as on empirical evidence. The ratings for trees assume an environment in which trees will grow, and that poor people can plant and protect them. Without these conditions, trees as banks and buffers are either valueless or liabilities.

The criteria in Table 1 are supposedly those of the poor themselves. They need empirical checking and should be investigated for each group of poor people and each set of conditions. As more is learnt about vulnerability and the priorities of the poor, the criteria will be modfied. Accepting them provisionally, however, it is instructive to look more closely at how trees compare with the other assets - jewellery, large stock, small stock, land and bank deposits.

Disadvantages

The most marked comparative disadvantages of trees concern rights, cashability, marketing, and safety.

(i) land rights

Although tree tenure is separable from land tenure, many obstacles prevent poor people without land from planting or owning trees. Many of the 'landless' in Asia have small household plots but often these give little scope for growing trees. Proposals to permit landless and poor people to grow trees on public and wastelands, like roadsides, canal banks, and other common or government land face bureaucratic and departmental problems. A proposal for tree rights for the landless on such land in Bangladesh was taken over by the Forest Department. In India, however, tree patta programmes, designed to give the poor and landless rights to raise and use trees on such land, have been adopted in several States including Bihar, Uttar Pradesh, West Bengal and Maharashtra (pers comm N C Saxena). It remains to be seen how well these programmes can overcome the land access problem.

(ii) tree rights and cashability

Rights to jewellery, livestock, land and bank deposits are usually clear (though they can be complicated with large stock), and rights of owners to lease, mortgage, pledge or sell such assets are usually undisputed and unimpeded by law or bureaucratic regulation. But quite often rights and cashability are restricted with trees. With much social forestry, for example, rights are at best ambiguous. The poor are meant to benefit from the trees planted, but often do not own them or have rights to harvest them. Even where trees are on their own land, they are often prohibited by law, and impeded by bureaucracy, from cutting them down when they want to. An Earthscan publication (Eckholm et al 1984: 56-57) reports several examples. In parts of the Sahel farmers are unwilling to grow certain valuable trees because they are on the Forest Department's list of protected species. To harvest them, farmers have to prove that they planted them and then go through the laborious process of getting a permit to cut. Haitian

peasants who planted trees on their land as part of a programme were told they belonged to the government and that they would be punished if they were cut down. In the Dominican Republic, Honduras, and some other countries, ownership of all trees is vested in the government, and there are penalties for cutting any trees without permission, even those standing on a peasant's own land. The Philippines also has laws to control the cutting of trees and the process of getting a cutting permit is slow and cumbersome; as a result, some small farmers who have invested in tree growing find it difficult to harvest and sell their own trees. In Uttar Pradesh in India, tree cutting has similarly been prohibited on private land. Obtaining a permit is liable to be protracted and to involve costs in bribes, and cutting without a permit exposes the owner to prosecution or bureaucratic blackmail.

(iii) marketing

Marketing also presents problems. Wood (though not most other tree products) has a high weight to value ratio. Cash from the sale of the small amounts which can be headloaded will meet only small needs. Poor people often do not have draught animals and carts, or camels, donkeys, mules or horses, for transport. To hire these itself requires outlays or indebtedness. The alternative of selling standing trees or wood on site puts the vendor at a disadvantage. Reports are heard of much lower prices being paid for small lots of wood than for large, and big commercial buyers like Indian pulp factories may not be interested in buying small lots. A small farmer may not be able to attract competitive bidding for his trees, as recorded by F H Panthaky (1982) for Haryana in India.

(iv) risk of loss

Risk of loss of trees as assets is a less clearcut disadvantage. The vulnerability of trees varies. In the early stages of growth, and especially if they are planted on common land, fodder trees require protection from grazing animals or they will not survive. In dense stands in dry conditions fire is a hazard. Theft and malicious damage are dangers. In Ancient Greece, cutting one's defeated opponents

olive trees was a severe infliction of economic damage. On the outskirts of Pune in India recently, the three-year old agroforestry trees of the Centre for Development Studies and Activities were cut down and palms were cut up so that they could not be replanted; this was a reprisal and attempted intimidation because the Centre was tracking and exposing a land racket (pers comm Anita and Christopher Benninger, 1986). In other conditions, trees can be very safe, as reported by Pliny in the first century. A.D.

> The whole wood or forest (of incense trees in the South Arabian coast) is divided into certain portions, and every man knoweth his own part: nay, there is not one of them will offer wrong unto another, and encroach upon his neighbours. They need not set any keepers for to look unto those trees that be cut for no man will rob from his fellow if he might, so just and true they be in Arabia.
>
> (Pliny: 1964 edition)

Advantages

In some other respects trees have clear advantages over other types of assets. The most marked of these concern biology and economics:

(i) cheap establishment

Tree seedlings rarely cost much and have a trivial starting cost compared with jewellery, livestock, land, or bank deposits. Often seeds can be gathered and planted, or saplings can be found and transplanted, with little or no cost except labour, and labour is often the resource poor people have most accessible. Even where seedlings are purchased, they are usually cheap. Costs of watering and protection, however, vary considerably and can be high.

TABLE 1: SOME ASSETS OF THE POOR: COSTS, RISKS AND BENEFITS COMPARED

POSITIVE VALUES		Jewellery	Large Stock (cattle buffaloes, camels etc)	Small Stock (sheep, goats, hens etc)	Land	Bank Deposits	Trees
LOW COSTS	Low unit starting costs	-	-	0	+/-	0	+
	Low maintenance costs - herding, protection etc	+	-	-	-	++	+/-
LOW RISKS	Low vulnerability to disease, accident, damage, drought	++	-	-	+	++	+/-
	theft	0	-	-	+	++	+/-
RIGHTS SECURE	Property rights and cashability assured	++	+	++	+	++	(1) +/0
	Rises fast in value (appreciates, breeds etc)	0	+	+	+/0	(2) -	(3) ++/0
	Stores well	++	-	-	+	++	++
	Easy to pledge, mortgage or use as security for loan	++	+	0	+	()	+?
HIGH BENEFITS	Provides flows of income food etc	-	+	+	+	0	+
	Easy to transport	++	+	+	()	++	-
	Divisible/small units for sale	+/-	-	+	+/-	++	+
	Good price for small amount	0	()	+	0	++	+/-
	Steady price	+	0	+	+	(++)	+
	Avoids obvious distress sale	+	-	0	-	++	+
	Regenerates after disposal	-	-	-	-	-	+/-

++ = strongly positive (good - = usually negative (bad)

+ = usually positive (good) = = strongly negative (bad)

0 = more or less neutral +/- = sometimes positive sometimes negative

NOTES

(1) This is highly variable, but complete freedom to cut and sell appears to be exceptional where government regulation or programmes are involved.

(2) It has been common in recent years for inflation to exceed the interest rates for savings bank accounts.

(3) 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.

(ii) rate of appreciation

In tropical conditions where rainfall is adequate trees usually grow very fast, Leucaena leucocephala being outstanding. In good conditions, small stock, especially goats, can also breed fast. Trees in good conditions have here a dramatic advantage over bank deposits. Low rates of interest combined with inflation often mean that savings deposits earn negative interest in real terms, whereas most trees not only maintain or improve their value in inflation, but also appreciate in value rapidly from low starting investment costs.

(iii) divisibility

If trees are sold as firewood they are divisible into small units to fit needs closely. Part of a tree can be cut, or if trees are small, whole trees are like small units of currency. Small stock and low value jewellery are similar, but trees for firewood are as good or better.

(iv) regeneration

Many trees grow back after pollarding or coppice after cutting. The nearest equivalent to coppicing among other assets is with livestock dependent on limited private supplies of fodder, where the sale of sterile dry females or surplus males improves milk productivity and per unit breeding potential. With other assets there is no equivalent: jewellery, bank deposits, and land do not coppice when cashed.

Implications for Research

The evidence and analysis presented have implications for research. More empirical studies are needed of the potential and use of trees as savings banks and buffers, especially by poorer people.

Important topics include:

- security of rights and freedom to sell, including relations with bureaucracy.

- marketing arrangements in practice, including cooperative marketing (as with tree growers' cooperatives in Gujarat), small-holder grower schemes for pulp factories, arrangements for transport, and prices under different conditions.

- comparative analysis of the costs and benefits to poor people of different types of assets in different conditions, including trees of different types.

- studies of small farmer behaviour where complete freedom to cut and sell is vested in the farmer, and fully credible.

- studies of programmes or conditions in which landless people have or acquire disposable rights to trees without necessarily acquiring rights to the land on which the trees grow or stand.

Implications for Policy

Policy implications are linked with a shift in thinking to place more emphasis on enabling poor people to acquire and accumulate assets to meet contingencies. The livelihoods which poor people want and need can be defined as a level of wealth and of stocks and flows of food and cash which provide for physical and social wellbeing and security against becoming poorer. Almost all people who are defined as coming below poverty lines in terms of flows of income and consumption (food, goods in kind, and cash) already have strategies for piecing together a living, sometimes with a wide repertoire varying by season and location. A normal professional approach is to try to assure them employment, a job, or an asset which will provide for all or almost all their needs. An alternative is to reinforce their existing strategies and back them up, by adding to their assets, security and repertoire. Thus a household which is below some notional livelihood line, may be able to move above it through the addition, not of a

complete new livelihood, but of a significant component. If this is an appreciating asset to meet contingencies, the benefits can be strong: less anxiety, greater security, and more ability to think and plan ahead; less need for the goodwill of the powerful and rich, and so a weakening of dependent relationships which exploit the poor; less danger of becoming permanently poorer, for example by having to sell land and become landless, or by running into debt; and the direct benefits of being able to deal better with sickness, accidents, education costs, and the like.

Thus, trees as assets for the poor promise benefits in health, education and social relations, as well as more obvious long-term economic benefits.

Many of the policy implications will be specific to places and people, but four can be generalised. Of these the first is the most important and most misunderstood.

(i) ownership and rights (See Fortmann and Riddell 1985)

For trees to be good banks and buffers, ownership and rights must be unequivocal. If rights to cut and sell are not clear, or cannot be exercised immediately when needs arise, much of the value of trees to the poor is lost. Unfortunately, Forest Departments and other government officials do not think like bankers, nor are they subject to the same laws. Bankers are required by law to permit depositors to withdraw money at times chosen by the depositors. To restrict cutting and selling trees is like prohibiting people from withdrawing money deposited in a bank, unless perhaps by bribing the bank manager or his staff.

The policy issue here is of immense importance because of the common and deeply held belief among foresters, administrators and other professionals that poor people cannot be, and should not be, trusted with rights to do what they wish with trees. The belief, sincerely held, is that poor people so badly need to fulfill their requirements for daily subsistence, and are so unable and unwilling to take a long view, that given the rights and the option, they will not care for

their trees as a medium or long-term investment, but cut them down quickly. The ecological and economic benefits from trees will then be lost. The policy conclusion is a need, in the interests of the environment, to prohibit the cutting or harvesting of trees without permission.

This view appears to be mistaken. Conditions differ, and overgeneralising is a danger. But it is probably widely true that, paradoxically, restrictions on cutting create the very conditions which seem to justify them. Poor people who are not sure of their rights, or whether trees are theirs, will either cash them quickly, or neglect them. Such behavour then seems to justify not trusting the poor.

On the other hand, when poor people have full ownership they try, often with great tenacity, to retain their assets. The more valuable trees are, or are likely to become, and the more they are appreciating in value, the more they may struggle to hang on to them. Abu and Sharifa disposed of other assets before they finally and painfully cut down and sold their trees. Even Sharifa's nose ring went before the trees. A sense of savings, investment and the future is also reflected in the attitude of farmers in Northeast Thailand. Where large trees remain in their paddy fields, as in many places near Khon Kaen, 'they are preserved "for the children" even though they may be in the middle of the paddy and require heavy pruning' (Grandstaff et al c. 1985). Another example is the Agroforestry Project launched in Haiti in 1982. This demonstrates a tenacious reluctance to part with trees when ownership and rights are clear. The Project was designed and implemented with a social anthropological input (Murray 1984, 1986). Rural Haiti was being devastated by tree cutting, as rural agrarian groups opened up new land, lumber firms extracted timber, and poor people cut trees to make and sell charcoal. In contrast with earlier approaches which restricted rights to cut, the Agroforestry Project treated trees as a cash crop for peasants, and from the start made it clear that

'You Will Be the Owners of Any Trees Planted'

and

'As far As We're Concerned, You Can Cut the Trees When You Want' (Murray 1984: 53). On this basis the Project was oustandingly successful, exceeding its targets many times. A social anthropologist who was involved has summarised the experience as follows:

> Peasants originally plant the trees with a view to income generation, but may end up preserving the trees as insurance against emergencies. This meant that, though the tree planting went much faster than we ever dreamed possible because of the cash-generating focus, the tree harvesting is going much slower because of the risk calculus of the peasant owners. Skeptics had predicted just the opposite; the stubborn traditional peasants would of course refuse to plant trees or do so slowly; and once having planted the greedy impatients would vie with each other in rapidly cutting them down.
>
> (Gerald Murray, pers comm 1986)

Poor peasants, it seems, will defer gratification from 'cashing' trees when they can; and trees have the great advantage over other crops that harvesting wood can not only be deferred, but is the equivalent of reinvestment which leads to higher returns later.

Another deeply held view is that trees should to the extent possible be held in common. Privatising is seen as retrograde. Allocating standing trees, or rights to plant trees, to households in ways which benefit the rich and exclude the poor is obviously to be guarded against. But allocating trees on common land to households can be done fairly and can reduce overexploitation, as in Gangpur village in Valsad District in Gujarat, where the village tackled and solved a 'tragedy of the commons' problem by allocating mahua trees to individual households, who then had an incentive for good husbandry. Moreover, trees held in common cannot so easily be used, if they can be at all, to deal with contingencies. Insisting on communal tenure for trees may be to deny poor households potential savings accounts.

The ultimate test is what poor people themselves want. The findings of the Mid-Term Review of the Madhya Pradesh Social Forestry Project

may be typical. Sessions were held with poor people to ask them their preferences for how wood from social forestry should be distributed. Four options were presented. It was difficult to get participants even to discuss the first three. These were involving the panchayat; organised cutting and then distribution; and subsidised purchase by the poor. The poor 'overwhelmingly' favoured the plan which divided up trees on the plantation equally, with each family allowed to gather wood from designated trees.

Poor people, like those who are not poor, are thus deeply concerned with rights and ownership. For trees to be good banks and buffers for them, they must own them and be allowed to harvest them at will.

(ii) marketing and prices

Ease of marketing and good prices are critical and complicated by the gestation of several years for most trees. Tree marketing cooperatives and special arrangements for bulking up and purchase of small lots are indicated where the purchaser is a pulp or other factory. Outgrower schemes for small farmers, comparable to those in East Africa for tea, deserve investigation. Where a new tree product is to be marketed, adequate numbers of trees and levels of production are needed for viability. In new settlements in Sri Lanka, this is sought with improved mangoes through subsidised planting in household clusters (pers comm Moore).

(iii) land reform

In India, land reform has faced many problems. Some can be mitigated by trees, especially now that they are worth more. The very small plots issued to landless households in the Kerala land reform were valuable for the scope they gave for growing a few trees. Similarly, poor quality land which is released under ceiling legislation in India has, through trees, a higher potential now than it would have done a decade or two ago. Even a limited land reform which allocates only small lots of low grade land to landless households, deserves scrutiny for potential gains to the poor through planting trees as banks and buffers.

(iv) tree reform

The separability of tree tenure from land tenure (Fortmann and Riddell 1985) opens up scope for rights for the landless to trees on common land or public land including forests. This can be through allocations of trees already growing, or through new planting. A positive lesson from the tragic case of Abu and Sharifa is the big difference that trees can make to a poor family, even on a small plot of land. Tree reform which allocated trees and rights to plant trees on the fringes of blocks of forest land, for example, could make a major impact on the deprivation of the landless and poor who live nearby.

Conclusion

Trees for the poor are not a panacea, but the evidence suggests that they have more potential for reducing deprivation than has been recognised. Seen from the point of view of the poor themselves, they are like bank deposits with low initial deposits and high rates of appreciation. Professionals have been slow to see that the value of trees to the poor is greater than it used to be. A number of promising pilot projects and programmes, such as social security forestry in Gujarat, and the social forestry programme in West Bengal, have given landless and poor people rights in trees. The question now is what lessons can be gained from the experience in India and elsewhere so far; and whether official policies can be turned around and bureaucratic attitudes and reflexes reversed to enable and allow many more poor people to own and use trees as savings.

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Agricultural Administration Unit

Regent's College
Inner Circle
Regent's Park
London NW1 4NS

Tel: 01-935 1644