

AGRICULTURE AND RURAL PROBLEMS

SUSTAINABLE LIVELIHOODS, ENVIRONMENT AND DEVELOPMENT: PUTTING
POOR RURAL PEOPLE FIRST

by

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Many processes of change involving population, resources, environment and development are not sustainable. In seeing what to do, normal professionalism and 'first' thinking are part of the problem. The Brundtland Commission made progress in moving priorities towards the poor, but did not go far enough. Its concept of secure and sustainable livelihoods for the very poor and poor is, however, powerful, implying conditions for lower population growth, less distress migration, more resistance by the poor to exploitation by the rich, and more sustainable resource management. Developing this approach, the thinking of professionals about environment and development and that of poor people about livelihoods can be combined as sustainable livelihood thinking (SLT). The potential for applying SLT in resource-poor environments has been underestimated. Analytical implications include the concept of sustainable livelihood-intensity. Practical implications include secure rights for the poor to use and sell assets, and a new professionalism which starts not with things, but with people, putting first those who are poorer.

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Abbreviations and Definitions

Core refers to places, people, organisations and interests which are central and powerful

DT: development thinking

ET: environment thinking

LT: livelihood thinking

new professionalism: thinking, values, methods and behaviour which reverse many elements of normal professionalism.

normal professionalism: thinking, values, methods and behaviour dominant in professions and disciplines and reflecting 'core' or 'first' biases.

PRED: population, resources, environment and development

SL: sustainable livelihood

SLT: sustainable livelihood thinking

SSA: Sub-Saharan Africa

SUSTAINABLE LIVELIHOODS, ENVIRONMENT AND DEVELOPMENT: PUTTING POOR RURAL PEOPLE FIRST

The Context and the Problem

In the 1980s, problems of population, resources, environment and development (PRED) have received renewed attention. One factor in this has been the combination of economic decline, population growth, and environmental degradation in sub-Saharan Africa (SSA), which, together with the drought and famine of 1983-85, has provoked a small library of studies. The World Commission on Environment and Development (the Brundtland Commission) has also played a major part in raising awareness of PRED issues. For these and other reasons, host governments and donor agencies alike are giving higher priority to environmental considerations. Even the normal economics of discounting in project appraisal has been challenged for undervaluing the future. Yet, as I shall argue in this paper, the thinking and strategies advocated and adopted have largely perpetuated conventional top-down, centre-outwards thinking, and have largely failed to appreciate how much sustainability depends upon reversals, upon starting with the poorer and putting their priorities first.

The context of the interrelationships between population, resources, environment and development is well understood and generally accepted. A summary overview, with which most would agree, sets the scene.

The context is the rural Third World, mainly but not only in the tropics. Three major processes stand out. These are: population growth; 'core' (urban, industrial, rich) invasions of rural environments; and responses by the rural poor.

i. population growth

Rapid population growth is the norm in the Third World. There have been checks and declines in countries suffering war or civil disturbance, such as Kampuchea, Uganda, Ethiopia and perhaps Afghanistan. But these are exceptions, and even in them population growth has resumed, or can be expected to resume, as soon as peace comes. Populations are, moreover, projected to go on rising rapidly. Table I gives World Bank figures which estimate that in the 15 years from 1985 to 2000, populations will have grown by 32 per cent in low and middle income countries as a whole, by 49 per cent in low income countries when China and India are excluded, and by 59 per cent in sub-Saharan Africa taken on its own.

Table 1: Estimated Population Growth in Low and Middle-Income Countries 1985-2000

	1985	2000	Percentage increase in <u>15 years</u>
India	765	996	30
China	1,040	1,274	22.5
Other Low-Income	634	945	49
<hr/>			
Total Low-Income	2,439	3,215*	32
Middle-Income	1,242	1,663	34
<hr/>			
Total Low and Middle-Income	3,681	4,878	33
<hr/>			
Sub-Saharan Africa	418	666	59

* The source gives 3,177

Source: WDR 1987: 254-5

Note: These figures to the best of my knowledge antedate AIDS holocaust scenarios which now make projections less secure, given many unknowns. A large-scale AIDS pandemic might not halt population growth, but could devastate pastoralism, agriculture, and welfare of the young through the removal of active adults. Most of the arguments in this paper would, however, still hold.

Population is often growing fast in areas where the environmental base is fragile and deteriorating, as most notably in much of SSA.

ii. 'core' invasions and pressures

The second process - 'core' invasions and pressures - is shorthand for extensions into rural areas of the power, ownership and exploitation of central, urban institutions and individuals which include the richer world of the North, governments of the South, commercial interests, and professionals who are variously wealthy, urban and powerful. 'Core' also reflects the bias of language and thought which makes urban areas the centre, from which other areas, where many of the rural poor live, are 'remote'.

The term 'invasion' is not meant to imply that the processes are necessarily bad; it is descriptive, not normative. Core invasions take many forms which can benefit poor people. The most obvious are the extension of infrastructure and services which improve levels of living and the quality of life for all, including the poorer.

Core invasions, do, however, have very mixed effects. They both generate and destroy livelihoods. They create conditions for population growth, and exercise pressure on the environment. The normal, core, centre-outwards view of these processes sees them as almost entirely benign; but the view from the periphery is radically different, and a necessary corrective. In that view, the rich are seen as engaged on a massive scale in destroying and rendering less secure the livelihoods of the poor. The rich compete for and appropriate resources. Common land is enclosed and encroached by the wealthy. Forests, fisheries and ranching lands are appropriated by government and commercial interests. In SSA, pastoralists' herds have increasingly passed into the hands of absentee urban elites. In India exploitation of forests has undermined or eliminated 'fibre livelihoods' in basket and rope-making (Bandyopadhyay 1986:3) and other livelihoods sustained by the myriad forest products used by people in or near the forest. Nor does deforestation generate substantial employment: Repetto (1986:22) has calculated that in Indonesia by 1988 more than 50 hectares per year would have to be logged to create one job. In several parts of the world, large-scale corruption among politicians and officials is involved in logging. One measure of the scale of illicit felling by and for the rich is from the Philippines. In 1980 Japan recorded timber imports from the Philippines over double the Philippines' recorded exports to Japan (*ibid* 1986:17). The balance passed not through the Philippines' books but, one may reasonably surmise, into the private pockets of vested interests. It seems that the immense wealth of trees has been taken more by the rich than by the poor; and that even at the legal level, it is the consumption needs of the rich world which create the demand which devastates tropical forests much more than encroachment by the poor which is so often blamed. There are many patterns and variations. But on a very wide scale, the core invasions of the rich First World, and of the rich in the Third World, are appropriating and degrading resources on which the rural poor depend.

iii. responses by the rural poor

The third process is responses of poor rural people to population growth and core invasions. Patterns vary and exceptions are many. But a useful framework for discussion is a distinction between green revolution agriculture, in areas which are generally fertile, irrigated or otherwise well watered, uniform and flat, and low-resource or resource-poor agriculture in areas generally less fertile,

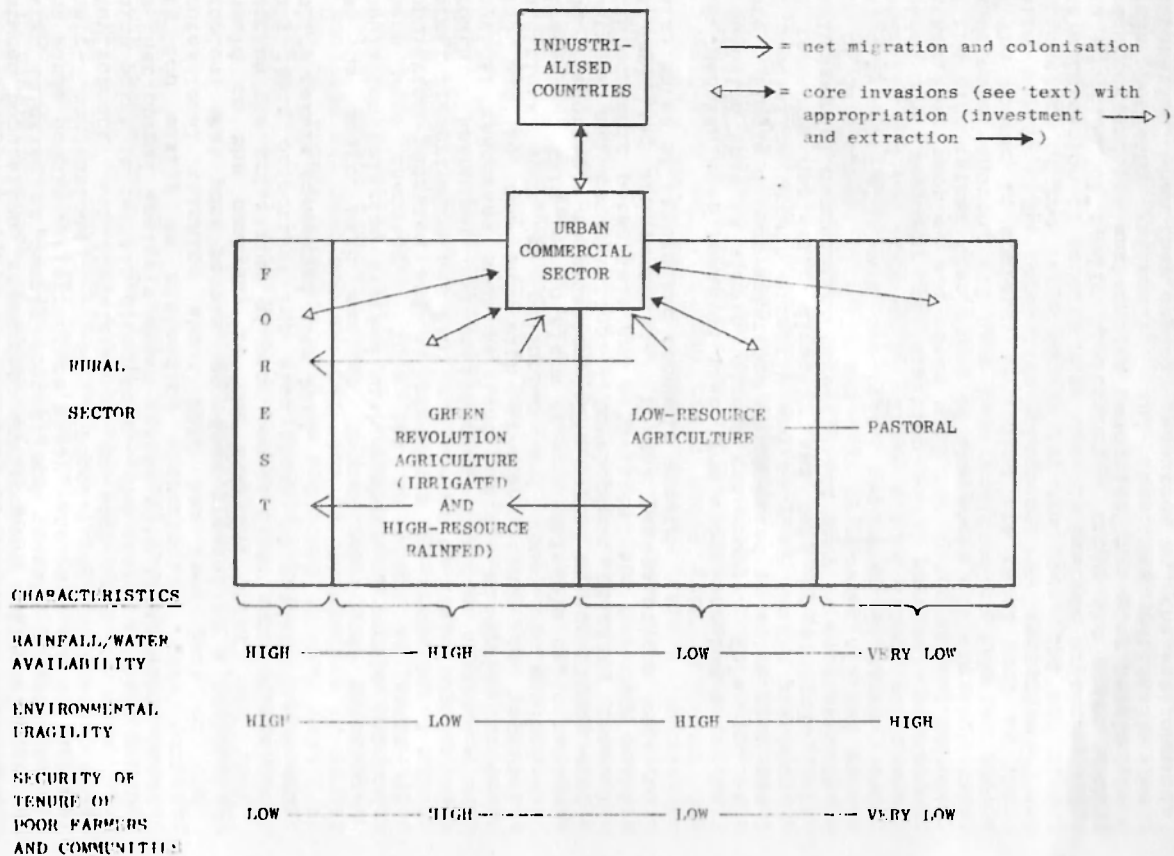
rained, diverse and undulating. The discussion which follows refers mainly to low-resource conditions, which are typical of most of SSA and of the hinterlands of Asia and Latin America (see Figure 1). In such areas, as populations grow and common property resources are appropriated, agriculture becomes more intensive, and for a time at least, less sustainable as fallows shorten and/or livestock become more numerous. Core invasions and pressures, appropriations and exclusions by government and by the urban and rural rich, declining biological productivity, and rising human populations drive many of the poorer people to migrate. This they do either seasonally or permanently, some to cities and towns, some to areas of green revolution agriculture, and some to forests, savannahs, steep slopes, flood-prone flatlands and other vulnerable or marginal areas. In these areas they may adopt sustainable forms of cultivation and pastoralism, but more often cannot, hindered and discouraged as they are by insecure tenure, lack of appropriate technology, and poverty.

These three processes are linked in many ways, and are not sustainable. An indication of the acuteness of the crisis that can be foreseen is the misery and pressure on services implied by projections for urban growth. The Brundtland Commission estimates (WCED 1987:16) that the Third World urban population will rise from 1 billion in 1985 to one and three-quarter billion by the end of the century. Much of this increase will stem from rural to urban migration. Many millions of others will be driven to seek livelihoods in fragile environments. The policy question is, then, how these pressures can be restrained, how many more people can be enabled to find adequate, secure, decent and sustainable livelihoods in rural areas. The record of organised migration and settlement, in Indonesia and elsewhere, has been quite dismal. The true and main challenge is to see how more people can gain such livelihoods where they are already, without having to migrate to towns or other rural areas where they so often suffer and aggravate already bad conditions for others.

Normal Professionalism, 'First' Thinking, and PRED

Most thinking and prescription about PRED is unselfcritical. But professionals have been conditioned by their training and rewards, and are often unconscious victims of normal professionalism and 'first' thinking (Chambers 1985, 1986). Normal professionalism means the thinking, values, methods and behaviour dominant in a profession or discipline. The 'first' thinking which goes with it has a structure, traits and values generated by and serving the richer nations, and in all nations the urban industrial and elite cores. In much normal professionalism and 'first' thinking, it is things, especially the things of the rich, which come first, while people come last, with the poorer rural people last of all.

FIGURE 1: RURAL MIGRATION AND RESOURCE EXPLOITATION: SOME GENERAL TENDENCIES



In the development professions concerned with the linkages between population, resources, environment and development, first thinking is deeply rooted, and usually unquestioned. The words people use structure their analysis and influence their conclusions. So 'Population', 'Resources', 'Environment' and 'Development' go with ways of thinking which point in certain directions. The thesis of this paper is that normal analysis which starts with these words leads all too easily to misleading prescription; that normal professional thinking about PRED has been part of the problem; that poor people, so often treated as a residual, should on the contrary be the starting point; and that putting the priorities of poor people first can achieve not only their objectives but also those of professionals and policy makers concerned with PRED.

Let us start with earlier normal ways of thinking. Population thinking started with numbers of people and how these were changing. This led to alarm at rates of population increase and at pressures on resources. The normal prescription was family planning to limit population growth. Resources and environment thinking started with physical resources such as land, water, minerals, trees, fish and so on, and with adverse trends in physical conditions such as pollution and loss of ecological diversity. This led to alarm at unsustainable exploitation and irreversible degradation. The normal prescriptions were controls and conservation. Development thinking started with economic potentials and activities, and how they could be exploited and promoted. Normal prescriptions were to raise rates of return and economic growth.

H.L. Mencken once remarked that 'For every problem there is a solution that is simple, direct and wrong'. This applies here. Simple direct solutions which tried to solve problems of population growth directly and only by family planning, of resource depletion directly and only by controls, of environmental degradation directly and only by conservation, and of development directly and only by growth, all had some validity but all were unsubtle, neglected linkages, and generally did not work well. These simple direct solutions shared the weakness of starting with physical problems rather than people, and often with the concerns and values of the rich rather than those of the poor. In the light of experience, though, all have been modified to take account of the poorer in society, including the rural poor in the Third World. So population planners now recognise the rationality of the large family for the poor, and see that the elimination of poverty must usually precede or accompany the adoption of family limitation. Those who start with resources and the environment recognise that poor people are often behaving rationally, and sometimes rationally in desperation, when they exploit resources and the environment in ways which are not sustainable. And development thinkers

now pay much attention to questions of political economy, of who gains and who loses in processes of economic growth or decline. All the same, for all of them, the rural poor come late in processes of analysis: they are often 'last', a residual, something for the final paragraphs. Coming last in a chapter or paragraph sometimes serves to emphasise. Sometimes, though, the poor, the remote and women are relegated to terminal footnotes. They are not the starting point.

The Thinking of the Brundtland Commission

In its early work, the Brundtland Commission recognised some limitations of normal professional thinking. At one stage, it listed what it described as the 'standard agenda' of key issues in environment as they had emerged over the previous two decades (WCED 1985:20-21). This standard agenda, which the Commission substantially modified, reflected normal professionalism and 'first' thinking. None of the 24 items of the standard agenda started with people, let alone with the poor. The key environmental pollution issues were concerned with physical things and conditions - CO₂, trace gases, climatic change, air pollution, acid rain, water pollution, hazardous waste, and so on. The key natural resource issues were again concerned with physical non-human entities, inanimate and animate, such as loss of cropland, soil erosion, desertification, depletion of forests and loss of genetic resources. Even the key human settlements issues started not with people but with categories for things and services - land use and tenure, shelter, water supply and sanitation, social, health, education and other services, and "Managing Very Rapid Urban Growth - The Mega-City". Finally, the management issues were stated at a macro level and again used 'first' categories - environment and international trade, environment and development assistance, environment and transnational corporations, and so on. None of the standard agenda items started, as they might have done, with people - for example with pastoralists, female-headed households, the landless, those who rely on common property resources, forest-dwellers, or marginal and small farmers. Normal professional thinking does not start with people or categories of people like these, least of all with the poor. People come later, if at all, and often as residuals and problems after technical solutions have been sought and found to physical problems.

In its critique of the standard agenda (ibid:22-6), the Commission identified four limitations. These were: an approach of react-and-cure instead of anticipate-and-prevent; the tendency not to treat issues as jointly environment-and-development; the neglect of common causes of problems; and treating environmental considerations as an 'add-on' rather than as a comprehensive, horizontal policy field, an integral part of economic and social policy. Following these criticisms, the Commission proposed and

adopted an alternative agenda. But this again was largely on normal professional lines. Those topics closest to people were expressed in general terms, which were both physical and 'first', namely:

- Perspectives on Population, Environment and Sustainable Development,
- Food Security, Agriculture, Forestry, Environment and Development,
- Human Settlements: Environment and Development.

The alternative agenda did, however, pay more attention to people and to the poor than did the earlier standard agenda. Equity was one of the 'transcending themes'. There were references to human welfare and poverty. But these were still at a general level. Where people were mentioned they were usually considered as a whole and not differentiated into, say, richer and poorer. Nor does the mindset revealed in the text appear to put people, or poor people, first. On the contrary, the logic of presentation and the sequence of words almost always start with physical things or conditions - environmental degradation in various forms - and only end with what affects people if indeed they are mentioned at all. But there is a complementary logic which starts with people, and especially the poorer. And unless analysis from physical processes to people is preceded and balanced by analysis from people to physical processes, it will be biased and incomplete, and will miss opportunities for sustainable development.

The final Report of the Brundtland Commission (WCED 1987) illustrates the point. The Report does indeed succeed in moving priorities closer to people, especially in its chapters on 'Towards Sustainable Development', 'Population and Human Resources' and 'Food Security'. There is even a striking and strongly worded section on 'Empowering Vulnerable Groups', concerned with indigenous and tribal peoples (ibid: 114-16). But normal 'first' thinking continually reasserts itself. In particular, the chapter on 'Energy: Choices for Environment and Development' sees the energy crisis in its normal perspective, more as a problem of the urban and rich than as an opportunity for the rural and poor. Only twice, and only in passing, does it mention possible benefits to the rural poor: through employment generation (as one of four benefits from the Brazilian fuel alcohol programme on page 193), and through labour-intensity (on renewable energy systems on page 194). Yet growing and selling fuelwood, making charcoal, selling roadside wood for producer gas locomotion and so on, offer massive potentials for adding to rural livelihoods, especially in labour-slack dry seasons. Professionals looking outwards from the centre, and downwards from the top, do not see this. To rural people, looking inwards and upwards from their

periphery, the contribution to their livelihoods made by sales of energy is often a crucial commonplace of seasonal experience. The Brundtland Report almost completely missed this point.

In its defence, the Brundtland Commission was a Commission on Environment and Development, and in presenting a modified version of 'first' thinking it was being true to its title which starts with things (environment) and processes (development) and not with people. The thrust of this paper is that it should have been a Commission on Poor People, Environment and Development, putting poor people first.

Sustainable Livelihood Security

The basic grounds for putting the poor first are ethical and not in serious dispute. For many that is enough in itself. But in addition, there are also overwhelming practical reasons. These apply even from the point of view of normal professional concerns with PRED. The argument is that unless the poor - the last - are put first, the objectives for environment and development will themselves not be attained.

Practical last-first analysis starts with what poor people want. Poor people have many priorities, and these vary from person to person, from place to place and from time to time. Health is often, if not always, one. In addition a common and almost universal priority expressed is the desire for an adequate, secure and decent livelihood which provides for physical and social wellbeing. This includes security against sickness, against early death, and against becoming poorer. Again and again, when they are asked, poor people give replies which fit these points. This is not the same as 'first' definitions of poverty and of poverty lines, which are concerned with flows only - with income or with outlays; for it also includes, what is very important to the poor, reserves which can be used to meet contingencies (of sickness, accidents, losses, sudden or major social needs, and so on). It includes, thus, secure command over assets as well as income, and good chances of survival. A phrase to summarise all this is livelihood security.

This line of strategic thinking was explored by the Brundtland Commission's Advisory Panel on Food, Agriculture, Forestry and Environment. The Panel developed sustainable livelihood security as an integrating concept, with these meanings:

Livelihood is defined as adequate stocks and flows of food and cash to meet basic needs. Security refers to secure ownership of, or access to, resources and income-earning activities, including reserves and assets to offset risk, ease shocks and meet contingencies. Sustainable refers to the maintenance or enhancement of

resource productivity on a long-term basis. A household may be enabled to gain sustainable livelihood security in many ways - through ownership of land, livestock or trees; rights to grazing, fishing, hunting or gathering; through stable employment with adequate remuneration; or through varied repertoires of activities.

(Food 2000, 1987:3)

Sustainable livelihood security integrates population, resources, environment and development in four respects: stabilising population; reducing migration; fending off core exploitation; and supporting long-term sustainable resource management.

i. stabilising population

Part of the pressure on the environment comes from population increases, compounded by poverty and exploitation and displacement of the poor. For stabilising human population, livelihood security may often be a precondition. The insecure and poor are sensible to have many children. It is rational for those who lack secure command over resources, and who expect some of their children to die, to have large families. This is both survival strategy and insurance. They need to spread risks and diversify their sources of food and cash, putting family members in different activities and places, and relying on surviving children for support in old age. The less they expect their children to live, the less they command a decent living, and the less they can look forward to a secure old age, the more sense it makes for parents to have more children.

Reasons for wanting and having lower fertility are not simple, and causality is complex and elusive. Good health and decent livelihoods, two major aspirations of the poor, are not in themselves necessarily sufficient for parents to want fewer children, but they appear as predisposing conditions. Secure rights, especially land rights, present suggestive evidence in their relation to fertility. Studies summarised in World Development Report 1984 (WDR 1984:109), indicated that where larger farms required more labour, the contribution of children became more valuable: studies in Bangladesh, India, Iran, Nepal, the Philippines and Thailand had all shown that fertility rose as farms grew bigger. On the other hand, evidence from Northwestern Iran, Thailand, the Philippines and southern Egypt found that those with secure ownership of land tended to have smaller families than those who were tenants or had only usufruct rights. Taken together, these findings suggest that smaller holdings and secure tenure can combine to encourage lower fertility.

In sum, the achievement of adequate, secure and sustainable livelihoods does not ensure lower fertility but does remove obstacles to it and may provide incentives for having fewer children. Many factors are involved and generalisations

have to be heavily qualified. A cautious statement which may understate the positive relationships is that in conditions where livelihoods are adequate, secure, and sustainable, assets can be passed on to children, children are likely to survive, and the benefits of child labour are limited, parents have less reason to want large families. Adequate, secure and sustainable livelihoods are predisposing but may not be sufficient conditions for slower population growth.

ii. reducing distress migration

Poor people rarely like to migrate. The suffering of migrants, whether rural (as recounted by Jan Breman (1985) a social anthropologist who accompanied rural migrants in Gujarat) or urban (as Dominique LaPierre's carefully researched 'novel' City of Joy testifies for Calcutta), is often appalling and migrants further impoverish the poor in the areas to which they move by competing for resources, services and work. In many areas, migration into fragile marginal lands and into forests contributes to environmental degradation (see Figure 2). But when people have secure control over resources which can provide them with adequate livelihoods they have incentives to manage them so that they do not have to migrate.

iii. fending off core exploitation

Those with secure ownership of assets, or secure rights and access to them, are often able to survive bad times without permanent impoverishment. They are better placed to resist exploitation, indebtedness, or the loss of productive assets through distress sale. It is where people are legally, politically and physically weak, and lack secure legal rights to resources, that they are most vulnerable. Fending off core exploitation or appropriation can mean that they and their children can stay where they are, and not join the ranks of those who have to migrate.

iv. taking the long view

Core interests tend to take a short-term view of resource exploitation. Conservationist rhetoric should not be allowed to mislead here. Governments have often protected forests less well than communities. Corrupt politicians, forest officials and contractors if not universal, are still rather common. Many have grown fat by felling, not protecting, forests. For its part, normal project appraisal by discounting future benefits and seeking a high internal rate of return also tends to a short-term view, while commercial interests concerned with profits take an even shorter one.

Figure 2. Modes of Thinking Compared

	ET	DT	LT		SLT
the people concerned	traditional biologists and conservationists	traditional economists and 'developers'	the very poor	the poor	new professionals
primary focus	the environment	production	livelihood survival	livelihood security	achieving adequate, secure and sustainable livelihoods
major criteria in decision-making and evaluation	conservation of resources maintenance of diversity	economic growth productivity and economic returns	immediate satisfaction of basic needs	basic needs plus security	sustainable gains by the very poor Livelihood security for all
time horizon value placed on the future	long higher than present	medium lower than present	short lower than by the poor	short and long higher than by the very poor	moving from short and low (survival) to long and high (sustainability)
ends (normal structure of thinking) means					

The continuous arrows represent causal connections and directions emphasised in the way of thinking. The dotted arrows represent connections that are recognised but not stressed. The heavy arrow under SLT is an intervention.

E = environment, including natural resources D = Development L = livelihoods SL = sustainable livelihoods

In contrast, poor people with secure ownership of land, trees, livestock and other resources, where confident that they can retain the benefits of good husbandry and pass them on to their children, can be, and often are, tenacious in their retention of assets and far-sighted in their investments. The time horizons of poor people need careful understanding. 'First' professionals often suppose that poor people cannot take a long view: when desperate for food or other basic needs, they will not save, and cannot be expected to. They live, it is said, 'from hand to mouth'. It is true that hungry people eat first and think about the future second. It is also true that below certain levels of living, high proportions of marginal increments to income are spent on food or other consumption. But it is misleading to confuse the behaviour of the desperate with that of the poor but not desperate.

Michael Lipton's (1983a, 1983b, 1983c, 1984) distinction between the ultra-poor and the poor is useful here in showing how behaviour changes with economic status. I shall use the terms 'very poor' and 'poor' to avoid confusion with his strict and technical definitions, but there are overlaps with them. For the very poor, sheer survival is the priority, and however much they may wish to, people find it difficult to take the long view. For the poor, though, once basic survival is assured, and given safe and secure conditions, there appears to be a strong propensity to stint and save when the opportunity presents. Reluctance to limit family size takes the long view: in the short term, pregnancy and very small children are burdens and families would be better off without them: net benefits only come perhaps ten or more years later when the children become major economic actors. Investment in children's education similarly takes the longer view. The extraordinary tenacity with which poor peasants all over the world sacrifice in order to retain rights in land is another indication. What appears an inability to invest labour for the longer-term is often a rational recognition of insecurity: who will plant a tree or invest labour in works of soil conservation who fears the tree will be stolen, or the land appropriated, or the household itself driven away at will? Tenants-at-will rarely plant trees or dig terraces. In contrast, long-term tenure and secure rights of usufruct encourage a long-term view and the investment of labour and funds in resource conservation and enhancement, as is shown by extensive tree-planting on small and marginal farms in countries as different as Haiti, Kenya and India (Murray 1984, 1986; Chambers and Leach 1987). Many poor people with secure ownership, rights and access to resources invest for the future once they can meet their basic needs.

A secure stake in resources is a condition for good husbandry, sustainable management, and investment. In this, poor people are no different from rich. All over the globe, communal arrangements for sharing are weakening, and nuclear

families and individual rights to resources are becoming more prevalent. For the poor, as for the rich, short leases or insecure tenure prompt quick exploitation with little concern for long-term degradation. Sustainable management only makes private economic sense when the long-term benefits can certainly be enjoyed. Investment for the long-term requires that the investment be safe, and that its fruits can be passed on from parents to children, for the poor, who have fewer options, even more than for the rich.

The implication of these four points is that poor people are not the problem but the solution. If conditions are right they can be predisposed to want smaller families, to stay where they are, to repulse and prevent short-term exploitation from the cores, and to take a long view in their husbandry of resources. And the conditions are that they command resources, rights and livelihoods which are adequate, sustainable and above all secure.

Four Modes of Thinking

Against the background of normal professionalism, 'first' thinking, and the case for sustainable livelihoods, it is now possible to separate out four modes of thinking concerning environment, development and poor people. These are:

- environment thinking (ET)
- development thinking (DT)
- livelihood thinking (LT) and
- sustainable livelihood thinking (SLT).

To sharpen and simplify the points, though with risk of caricature, the contrasts can be presented in a matrix. This is then a source of practical working hypotheses.

ET and DT are both forms of 'first' thinking, manifestations of normal professionalism. When challenged, many with ET or DT mindsets will concede that of course people, and poor people, should come first, should be ends not means; but will then revert to their normal professional patterns of thought. In other respects ET and DT differ. Traditional or normal biologists of the past have emphasised the negative effects on the environment both of development and of poor people's livelihoods. For their part, traditional or normal economists have valued positive contributions to economic development and production from both environment (land, water, trees, crops etc) and labour (as aspects of livelihoods). ET takes the long view and values the future more than the present, whereas the DT of normal economists takes only a medium-term view and discounts future benefits as in conventional cost-benefit analysis.

In the past few years, attempts have been made to reconcile ET and DT in terms of sustainable development. In its 1985 Mandate for Change (WCED 1985), the Brundtland Commission made sustainability in development one of its transcending themes. It embraced a human equity element as 'sustainable development (economic, social, health and education)' (ibid:15). The second chapter - 'Towards sustainable development' of the Commission's final report, goes beyond some of the normal professionalism of ET and DT, beginning as it does: 'Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs', and stating as one of its two key concepts: 'the concept of 'needs', in particular the essential needs of the world's poor, to which overriding priority should be given.' (ibid:43)

In going this far, the Commission was moving closer to poor people as the starting point of reference, but it did not take the further step of seeing things from their point of view. This third mode of thinking, which can be called livelihood thinking (LT), entails reversals or 'flips' which at once alarm and exhilarate. When the priorities of the poor are the starting point, the elements in the analysis arrange themselves in a new pattern, and nothing is ever quite the same again. The first priority is not the environment or production but livelihoods, stressing both short-term satisfaction of basic needs and long-term security.

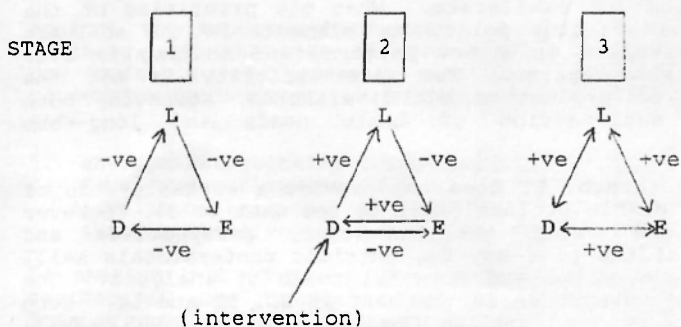
On its own, though, LT does not provide a workable mode of analysis to enable professionals to see what to do. However neglected and valid the knowledge, perspectives and priorities of the poor may be, outsider professionals still have their own valid and powerful tools of analysis. The challenge is to synthesise the best in ET, DT and LT. Such a synthesis is implicit in Gordon Conway's (1985, 1987) agroecosystem analysis, with its four properties of sustainability (ET), productivity (DT), stability, and equitability (LT)¹. On similar lines, sustainable livelihood thinking (SLT) takes sustainability from ET, linking with the need of the poor for long-term security for themselves and their children; productivity from DT, linking with the needs of the poor for more food and incomes; and the primacy of poor people's livelihoods from LT.

SLT centres on enabling poor people to overcome conditions which force them to take the short view and live 'from hand to mouth', or 'from day to day'. It seeks to enable them to get above, not a poverty line defined in terms of consumption, but a sustainable livelihood line which includes the ability to save and accumulate, to adapt to changes, to meet contingencies, and to enhance long-term productivity. SLT reverses thinking which flows from core to periphery or from the top down, and substitutes thinking

from periphery to core, or from the bottom up. It sees sustainable development as achievable by securing more and more sustainable livelihoods for the critical group of the very poor, thus stabilising use of the environment, enhancing productivity, and establishing a dynamic equilibrium, above an SL line, of population and resources. It seeks to create and maintain conditions in which very poor and poor people become less poor and see benefits for themselves in sustainable development.

In development there have been a succession of 'add-ons' to existing methodologies and analytical approaches: with project appraisal, in succession, we have had impact on the poor, impact on women, and now impact on the environment. It may be tempting to make sustainable livelihoods yet another 'add-on'. What I am proposing here is more radical: the exploration of SLT not as add-on, but as alternative.

SLT looks intellectually exciting and practically promising. Strategies can seek various sequences of change. One of the more important is:



In this model, a vicious downward spiral, as with soil degradation in parts of SSA, has people exploiting an environment which becomes less productive and in turn diminishes their livelihoods. A solution is sought not through unproductive conservation but through development with a positive impact on livelihoods which, in turn, later become sustainable. Short-term improvements in living thus create conditions for later livelihood-intensive and sustainable human use of the environment. This example raises the question of just how much potential there is for such sequences, and consequently how much direct scope there is, especially in resource-poor, fragile, vulnerable and degraded environments for the application of SLT. For without biological and economic potential, applications of SLT would be rather limited.

Potentials and Opportunities

Sustainable livelihood thinking, putting poor people and their priorities first, leads to a search for potentials and opportunities. The question to be addressed, environment by environment, is how, biologically, economically and in terms of social organisation, more people can gain adequate, secure and sustainable livelihoods. Especially this means how people who are poor can avoid becoming very poor, and how people who are very poor can progress to becoming merely poor. When this question is the starting point, the potentials and opportunities for sustainable livelihoods for rural people appear as immense as they have been unrecognised. There are two dimensions here: bio-economic potentials, especially of resource-poor environments and agricultural systems; and professional neglect and error which have left those potentials unrecognised and undeveloped.

i. bio-economic potentials

Paradoxically, degradation often protects potential for the poor. Because land is degraded - deforested, eroded, waterlogged, saline, bare from overgrazing, flooded, and so on - it has low value, especially where current management practices seem likely to persist. But again and again, when management practices are changed, remarkable biological potential is revealed. This is evident especially in some resource-poor rainfed environments. On the Sukhomajri/Nada project in the foothills of the Himalaya, 70 hectares of eroded forest hillside had been needed to support one head of cattle, and each hectare was 'yielding' 400 tons of silt per annum. After management reforms and grass planting, one hectare was yielding bhabbar grass for ropemaking with a potential annual income of about \$1,500 equivalent (Mishra and Sarin 1987). In the Guinope Integrated Development Program in Honduras, simple measures like small drainage ditches plus chicken manure, chemical fertiliser and/or green manure, raised maize yields three or fourfold, and induced migration into an area which had previously been exporting people to the slums of Tegucigalpa (Bunch 1987). In the Yatenga Water Harvesting Project in Northwest Burkina Faso, once farmers participated in developing conservation methods for their farms, yield increases were of the order of 50 per cent, and farmers spontaneously invested much labour in improving their land (Reij 1986; Reij et al 1987; Harrison 1987;165-70). Against this background, one can consider the estimated 100 million hectares of degraded land in India, defined as land reckoned to be producing less than 20 per cent of its dry-weight biological potential (Bentley 1984:1; see also CSE 1985:18). In the words of B B Vohra (1987) '...fully one third of our total (Indian) land resources of 266 mh which have any potential for biotic production are today lying almost completely unproductive'. 35 million of these hectares are degraded forest land,

protected by the state, and with immense potential for trees to be grown by poor people. In parts of resource-poor sub-Saharan Africa, the exclusion of livestock from areas such as parts of Baringo District in Kenya (Bailey et al 1985) and the Kondoa area of Tanzania (Ostberg 1986), have led to dramatic improvements in biological productivity, at least in the short-term. Other examples and methods are described in Paul Harrison's (1987) book, The Greening of Africa. In general these various cases show that earlier systems of exploitation and management depressed biological production and concealed the potential for sustainable livelihoods.

An important paradox here concerns population density, resources, and sequences. With increasing population density, shifting cultivation has shortened fallows, often presenting visible degradation and erosion. This may be a necessary stage to go through on the way to population densities at which it becomes rational for people to invest much more labour per hectare in intensive and sustainable systems of cultivation. These may entail, for example, micro water harvesting, terracing, permanent agroforestry, and/or stall feeding of livestock.² Again, then, erosion and degradation can present an opportunity, if it is seized. In the past, migration of males and of whole families to urban centres has left regions too short of labour for the transition. With technologies like those of Sukhomajri/Nada, Guinope and Yatenga, the opportunity is to transform the crisis of degradation into a new, more productive and remunerative system which supports sustainable livelihoods not just for the present population, but for others who migrate in, and for future generations.

ii. professional biases and neglect

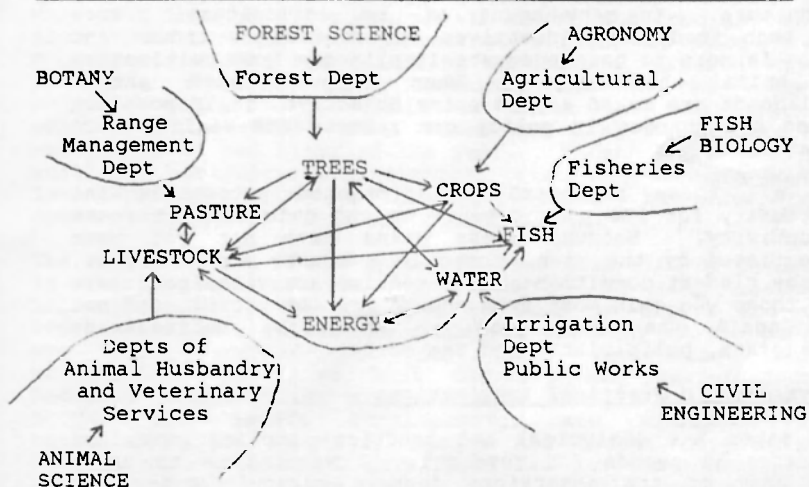
Professional biases have also concealed and protected potential for the poor. Normal professionals have often been wrong in believing that they know what is best, and that poor rural people do not know. In consequence Third World agrarian history is littered with failed good intentions. One result is undeveloped potential. In the Yatenga example from Burkina Faso, earlier soil conservation programmes failed because they expressed the top-down mechanical orientation of outsiders who built earth bunds which farmers did not use. But when these outsiders combined with and learnt from and with farmers, a novel system of rock contour bunds and saucer scoops for each crop clump was devised as a viable and popular innovation. In many resource-poor areas, breakthroughs to higher productivity appear to require similar multiple simultaneous innovation which includes land shaping, precisely types of changes where scientists are at a disadvantage and farmers have the edge. By being wrong and so having little or nothing to offer, and by failing to

encourage and support farmers' own innovations, professionals have thus unintentionally and unwittingly preserved livelihood potentials for the poor.

Professional neglect has occurred in two other ways. In one, the 'last' things of the poor have received low priority. Whatever is rural, agricultural, small, labour intensive, used by or important for women, dirty, smelly and low status has received rather little attention from research or extension. So until the 1970s multi-purpose trees, cassava, sweet potatoes, yams, bees, goats and organic manure were not often priorities; and donkeys, though valuable means to rural livelihoods, still seem beyond the professional pale.

In another way, normal professionals have neglected the gaps and linkages between the central concerns of their different disciplines. This is best shown diagrammatically, in the figure.

Figure 3: Professions, Departments, Interactions and Gaps



Note: Gaps neglected by normal professionalism are represented by most of the lines in the centre, which often represent linkages critical to resource-poor farmers.

Professions and the Government Ministries and Departments which preserve and accentuate their specialisation, focus quite narrowly, overlooking linkages which are often important for resource-poor farmers. Agroforestry, meaning the interaction of trees and crops and/or livestock, is a classic example where agronomists are concerned with crops,

not trees or livestock; animal husbandry specialists are concerned with animals, not crops or trees; and foresters are concerned with trees, not crops or animals, and moreover trees in forests rather than on farmers' lands. And once again, this professional neglect presents opportunities for the poor. Precisely because the linkages have received little attention, their potential has not been much exploited; and because it has not been much exploited, it has not yet been appropriated by those who are richer and more powerful.

Policy errors have also concealed and protected potentials. Regulations prohibiting cutting trees on private land have deterred smallholders from planting trees: the other side of the coin is the potential for planting that can be released when the restriction is removed, as happened on an astonishing scale in Haiti (Murray 1984, 1986; F. Conway 1987). Oversupply of irrigation water on canals in Uttar Pradesh in India leads to waterlogging which inhibits exploitation of groundwater for a much more productive agriculture. In many countries, low agricultural prices have been inadequate incentives and rewards to induce and enable farmers to gain adequate livelihoods from cultivation and animal husbandry. When resource-based secure livelihoods are taken as the prime objective, it is possible to see how changes in policy can release and realise such potentials.

With all these neglected and protected potentials the opportunity for the poor depends on who gains from the new productivity. Because these gains have not yet been appropriated by the rich, there is a chance for the poor. But the closest commitment and attention are vital to ensure that those who gain most from change are the poorer, and not once again the less poor - the rich, businessmen, bureaucrats, politicians, and the North.

Analytical and Practical Implications

This paper has analytical and practical implications, and generates an agenda for research. A warning is in order that many of the assertions deserve careful review and qualification; that gross categories need to be broken down, and that many more subtleties have to be appreciated. In particular, the relationships between adequate, secure and sustainable livelihoods and desired and actual fertility and family size deserve more detailed examination. More generally, five areas stand out with their implications for practical analysis and policy.

i. the nature of secure and sustainable livelihoods

Normal professional analysis of deprivation tends to fix on 'poverty' which is defined in terms of flows. This originates in urban studies of wage earners, and in

professionals' need to count and to make numerical comparisons (Chambers 1986). It sees the needs of poor people in terms of increasing those flows - of cash and of food, and often in terms of 'employment', meaning a single source of such income.

This view of deprivation is deficient in many respects. From a livelihood angle, two stand out.

First, the urban and industrial concept of employment, with a wage or salary, fits few rural realities. With apologies to biologists, a proverb of the Ancient Greek Archilochus can help here: 'The fox knows many things, but the hedgehog knows one big thing'. Poor people's strategies can be understood as those of hedgehogs, with one big idea, or of foxes, with many ideas (Chambers 1983:142-3). Hedgehogs depend on one source of livelihood: in urban areas they have a 'job', or in rural areas they have one activity like weaving, or being a bonded labourer, which locks them in to a single source of support. Hedgehogs (with further apologies) put all their eggs in one basket. Foxes, in contrast, have multiple sources of income and food as their livelihood strategy - cultivating, working as labourers, migrating, hunting and gathering on commons, artisan work, providing services, petty hawking, and so on. Many hedgehogs subsist in conditions which they and others consider intolerable. But foxes can also be desperate, especially at bad times of the year. 'First' approaches to rural and agricultural development often seek to turn foxes into hedgehogs, with 'jobs' and 'employment', but this often does not fit rural needs and opportunities.

The second defect of the normal professional view of poverty is the neglect of the importance of security against impoverishment. Vulnerability to loss of assets and to indebtedness are persistent anxieties for many of the poor, who are concerned not just with increasing their consumption, but also with security and self-respect. Reducing vulnerability and enhancing ability to withstand shocks and handle contingencies are essential to establishing an adequate, secure and decent livelihood. Without such ability, a livelihood has low sustainability. Some strategies of the very poor to handle contingencies such as borrowing money, usually at high interest rates, can increase vulnerability. One element, therefore, in a sustainable livelihood will often be assets which assure secure independence because they can be used to meet contingencies. Physical assets (livestock, jewellery, cash, trees, land, household equipment ...) then substitute for dependent social and economic relations.

The policy implications of these two points are striking.

First, SL approaches would often seek to strengthen and stabilise foxes' current survival strategies. The strengthening of existing enterprises, or the introduction or new ones, especially if they fill in seasonal gaps in productive work, can have high SL-intensity, enabling households to move up above a notional secure livelihood line.

Second, as basic subsistence is increasingly assured, so priority shifts from flows to assets which can be used as buffers or banks to handle contingencies. The 'flow' approaches of normal anti-poverty programmes like the Integrated Rural Development Programme in India do not include such provision. To the contrary, in attempting to raise incomes and consumption of the poor, they increase indebtedness. The security of the poor may be diminished by the debt and by a vulnerable asset like a buffalo which can fall sick, die or be stolen. Opportunities to gain more secure assets such as trees, which appreciate fast and which unlike buffaloes do not entail debts, are likely to be higher priorities for the poor.

ii. sustainable livelihood-intensity

One priority is to develop sustainable livelihood-intensity (SL-intensity) as a practical concept. It can be argued that it should be a criterion in project identification and assessment wherever considerations of poverty, environment and development apply. It subsumes and amalgamates ET's sustainability, DT's productivity, and LT's satisfaction of needs. SL-intensity is linked to political economy and to questions of who gains and who loses. If a notional SL line is adopted, the SL-intensity of a programme or project will be related to the numbers who are enabled to move above it. In project appraisal, the SL criterion can be expected to give different results to conventional cost-benefit analysis. A dam which displaces a large population may, in its direct effects, have net negative SL effects. Valued in net SL terms, some activities of transnational corporations, and of logging contractors in particular, will come out negative. The challenge now is to make the concept operational, as a complement or alternative to other criteria.

Types of action with high SL-intensity vary by environment, for example as between core poverty - where poor people are found in accessible areas of intensive agriculture and dense population, and peripheral poverty - where poor people are found in areas which are remote and marginal. SL-intensive approaches to core poverty are likely to include homestead gardening, rights to trees, access to common and private property resources, labour-demanding farming systems to generate work and wages, and irrigation to provide productive work round more of the year. With peripheral poverty SL-intensive approaches are likely to concern

marginal farming, crops and livestock, water harvesting, soil retention and fertility enhancement. With SL-intensity as a criterion, each human group and environment will generate its own mix of actions which fit.

iii. policies for sustainable livelihood security

With that qualification, there are many policies which contribute to sustainable livelihood security. Any list given here can only be illustrative, but elements common to many of them are:

peace and law and order

assurance of basic food and cash needs round the year

a net positive asset position with means to meet contingencies without becoming indebted

secure rights of ownership and usufruct of assets, including sale and inheritance

absence of administrative restrictions and hassle.

With these in mind, and given the priority of enabling the very poor to become merely poor, and of enabling the poor to avoid becoming very poor, measures to be recommended as having high SL-intensity include:

- redistribution of land to the landless
- transforming small-scale tenancy and sharecropping into inheritable rights to land
- allocating degraded forest land to poor households for growing trees, and where appropriate for growing crops and grazing animals
- preserving access by the poor to common property resources, or ensuring that they are the main beneficiaries of privatisation
- managing commons for higher productivity equitably shared
- reinforcing livelihood strategies by supporting diversification, including non-agricultural activities
- good prices for the crops and animals of small and marginal farmers
- maintaining prices for whatever poor people sell (jewellery, livestock, wood, charcoal, honey, fish etc) in bad years or at difficult times of the year

- year-round irrigation which generates work in previously slack seasons
- removing administrative restrictions on freedom to dispose of assets, such as cutting trees on private land and selling them

iv. support for the new professionalism

The new professionalism (Chambers 1983, 1986) which is needed reverses many of the ways of thinking, values, methods and behaviours of normal professionalism. It starts not with population, resources, environment, or development, but with poor people and their needs and priorities. To develop, strengthen and spread this new professionalism requires:

- changes in curricula, training methods, professional rewards and incentives, the selection of technical assistance personnel, and criteria for promotion
- changes in career patterns, with more time (especially early and late in careers) spent in the field working and learning with poor rural people
- strengthening 'gap' institutions like ICRAF (the International Council for Research in Agroforestry, in Nairobi) and IIMI (the International Irrigation Management Institute, in Sri Lanka) which direct professional expertise to neglected gaps, linkages and potentials important to poor rural people. (Both these institutions have been vulnerable to being under-funded and too small because their concerns (trees in farming systems, management in irrigation systems) are not mainstream normal professional subjects)
- sponsoring new initiatives and institutions to exploit the opportunities for the very poor and poor presented by other gaps. One example is the potential created by the energy crisis for sustainable livelihoods from trees.

v. research and development by rural people

To generate and enhance sustainable livelihoods, especially in resource-poor environments, requires new approaches to rural research and development, shifting the initiative to rural people themselves. Some thrusts are:

- improving the methods and practices of enabling poor rural people to analyse their conditions, needs and resources, and specify their priorities for outside research systems

- encouraging and supporting small farmers' and pastoralists' own experiments, especially with multiple simultaneous innovations with long gestation investments such as trees
- gaining a better understanding of conditions in which poor rural people can and will invest and save, and how they use their investments and savings (eg in livestock or trees)
- working with communities to enable them to devise and test new approaches for managing their resources.

In all these, rural people are themselves the major actors and professional partners for outsiders; and calibre, commitment and continuity of outsiders are crucial.

Concluding Paradox

The conclusion is a paradox: that population control, sustainable resource exploitation, environmental conservation, and rural development are all best served not by starting with them in a normal professional and departmental way, but by starting with people - the very poor and the poor - and what they want and need. They are best served by secure and adequate livelihoods which allow and encourage them to take the long view in their use of resources and to maintain and improve their position. The analysis and prescriptions of normal professionals are not the solution but the problem. New professionals who reverse normal thinking, values, methods and behaviour will do better, getting closer to the very poor and poor, learning their priorities, and helping them gain what they want and need. For it is precisely sustainable livelihoods, with secure rights and ownership, which can integrate what poor people want and need, with what those concerned with population, resources, environment, and rural development seek. Poor rural people are then not the problem but the solution. To reverse normal professionalism and to put first the very poor and poor is the surest path to sustainable rural development.

Notes

¹ Conway (1987:100-3) presents these four properties in the sequence productivity, stability, sustainability, and equitability. He defines productivity as output of valued product per unit of resource input; stability as the constancy of productivity in the face of small disturbing forces arising from the normal fluctuations and cycles in the surrounding environment; sustainability as the ability of an agroecosystem to maintain productivity when subject to a major disturbing force; and equitability as the evenness of distribution of the productivity of an agroecosystem among the human beneficiaries.

² There may be a parallel here with the Savory system of short-duration grazing in which it can be necessary to increase animal stocking rates in order to achieve ecological improvement.

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List of Related IDS Publications

'The Crisis of Africa's Rural Poor: Perceptions and Priorities', IDS Discussion Paper 201. Discusses the misfit between urban professionals' perceptions and poor rural people's priorities including livelihoods and basic goods.

'Agricultural Research for Resource-Poor Farmers: the farmer-first-and-last model', IDS Discussion Paper 203. Argues that the transfer-of-technology model of normal agricultural research is inappropriate for resource-poor farmers whose conditions differ from those of research stations, and analyses approaches which put farmers first.

'Agricultural Research for Resource-Poor Farmers: a Parsimonious Paradigm', IDS Discussion Paper 220. Examines weaknesses of normal professional approaches to agricultural research for resource-poor farmers and supports methods which are sparing in scientists' time and in which resource-poor farmers are enabled to identify priorities for agricultural research.

'Normal Professionalism, New Paradigms and Development', IDS Discussion Paper 227.

Identifies normal professionalism - the thinking, values, methods and behaviour dominant in a profession or discipline - as a problem in development, and outlines the new professionalism and paradigm of reversals which put the last first.

'Trees to Meet Contingencies: Savings and Security for the Rural Poor', IDS Discussion Paper 228. Presents evidence and argument that trees can and do provide much needed savings and security for poor rural people as a key part of livelihood strategies.

'Sustainable Rural Livelihoods: a strategy for people, environment and development', IDS Commissioned Study 7. A comparative analysis of five case studies of rural development (from Honduras, India, Mali, Nepal and Thailand) which generated sustainable livelihoods. Discusses bio-economic potential in resource-poor and degraded environments, and the livelihood significance of common property resources. Five major practical lessons are drawn.