MIGRATION AND SUSTAINABLE LIVELIHOODS:
A CRITICAL REVIEW OF THE LITERATURE

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Summary
This paper focuses on the links between migration and sustainable livelihoods, looking in particular at the institutional factors that connect the two. It argues that much of the development literature makes the false assumption that sedentary patterns in society are the norm, instead making the case that migration is often the rule, rather than the exception. It concludes that migration should be seen as just one of the livelihood strategies open to households, that it is often combined with other strategies, and that it is frequently a two-way process in which migrants maintain close links with their areas of origin over a much longer period than is frequently assumed. Pointing out the range of different types of migration, ranging from voluntary to forced, the paper highlights the complex institutional factors involved in determining who is able to migrate, and who benefits most from it.
1 INTRODUCTION

This paper is a critical review of the literature on migration and development. It focuses on the links between migration and sustainable livelihoods (rather than development in general). The review is part of the first phase of the research programme on sustainable livelihoods, carried out by the Institute of Development Studies, the Poverty Research Unit at Sussex, and IIED. This research focuses on Bangladesh, Mali and Ethiopia, and so does this literature review.

The Sustainable Livelihoods Programme (SLP) looks at three elements of livelihoods in developing countries in Africa and South Asia: agricultural intensification, livelihood diversification, and migration. Hence the first aim of this review is to identify what has been said in the literature about the way migration contributes to sustainable livelihoods, as one of the three main strategies of poor rural households. We believe that households are the appropriate unit of analysis of migration, acknowledging of course that the forms of households vary across time, space, and socio-economic groups.

The research on sustainable livelihoods takes an institutional approach. This, we will argue, is very suitable for the study of migration. This paper proposes that the most appropriate framework for the study and explanation of migration goes beyond, on the one hand, studies that isolate individuals as rational decision makers in explaining migration; and on the other hand theories that focus only on macro-economic or political developments as explanatory factors.

It discusses various forms of migration, including international, rural-rural, rural-urban, ‘economic’, ‘forced’, and ‘development-induced’ migration and the often overlooked dynamic interaction between forms of movement. We will touch briefly on the pastoralist literature - to indicate the variety of population movements - although generally migration researchers have not included pastoral or nomadic movements in their sphere of interest. This paper will refer to migration studies on different parts of the world, although the focus will be Ethiopia, Mali and Bangladesh.

2 ADDRESSING WEAKNESSES IN MIGRATION STUDIES

In Western discourse, rooted as it is in sedentarism and what van der Post has called the ‘static absolute’ (1987: 79), migration receives a poor press. Population movements, whether haphazard or ordered, are regarded as a threat to stability and a challenge to established lifestyles. In much of Africa and South Asia, however, movement is the established pattern and migration is both a strategy of survival and livelihood, and inseparable from identity.

Population movement, however, is not an exclusively modern phenomenon. Waller, for example, described East Africa, before the advent of colonialism, as

... a frontier region where society was fluid, highly adaptable, and capable of absorbing outsiders easily. Labour, rather than land, was the scarce resource. This placed a high premium on the ability of pioneering groups of individuals to contract and manipulate effectively a wide range of kinship and other ties in order to mobilise the social and political resources necessary for colonisation ... as a
result of the need for mobility, there were few barriers to the flow of populations from one small-scale unit to another and the definitions of identity tended to be inclusive rather than exclusive. (1985: 348-49)

Historical research on South Asia similarly point out that migration is by no means a new phenomenon. Within Bengal, complex patterns of labour migration have existed for centuries, including ‘dual migration’ strategies whereby many households both hire-in labour in and are at the same time experience out-migration. Over time, in Bengal, this mobility seems to have decreased because the risks of migration have increased, or have been perceived to increase, due to a growing labour surplus (van Schendel 1984). However, new streams of migration have developed, abroad (to India and the Gulf), to Dhaka, and to Green Revolution areas. Also, environmental change has traditionally resulted in regular displacements of large numbers of people; for example, river erosion, particularly along the channels and tributaries of the Brahmaputra in Assam and Bangladesh.

In the late-twentieth century, however, we are seeing population movement on an arguably unprecedented scale. At this moment, in addition to the hundreds of millions of economic migrants, UNHCR estimated that there are some 18 million refugees in international transit, 35 million people internally displaced, 100 million people uprooted by planned development, and an estimated 25 million people in danger of displacement as a consequence of environmental change (McDowell 1996b). Such migrations are by no means restricted to developing countries and there is a strong argument for challenging the sedentary bias in Western history and policy-making, and accepting instead that the ‘modern’ condition is indeed one of movement rather than sedentary place attachment.

This challenge to the prevailing and cherished orthodoxies is also a challenge to Western development models that seem to export the myth of non-movement while advancing policies (commercialisation, agricultural intensification, industrialisation, and liberalisation) which induce and often demand population movement. We believe that donors' strategies - and arguably for example current Ethiopian Government economic and political policies - fail to address the needs of migrants and pastoral people and fail to consider the importance of population movement for sustainability. We concur with Green, that migration should generally be welcomed rather than seen as a problem:

rural-rural migration in Africa is large, frequent and ongoing. Most does not take place in officially structured contexts ... Certainly outcomes vary but on balance it can be said that they do not usually involve major losses in respect to food security or livelihood, continuous incomer/old resident conflicts as opposed to episodic and resolvable tensions.¹

¹ Green (1996: 46). An exception to the literature that generally defines migration as a problem is the West Africa Long Term Perspective Study (Snerch 1995); this, however, focuses on rural-urban migration and neglects rural-rural movements.
Changing Population Movements: Ethiopia, Bangladesh, Mali

In certain parts of Ethiopia, for example in the Lower Omo Valley, absence of rigidly imposed administrative boundaries and weak government representation, has contributed to a prevalence of relations described by Waller (Turton, pers. comm. February 1997). However, from the overthrow of Selassie and the onset of the ‘scientific socialist revolution’ in 1974, through Mengistu in 1977 and up to the dissolution of the state in the 1990s, such fluidity was exceptional. Marxist-Leninist rule and state planning in Ethiopia brought centre stage the control of population movement. On the one hand, through much of this period ‘voluntary’ rural-rural and rural-urban migration was far lower in Ethiopia than in the rest of sub-Saharan Africa (University of Addis Ababa 1995:22) - and it was not until the more recent lifting of restrictions that migration, labour or otherwise, was made easier. While on the other, ‘involuntary’ politically-induced population displacement and resettlement occurred on an unprecedented scale and led to enormous population shifts, largely within rural areas; and related to these movements were the tremendous population upheavals brought about by conflict within the country related to the rise of nationalism and the globalisation of inter-state conflict within the region (Agyeman-Duah 1996:46): most notably the destructive war between Ethiopia and Somalia in 1977-1978 over the disputed Ogaden region.

Recent policies - of liberalisation, macro-economic reforms, decentralisation and regionalisation, and regarding food security for example - are likely to influence population movements. Planners usually are ambivalent about the relationship between development and population movement. The Ethiopian Government and its advisers would appear to share this ambivalence, mindful perhaps of the legacy of the Derg period when population control was inseparable from political control. Policy documents make few direct references to migration; where they do the control and limiting of migration remains a stated goal. For example: ‘In nomadic areas numerous water wells shall be dug so that the nomads can use the grazing grounds properly. In addition to this, favourable conditions shall be created for the nomadic population to use irrigation to grow not only animal feeds but crops as well, so that they will ultimately become settlers’ (EPRDF 1995: 18, emphasis added). Elsewhere in the Action Plan there is mention of the need to limit urbanisation.

Most migration occurs within national borders, but many countries send and receive international migrants. Bangladeshis, particularly Sylhetis, have migrated in great numbers to Europe and the Gulf countries; perhaps less within the South Asian region - although from other parts of Bangladesh large numbers do move to India. As Shah has noted, the ‘volume of emigration has become numerically as well as financially so large that emigration is now intrinsically tied up with development planning in most South Asian countries’ (1994: 223). He estimates that there is a ‘stock’ of 3.3 million South Asian migrants working outside the region. About half a million originate from Bangladesh and Sri Lanka each, about one million from India, and 1.3 million from Pakistan.

In Mali attention has recently refocused on migration in the Sahel region because of the high rates of out-migration. For example, there are estimated to be 8-9 million Malians in Mali and three million
Mali, with Malians in other countries most notably Côte d’Ivoire, Gabon, Zaire, South Africa and France, with growing numbers entering the US and other European countries. Certainly migration is not a new phenomenon in the Sahel, and survival strategies, as the IIED’s Bulletin of the Drylands notes, in such a risky environment have hinged for centuries upon movement in search of new land and pastures, for trade and conquest. Over the last forty years, however, out-migration from rural areas in the Sahel has reached new heights resulting in a quadrupling of the Sahelian urban population (David 1995:13).

The Development-Migration Relationship

In current development planning the development-migration relationship plays out in two main ways. First, development strategies are proposed to reduce population movements which are seen as inimical to development - an example would be so called stay-at-home development strategies which are designed to promote development and at the same time reduce emigration pressure (cf, Ghosh 1992: 423). In Ethiopia, the influential EPRDF strategy document makes only two direct references to migration. The first states as ‘desirable’ the objective to reduce urban-bound migration as a consequence of ‘increased utilisation of labour within the agricultural sector’ (EPRDF Agricultural Sector Strategy, 1995:12); and the second, recommends the creation of ‘favourable conditions for the nomadic population ... ultimately [to] become settlers’ (ibid. 1995:18).

Second, population movements are seen as consequences, often unintended, of development interventions. For example, structural adjustment measures indirectly induce displacement. Sometimes, forced population displacement is even justified to advance development and provide an opportunity for national poverty reduction measures - for example, infrastructural development projects that directly induce population displacement and resettlement (McDowell 1996b), or for the alleviation of overcrowding and land-tenure reform in South Africa.

We believe there is a need for research into the development-migration relationship to challenge the assumptions described above, to influence development policies. Research on population movements, put in the context of broader societal changes, should shed light on how the ‘development’ impact of migration affects people’s ability to achieve a sustainable livelihood, and to what extent positive impacts can be maximised and negative incidence avoided or minimised. In order to make a contribution of this kind, an approach to the study of migration is needed that overcomes some of the migration studies' weaknesses. We discuss some of these below, particularly the dominant view of migrants as isolated individual decisions makers, the need to focus on the multi-dimensionality of the migration process, and the need to focus on the continuing links between the migrants and their areas of origin.

2.1 The Tendency to Over-Rationalise

A dominant strand of migration studies stresses the rationality of the migrants. Todaro, for example, assumed that migrants acted individually according to a rationality of economic self interest. The decision to migrate took into account the expected probability of employment at the destination; implicitly a
personal cost benefit analysis took place in the prospective migrant’s mind (Todaro 1969, Harris and Todaro 1970). More recently, Oded Stark has developed this framework, in which rationality is still central. However, it is not exclusively the individual that decides about migration. Rather, decisions are taken in the context of the family and the household, and migration is seen as a form of port-folio diversification by families (Stark 1991).

Decisions about migration are not taken in an ideal world of free choice in which individuals rationalise in order to maximise net advantage. In human behaviour there are degrees of autonomy and constraint that influence individual and group decisions about migration. Those degrees of autonomy and constraint could usefully be plotted on a continuum that tracks proactive to reactive migration where greater relative freedom in situations of proactive migration allows for greater individual and group choice (cf, Richmond 1994). Particularly for research that looks at different types of migration and the institutional factors that structure these migration movements, this continuum approach can be a useful starting point.

Such a continuum, however, would not suggest that in situations of spontaneous reactive migration, individual choice and maximising tendencies are absent. Recent studies (cf, McDowell 1996a) have shown clear rational planning, decision-taking and instrumentality in population movements which appear on the surface to be immediate and unplanned reactions to shocks. Rather, it is suggested that analyses of structural factors alone (conflict, poverty, shortage of land, employment-in-destination/unemployment-in origin) are inadequate to explain the dynamics and patterns of migration. To achieve this one has to analyse migrants' motivation, attitudes and people’s understanding of the structures within which they act. One has to account for recursiveness, and to accept that people follow historical patterns of behaviour for reasons that are not immediately clear. One has to consider antecedence, the forming of bridgeheads and the presence of diasporic states in which movement is thought critical for ‘survival’.

2.2 The Tendency to Isolate

It is common in popular journalism, and not entirely absent from academic writing, that ‘waves of movement’ in a particular site are misinterpreted as exceptional disjunctures related to specific events. A different approach seeks to make explicit the interlinkages between migration streams, to look for dynamics of continuity and to superimpose displacement waves on previous migratory patterns (Black and Sessay 1995).

Migration decisions which at first appear irrational - for example, to move cattle and people into areas with high concentrations of tsetse - make sense when they are seen as part of a continuing effort, consistent with traditional values, to solve, by well-tried means, recurrent problems to do with a balance between available resources and population numbers (Turton 1996, author’ emphasis). In southern Ethiopia, spontaneous movement and settlement, when placed in a wider context, should be seen not as a

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2 Richmond’s multivariate analysis is influenced by earlier migration models and typologies, including those by Petersen (1958), Lee (1966).
3 De Haan (1994) is an attempt to do this for the analysis of migration to Calcutta, building on the sociological theory of Giddens; see also Chant and Radcliffe (1992); and Portes and Sensenbrenner (1993).
unique or unusual event but as part of a long-term process of ecological and cultural differentiation (Turton and Turton 1984: 178). Susanna Davies noted in Mali that in times of livelihood insecurity the timing of migrations (and return) as a strategy may change but the pattern of migration fundamentally remains unaltered (1996: 10).

Many areas of migration have very long 'traditions' of migration. The fact that large number of people have moved abroad from the Punjab in India during the last decades is no coincidence, given its tradition of migration that was established under colonial rule. And migration from Bihar to Calcutta for example has been the result of the relative poverty of Bihar, but it is also a continuation of the tradition of migration that existed at least as early as the middle of the 18th century (de Haan 1995). Migration itself, and the segmentation of migration streams, are often determined by historical antecedents.

2.3 An Argument for Multidimensionality

Some migration studies has tended to over-emphasise the constraining nature of formal institutions on mobility. Colonialism, the capitalist labour market, socialist labour markets, European asylum policies, South African pass laws, are sets of rules designed to regulate behaviour and protect often narrow interests, but they also provide opportunity and room for manoeuvre for those they seek to constrain.

Approaches which have sought to incorporate a more multidimensional and multivariate nature of population movements (be they voluntary or involuntary, short-distance or long-distance, short-term or long-term) have tried to overcome the limiting dualism between individualist and structuralist approaches by building in an awareness of autonomy, structural constraints, people’s perceptions about and manoeuvring within constraints, recursiveness, established patterns of behaviour and cultural underpinnings (senses of persecution, fulfilling ‘destiny’, ‘myths of origin’, uniqueness, land attachment and so on) (de Haan, 1994; de Haan and Rogaly 1996; Richmond, 1994; Gardner 1995, McDowell, 1996a; Turton, 1996).

Such approaches are rooted in a fuller understanding of the social and cultural factors which may dovetail with economic imperatives, or contradict those imperatives. There is for example current academic interest in those who do not migrate when all around them do. 'Stayees' are as enmeshed in migratory processes as the migrants themselves, and their decision to remain (to occupy land or property, pursue education, to bury the dead, and so on) are likely to be elemental in household migration-related decision-taking. Remaining behind, therefore, may be an indicator of immobility arising out of socio-cultural factors to do with, for example, caste, gender, religion or region, or economic factors including relative deprivation (Ghosh 1992: 426; Singh 1984; Thadani and Todaro 1984).

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5 See, for example, Breman (1985, 1990, 1996), Standing (1985), Shrestha (1990), Chapman and Prothero (1985), Singh (1995), Panne and reiter 1995. Migration is seen not as an individual choice - as in the individualistic theories referred to above, but as the only option for survival, for example following technological change in agriculture.
Migration models constructed to predict the scale, composition, distance and length of migratory movements are easily contradicted. McDowell (1996a) sought to single out the key conditions necessary for large-scale, long-distance migration in a situation of conflict, and to identify the factors explaining choice of destination: while plausible in the Sri Lankan context, where almost three quarters of the Tamil population were displaced and at least 350,000 sought asylum in Europe and North America; the predictive value of the model was shown to be minimal when applied to Natal in South Africa. The conditions were very similar but people affected by conflict opted not to seek asylum beyond South Africa’s borders.

Other models based on push-pull theories in which the city was seen as a giant magnet of opportunity fails to explain why only some move, it doesn’t explain who those people are, why they choose to move when others remain, when they moved, to where and for which job. Wittman pointed out that push and pull factors are one and the same, together they provide the perception of difference between ‘here’ and ‘there’ (Wittman 1975:23) and therefore have limited heuristic value. Place-utility and other micro-theories are weakened by the assumption that decision-makers have perfect knowledge about the costs and benefits of migration. Clearly, this is not the case, people act with limited and often flawed knowledge. Migrants fabricate stories of success and the imperative of success and the fear of failure often leads to a further embroidering rather than the unpicking of the ‘narrative of success’.

2.4 Settlement and Interconnections

Migration studies is not just about movement, but also about the inter-connectedness of place of origin and place of destination. As Mandel has noted, migration is essentially a series of exchanges between places. Metaphors about threads, chains, anchors and umbilical links are employed to emphasise this interconnectedness and physical signs of its presence, remittances, brides, journeys home, letters, goods and so on are the links in the chain (e.g. Werbner 1990).

Considerable research has examined the impact of remittances on the sending village, from farming implements, to TV sets, brick houses, schools, health centres and roads, as we will discuss in more detail in Section 4. Much research into settlement issues, however, has been stymied by the same weaknesses evident in movement research. It has tended to focus on remittance booms, on the widening culture gap, on establishing patterns of chain, core or extended family migration. In doing so, it has often failed to grasp the more dynamic nature of the inter-relationships which would see remittances not as a one way one flow of goods and money but rather in terms of exchange.

De Mas (1991) argues that the literature on Moroccan emigrants is characterised by an ethnocentric perspective, which concentrates on the area of destination, and the same appears to be true for the literature on other migration streams (Appleyard 1988). In the case of the Punjab, an area with a long tradition of out-migration, there are only two articles tracing the effects of migration and remittances on

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the villages of origin. In the case of Sylhet, no study looks at the long-term effects of emigration from this area. Ghosh’s article (1991) focuses on the official and unofficial channels of remittances by Bangladeshi in Scotland, and Gardner (1993) looks predominantly at the relationship between migration and religion. For South Asia, there is no study about the long-term interaction between areas of origin and areas of destination, and which describes the effects of continuous population movement between the two.

Thus far, little has been written explicitly about the way in which institutions influence and shape, and are in turn influenced and shaped by, migration. There are no obvious ethnographies that would guide field research, as published work has been largely concerned with singling out the factors that give rise to movement, in part because it fits in with the model that dominates Western thought and policy-making, and secondly, because such research is do-able. New research should aim to develop further theoretical and methodological attempts to enhance our understanding of migration by locating different types of movement, settlement and exchange in a range of processes to do with sustainability.

3 A TYPOLOGY OF MIGRATION

Typologies of migration invariably survive on the oxygen provided by those in universities who protect academic sub-disciplines, those in government administration who protect real-life boundaries, and those in rights groups who protect ‘people of concern’. But just how useful are typologies?

Without wishing to overstate the point, typologies seem more often than not misleading in their generality and obscure the fact that population movements, whatever their distance or sense of urgency, are responses to the same things: poverty, insecurity, landlessness, denial or lack of opportunity, and culture-making. Typologies come in three fabrics. The first, examples of which are to be found in almost every book length study on migration, orders the pattern of migration causality (see Richmond 1994). The second orders migration effects; an example of the second can be found in earlier IDS work on migration and food security (Sharp et al. 1991) which bears similarities to outputs of the International Organisation of Migration (IOM) in the sense that both show an interest in differentiating between what is termed negative ‘distress’ migration and positive ‘livelihood’ migration in terms of migrations success in facilitating or constraining livelihood security. The third orders patterns of movement.

Research would indicate that migration is too complex for monolithic classification. Simple observations will reveal that, for example, within desperate situations of flight from conflict, commonly typologised as ‘forced’ or ‘involuntary’ migration, there will be high degrees of instrumentality, rational planning and institutional support identifying migration of a ‘voluntary’ nature. Our position, therefore, would be to accommodate some of the complexities glossed over in typology formation and accept Richmond’s conceptual point: there is an observable continuum between ‘voluntary’ and ‘involuntary’ migration as largely ‘induced movement’. We should not be surprised to find that, as in Sri Lanka, ‘refugee migration’ (i.e. the flight from conflict) is linked to ‘labour migration’ and seems to have a great deal of

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8 Helweg, 1983; according to Appleyard (1988, p.159) a ‘rare exception’ in longitudinal research of the effects of migration. Ballard (1983) describes that the two parts of the Punjab have developed quite differently under the influence of migration.
organisation and rationality in it. Conversely, we should not be surprised to find that migration movements that have a predominantly ‘economic’ character may be related to ‘refugee’ migration: migration from the Punjab, for example, has long historical traditions, but the high degree of mobility has also been influenced by the up-rooting of millions during Partition in 1947.

Research must consider the whole range of movement-settlement situations, and should be aware of the following types of migration:

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<th>Formal (ie. with written state or private contract)</th>
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<td>Informal Labour Migration -</td>
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<td>National, Regional and International</td>
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<td>Speculative/Pre-Arranged</td>
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<td>Seasonal/Circular (Oscillating)/One Way</td>
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Politically Induced Migration and Return

Resettlement and Villagisation (including the break-up and scattering)

Exiled Refugees

Returning Refugees

Settling Internally Displaced Persons (IDPs)

 Former-Conscripts and Combatants

Generally Long-Term

Urbanisation

Family Reunion

Formal/Informal Employment

Education

Trade

Short-, Medium-, Long-Term

Seasonal/Oscillating/One Way

Rural/Rural

New Land and Pastures

Trade

Conquest

Short-, Medium-, Long-Term

Seasonal/Oscillating/One Way
Diverse Migration Movements: Some Evidence from Ethiopia

Involuntary resettlement: Ethiopia illustrates the variety of mass movements within the same territory. First, it has seen resettlement on a mass scale. To put Ethiopian resettlement in context, there is a continuum of involuntary resettlement of a political nature, ranging from apartheid-inspired forced relocation in South Africa to displacement associated with poverty alleviation programmes in, for example, China, or in Ethiopia where UNICEF used the policy of resettlement to rehabilitate drought-affected people in 1984 and 1985. Resettlement such as villagisation schemes in Tanzania or Ethiopia may have been seen officially as having a developmental agenda; they nevertheless served political purposes. In Ethiopia, this included moving people away from areas where they could have lent support to anti-government guerrillas into concentrated settlements where they could be more effectively controlled (Survival International 1988, Cultural Survival 1988). By mid-1988 government policy had moved one-third of Ethiopia’s rural population to compact sites, a level far beyond that achieved in Tanzania’s ill-fated Ujamaa programme of the 1970s (McCann 1996: 253). In research on livelihoods, it is crucial to document resettlement, to assess the extent and degree of transformations of productive/income-generating activities and social order or rearrangement associated with it.

The movement of refugees within countries and between countries of the Horn since 1991 has been remarkable. Nowhere is the complexity of conflict migration, repatriation and reintegration more evident than in Ethiopia which has been forced to cope with the social, economic and political consequences of five inter-related migration processes that are largely destabilising. In 1991, more than one million Ethiopians were refugees in neighbouring states; most of these have now returned; for them, as well as for internally displaced people and demobilised soldiers, re-integration is a central issue. Also in 1996, an estimated 360,000 non-Ethiopian citizens were seeking asylum within Ethiopia’s borders, (UNHCR, EXCOM Standing Committee Report, 1996).

The experience of population exodus and return for Ethiopia has been one of burden rather than one of opportunity. In recent years strides have been made to ensure that the forcible uprooting and resettling of populations in the wake of planned development can become an opportunity for national development and poverty alleviation; the linkage between refugee movements and development, somewhat nebulously termed the relief to development continuum, is in contrast in its infancy and it remains the case that refugees are treated differently to other categories of displaced person. Refugees have been a burden to Ethiopia because, despite the fact that Somalis, Sudanese, Djiboutians and Kenyans have been a feature of the Ethiopian landscape for many generations, recent influxes from those countries are today treated as temporary and discrete phenomena to be supported by specially earmarked funds derived from emergency/relief budgets which decline rapidly once the media spotlight has moved on.


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processual nature. Cernea identifies impoverishment as the key variable at work in the resettlement process, and looks at the transition (or lack thereof) from resettlement to development or reconstruction. Scudder focuses on refugees/settlers’ initial inward-turning, risk-avoiding behaviour. De Wet argues that even in ‘unsuccessful’ resettlement people do move beyond their close kin clusters, and form new sets of relationships, which are often structured around the socio-economic and territorial characteristics of their new situation.

These approaches derive largely from studies of forced resettlement; however, it is clear that there are lessons for understanding other types of resettlement, in this case returning refugees or settling internally displaced. De Wet (1997) suggests that in the shorter-term one might consider processes whereby resettlers acquire some basic stability, as in economic maintaining and social settling down - and what the minimum conditions, and socio-economic correlates are. For the longer-term, one might focus on issues of sustainability. Are communities able to sustain economic levels and socially functional groupings and leadership? What happens if not? Do they remain where they are, but become factionalised and unravel, or do people move away; become migrants once more?

**Pastoralists:** Pastoral areas in Ethiopia cover just under half of the country’s land size encircling the central highlands and the border areas of neighbouring countries, and account for around ten per cent of the country’s population. In general pastoralists share the peripheral areas with shifting cultivators, while sedentary farmers occupy the centre. Pastoral lowlands are characterised by very low rainfall, sparse vegetation and a general absence of permanent rural settlement. As Davies (1996) recognised in Mali, in Ethiopia’s pastoral areas, where populations are widely dispersed but highly mobile, movement is a necessary strategy for the maximum exploitation of seasonally-specific resources. However, Ethiopian pastoral and semi-nomadic groups have been subject to national planning (the establishment of large-scale commercial farms, and active plans to encourage the settling of pastoralists), and government legislation (for example the nationalising and subsequent disposing of pastoral lands, and the denial of access to pasture and water rights) which have imposed continuous restrictions on their movement and resource exploitation. The respite in 1975 when the military government promised pastoral groups ‘possessor rights’ over customary grazing lands was shortlived and disingenuous. Tensions between pastoralists and migrant labourers, for example with the expansion of large-scale commercial development for cotton and sugar production in the Awash valley which deprived herdspeople of their prime grazing lands has been described by Gamaledin (1992:179).

Getachew examined the return of Garri pastoralist and agro-pastoralist communities to southern Ethiopia in the early 1990s after a period of exile in Somalia (1996: 121-123). He found that returning Garri without resources could turn to clansmen and through traditional networks of debt and reciprocity receive donations of food, livestock and money from the clan as a whole, and loans of livestock for up to three generations. In this way the poorest members of the community were supported by the wealthier. The gradual process of social re-establishment or rearticulation, however, was only partial as divisions between those who left and those who remained were also evident.
Returnees were more independent-minded, and less trusting of government and clan authority. Their challenges to convention included building different designs of houses, adopting 'unusual' styles of decoration and embroidery. They diversified their livelihood portfolios by keeping poultry for meat and eggs which was consumed within the household or sold. Some returnees became involved in the long-distance smuggling of goods including *chat*. Garri men who formally would not have considered farming, acquired animal traction for ploughing, an activity which was ‘shocking to conservative pastoralists’. The most marked changes occurred among women who insisted on marrying men of their own choice, challenged the custom of widow inheritance and went so far as to run households without the protection of any adult males.

**Urbanisation:** Ethiopia today is seizing the opportunity to demilitarise and reconstruct; in the process, migration and population movements are under-going rapid change. The majority of the Ethiopian population resides in rural areas and the urban population, though growing at a fast rate, account for only 14-16 per cent of the total. Feyissa *et al.* (1994) observe that the policy of regionalisation, in its earlier stages, induced a budding urbanisation as people moved to areas of regional government. The cities are, as is common in developing countries, repeatedly described as ‘overcrowded cities’ (International Herald Tribune 7 September 1996).

But little research on the migration to urban areas is available. The 1994 survey, in fact, does not show huge urbanisation. Reasons for this may be found, inter alia, in the uncertainty over land redistribution and tenurial insecurity. Gebre (1994) found in Adado, a coffee growing area in Gedeo, that it was those with plots of land that were too small to satisfy the needs of the family who moved to neighbouring towns where they earned a living as day labourers. Women often migrate to get married, and youngsters move to get secondary or higher education.

**Rural-rural migration.** Various rural-rural migration movements have co-existed with the above-mentioned migrations. Irrigation development for the production of cotton and sugar, in for example the Awash valley absorbed large numbers of migrant labourers in the 1960s. Singh and Kalala (1994) report that in order to supplement household incomes, poor pastoral households in Borana are accustomed to seasonal migration to salt mines at Soda and gold mines at Kebre Mengist. Some men, they state, may stay in the gold mine site for up to a year (1995:22).

**Traders.** In Adado in the Gedeo zone of southern Ethiopia, Gebre (1994) observed that trade migration has been a feature of livelihood diversification strategies for men in this low highland area since the 1930s. People have been engaged in trading activities by bringing in manufactured products and taking farm products to and from the neighbouring towns. The trading activity is seasonal and most of the traders are farmers as well. Men sell cattle, sheep, grain and coffee (in bulk). During the coffee harvesting they engage in general merchandising and selling *tella* or *araqi*. More recently women have become involved in similar off-farm activities but have not engaged in trade migration to the same extent as men. Gebre noted that after the trading period is over those with land who engaged in these activities return to farming, while those without land migrate to the gold mining woreda Shakiso.
4 MIGRATION, DEVELOPMENT, SUSTAINABLE LIVELIHOODS

Migration leads to the absence of people, mainly of young men, but occasionally women alone, core or extended families, or whole households. Whom is absent will have implications for agricultural and livelihood practices. The absence of young men who are likely to have responsibility for important elements of production and animal husbandry reduces available labour. As indicated above, much migration, in various parts of the world, is circular: people continue to maintain strong links with their areas of origin over extended periods of time, and family and other personal networks are crucial in maintaining links between areas of origin and destination. This makes the effect of migration on areas of origin of primary importance, and complex. The conclusion by Papademetriou and Martins (1991) that the relationship between labour migration and economic development is ‘unsettled’ still holds true.10

4.1 Migration and Social Structures

Two theories which have dominated thinking about international labour migration (Ghosh 1992: 424) have come to influence within-country economic migration studies. The balanced growth approach, stemming from liberal economic theories, assumes that by alleviating unemployment and providing strategic inputs such as remittances and returning skills, migration spurs development, narrows regional disparities and eventually makes migration unnecessary. The asymmetric development approach, which relies more on micro-level studies, does not recognise that migration, remittances and return are automatically converted into accelerated development. Within-country migration studies have tended to confirm the latter approach and policies have been advanced to increase the productive investment of remittances. Such measures have included, government programmes to channel remitted funds and promote their productive use, incentives (higher rates of interest) to encourage investment or supplement supervised credit, or safe-guards against loss of employment. There is an additional large body of literature, drawing on case studies in Africa (particularly South Africa and southern Africa), Asia, the Middle East and Latin America, which goes some way to providing a synthesis between the two approaches in attempting to explain why it is that remittances from labour migration do not automatically provide for accelerated development.

Since the publication of Godfrey Wilson’s Essays on the Economics of Detribalisation in Northern Rhodesia in 1941, southern African academics have been engaged in almost continuous debate about the relationships between apartheid, uneven capitalist development, migrant labour and the nature of change in rural Africa. In Wilson’s wake numerous studies exposed the way in which oscillating migration (between rural homes and place of work) unravelled the social fabric of African life by undermining traditional leadership structures, the family and what would today be called informal institutions and social capital. Murray’s 1981 study on the impact of migrant labour in Lesotho added to the list of negative effects, ‘pervasive rural economic insecurity’.

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However, developing in parallel to this literature was a body of research arguing that the migration pessimists (to steal a term from Nicholas Van Hear) had overstated their case. Fieldwork among the Mambwe in Zambia revealed to Watson (1958) that participation in the colonial economy actually strengthened social cohesion and, because of the relative interchangeability of agricultural tasks between the sexes, co-operative labour relations were able to survive in the absence of men. Van Velsen (1959) picked up the argument and added that absent male workers played an important role in sustaining traditional practices in the rural areas because it was in their interest to counteract the instability of a temporary urban existence partly through the continued ownership of rural land but also through the maintenance of social networks. Research in the South African squatter settlements in the late-1980s showed that the authority of certain urban ‘leaders’ over squatters depended to some degree on their ability to maintain their territorial chieftain status in the Transkei or Ciskei Homeland village, and without the dual power base, power and authority quickly eroded (McDowell 1992).

The reality perhaps is that both are right. In the displacement-resettlement literature it is widely acknowledged that the involuntary relocation of whole communities or the dispersal of families, households and communities in times of conflict can lead on the one hand to chronic social disarticulation, and on the other to the creation of new institutions directing community re-establishment or rearticulation (Downing, 1996; Scudder, 1997). Migrant labour may indeed lead to marital breakdown and the weakening of some social bonds, but it does not, it seems, destroy the integrity of social systems. Thinking about evolutionary biology is currently being challenged by the plus ça change theory which posits that rapid environmental change rather than accelerating adaptation in nature actually suppresses adaptation; research on migration needs to address apparent contradictions between fundamental transformation and continuity in the context of migration and change.

Perhaps the most complete study on the consequences of migration by men for women and resource management in the Sahel has been produced by David (1995) and reported on in Haramata IIEd (1995). She found migration to be diverse and constantly changing as individuals and households react to new circumstances in her four field sites: Diourbel, Senegal; Bankass, Mali; Passoré, Burkina Faso; and El Ain, Sudan. The seasonal out-migration of men from Al Ain, Sudan, for example, had different impacts from the long term migration of Mossi villagers from Passoré, Burkina Faso. Longer term migration was found to affect labour allocation at village level and investment decision in natural resource improvement activities. In Diourbel, 70 per cent of men migrated to find dry season jobs but maintained close contact with the their home communities, sending a high level of remittances. In Sudan, by contrast, migrants had little contact with their wives during their dry season absence.

David (ibid.) further found that male out-migration did not, as one would expect, leave behind large numbers of lone women. The extended family structure in the three West African cases meant that, in the absence of their husbands, most migrants’ wives continue to live in their husbands’ compound, or in the care of his extended family. Only in El Ain, where much smaller conjugal units are the basic unit of production and consumption, did she observe women becoming de facto heads of household and more
vulnerable. However, even in the Sudan, tight-knit relationships within the village provided for a great deal of inter-household support. Perhaps not surprisingly, and in line with Bevan and Pankhurst’s (1996) work in southern Ethiopia, David found that male out-migration had no significant effect on patriarchal patterns of decision-making nor on the gender division of labour. Male absence, she argued, did not significantly affect women’s ability to make decisions about agriculture and natural resource improvement activities, in fact women deferred decisions about agriculture and natural resources to their in-laws. It was rare for women to take on traditionally ‘male’ activities and usually there were enough men left in the village to help with these jobs.

Patterns of migration are, as previously stated, determined by social structures such as kinship relations, and in turn change these. Circular forms of labour migration lead to extended kinship relations over large distances, the ‘share family’ as it was called by Epstein (1973) for Southern India. Single (male) migration tends to lead to changes in social, particularly gender relations, in the areas of origin, but we hypothesise that this usually does not lead to radical breaks. The leaving of single migrants is usually enabled by the existence of extended families. In the patriarchal setting of Northern India, migrants mentioned that having a larger family enabled them to migrate, that leaving women - and land - behind was made possible by the fact that other adult men remained in the village.

4.2 Migration and Sustainable Livelihoods

In the literature, as this review shows, there has been disagreement about the relationship between poverty and migration, which leads us to assume that the correlation is likely to be context-dependent. The following conclusions about the relationship between migration and poverty arise from the literature (see for more details de Haan 1997). In the first place, for the understanding of the link between migration and sustainable livelihoods it is important that it is not only poverty that causes migration, but also inequality. The Indian Village Studies project (Connel et al. 1977, Lipton 1980) in the 1970s found that unequal, and not the poorest, villages had the highest rates of out-migration. It is likely that not only ‘objective’ inequality, but also people’s perceptions are a determinant factor.

Migrants come from a variety of backgrounds, and different groups concentrate on specific occupations; migration streams are strongly segmented (e.g. de Haan and Rogaly 1996). They belong to various ethnic groups, castes, and are both landless and landowners. Although there is some evidence that the landless migrate less - because they cannot afford the necessary investment - this seems to be context specific: in some areas they migrate less, but this is not necessarily the case in other areas, or in other periods. Relatedly, migrants come from a variety of districts, not necessarily the poorest. Some areas have developed a tradition of migration, and once certain patterns of migration exist, they do not change easily.

Data on expenditure and income of migrants as compared to non-migrants confirm the diversity of migration experiences. Although the poorest in rural areas may find it difficult to migrate, there is data that show that in some areas the poorest do migrate. Comparison with the non-migration population in urban areas shows that migrants are usually slightly better off (especially when controlled for human capital
factors). Finally, the scarce data about how migrants fare over time does indicate that they often are able to improve their position. If initially they are slightly worse-off, they make up for the differences rather quickly.

The evidence of the effect of migration and remittances and livelihoods also points at a complex relationship. Research by Stark (1991) in Mexico, and recently Adams (1996) in Pakistan has shown that international migration increases inequality, whereas national migration decreases it. However, Gustafsson and Makonnen (1994) show that remittances from mining activities decreases inequality in Lesotho. The conclusion we draw is that, obviously, livelihoods and poverty clearly affect, and are affected, by migration, but that there are no easy generalisations. It is essential, therefore, that research on sustainable livelihoods focuses on the complexity of migration processes, dependent on local contexts.

4.3 Migration and Agricultural Practices

The debate as to whether rapid population growth and perceived overcrowding is a major cause of natural resource depletion or a prerequisite for technological innovation in agriculture continues. It is the certainly the case that the classic Boserupian theory of agricultural change overlooked out-migration as one conceivable response to population pressure (Kibreab 1996: 32-33). The Machakos case would suggest that the process of recovery of the Akamba lands over several decades was to a significant extent - and particularly in the later stages of recovery and less labour intensive agricultural intensification - achieved through the migration of Akamba men seeking employment (in processing, transport and trade) and remitting earnings. Migrant, and other off-farm earnings, helped to reduce the uncertainty of a family income entirely dependent on climatic vagaries, to provide investment funds, and to provide livings for those who inherit non-viable plots (Tiffen, Mortimore and Gichuki, 1994:281). Murton’s ‘follow-up’ research in the same districts as Tiffen et al., however, suggests that the benefits of environmental recovery were not enjoyed uniformly and there was in fact a polarisation of landholdings largely as a result of differential access to non-farm income and urban remittances (1997:2).

In southern Ethiopia, out-migration from overcrowded, intensely cultivated and resource declining highlands and areas of middle altitude (termed low highland) to the lowlands has been a persistent feature of population movement, as has more generalised flight from drought in pursuit of water for household consumption and preservation of livestock. The growth of population, land scarcity and the diminution in plot size has resulted in out-migration, not as an apocalyptic escape from irreversible ecological degradation, but rather as part of the creative search for alternative livelihood opportunities where migration, temporary or permanent, circular or one-way, could be seen as a positive response to the opportunities of population growth.

Gebre describe the strategy of ‘twin cultivation’ pursued by mainly young men, in the Gedeo zone of southern Ethiopia, responding to the problems of overcrowding, land shortage and land depletion by

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11 Early evidence from research in Bangladesh (Martin Greeley, pers. comm.) seems to confirm that long-distance migration increases income inequality, while migration over shorter distances decreases it.
migrating into neighbouring territories in search of land for cultivation. Such rural-rural migration is of a circular type where migrants with land are able to retain their original farmlands - though often not fully utilise those lands - and return at long intervals to rejoin women in taking care of the crops and plants they left behind (1994:13). However, where migrants are landless ‘twin cultivation’ does not appear to be an available option, and migration is more likely for temporary employment in towns, and for seasonal employment in, for example, the Awash valley to harvest cotton or maize.

Evidence suggests that migration under conditions of overcrowding and resource depletion, unless in extremis, tends to build on previous migratory patterns, in particular patterns of seasonal movement. The direct and indirect effects of migration on livelihoods and agricultural practices vary enormously and are often site specific.

The effects of largely male out-migration on agricultural output will vary from place to place and from time to time, and will depend to some extent on an ability to maintain labour inputs and to invest remittances productively. David’s (1995) research found that in Passoré, where most agricultural activities were carried out by hand, the absence of able-bodied men was keenly felt and led to a ‘labour gap’. As a result women were described as working longer and harder in the compound’s communal fields, and had less time to work their own land. Toulmin found a similar situation in central Mali, where the effect of a young man’s absence was ‘particularly harsh on the smallest households, and the receipt of remittances is considered a poor substitute for the young man’s contribution to filling the family granary’ (1992: 228). In these situations, labour rather than land is the major production restraint. The use of animal traction, however, may mean that agricultural production can be carried out by fewer people and the potential negative effects of migration less damaging.

The nature and level of remittances varies widely depending on the accessibility of the home village, employment opportunities, the costs of living, the ease of remitting, and the ‘orientation’ of the migrant. David (1995) found that average remittances were very low but were nevertheless vital to food security as a way to diversify risks and ensure support in times of harvest. In three of her case study areas very little remitted money was spent on agricultural investment because of the high price of chemical fertiliser which prohibited all but very few from making this investment. Nor was the money used to hire labour, buy agricultural materials or invest in livestock.

Our review of the literature suggests that we know very little about the linkage between migration and other (households’) livelihood strategies, particularly intensification and diversification. Agricultural intensification generally requires increased labour. Migration may, therefore, place a restriction on intensification. Livelihood diversification strategies may benefit, not from the absence of labour necessarily, but from the opportunity that a migrant established elsewhere may provide, as for example, an outlet for non-farm products or services.

However, the contribution of migration to livelihoods will depend on various factors, including the seasonality of movement, the length of time spent away, assets, and social structures and institutions allowing for women (if men migrate) and others to pursue activities previously reserved for men and
household heads. While migration leads to the absence of people and less hands to the plough, hoe or kraal, remitted earnings may enable landowners to employ labourers, and/or involve themselves in labouring parties which require reciprocal giving. Remittance may stimulate agricultural intensification where practices allow the head of household (who may be a woman or a less senior man) to employ labour, and remitted earnings can be (because prices are low enough and products are available) and are invested productively on physical inputs such as equipment, seeds, fertilisers or draught animals. This raises the question, under what circumstances are migrant earnings invested in rural farm or non-farm activities, and under what circumstances are such investments perceived to be too risky. Finally, migration also leads to exchange of ideas and knowledge. Migrants can bring with them knowledge of new technologies which may trigger changed practices and the pursuit of opportunity, or conversely an absence of knowledge. Returnees, at least in the earlier phases of return, often challenge dominant thinking which may lead to change, but also to conflict.

5 CONCLUSION
This review of the literature has been undertaken to prepare our research on sustainable livelihoods, which will look at three different, probably interrelated strategies of rural households in Bangladesh, Ethiopia and Mali. Our research, therefore, will not be a study of migration itself, but will look at the relations with sustainable livelihoods, and the potential trade-offs between the main strategies.

One of the central conclusions of our review is that much of the development literature, including indeed the literature on migration itself, has a ‘sedentaristic’ assumption. Migration is often perceived as an exception to, or rupture of normal patterns of society. Instead, we argue for an understanding of rural development that takes migration as the rule rather than the exception.

Also, we believe that there is much to gain from seeing migration as one of the livelihood strategies of households, rather than isolating migration events. Improving livelihoods can consist of intensification of agriculture, diversification, and migration. These strategies may be alternatives pursued by households, or households may combine different strategies, and it is likely that the strategies affect each other. Migration is likely to affect the possibilities of intensification and diversification: migrants leaving is likely to affect agricultural practices, and remittances and/or returning migrants are likely to change these practices. But the way in which the broader livelihood strategies will be affected can not be predicted.

Crucial to the way we conceptualise migration as an alternative, and probably interlinking, strategy, is that we expect that much migration is circular. For different reasons, much of the migrations do not involve one-way movements. Most migrants - and much migration is by single persons, usually male - maintain close links with their areas of origin. Migration is essentially a series of exchanges between places. These links continue for much longer periods than used to be assumed in the literature, which emphasises the importance of migration strategies for the home communities. In our research, these links may be crucial for our understanding of rural livelihoods, and for policy options to improve these.
Adding to the complexity of migration movements is the fact that, many societies, have been characterised by different types of migration, ranging from ‘voluntary’ to ‘forced’. We are, by necessity, working with a very broad typology of migration, and recognise that the settlement/resettlement, integration/reintegration of migrants is a part of the migration process and critical to studying sustainability.

Finally, we belief that the study of migration needs to take an institutional approach. We will stress the embedded nature of migration movements. In the first place, access to migration is structured: migration options are not, as hypothesised by individualistic theories, open to all. Neither do people move en-masse forced by economic or political forces. Migration streams are highly segmented, and people’s networks and preceding migrations determine to a large extent who migrates, and from which areas. This also means that the gains from migration may be cumulative gains - those in a better position are likely to profit more - rather than migration being balancing. Second, the form of migration is strongly determined by social and familial structures. For example, a nuclear family is more likely to lead to one-way permanent migration, while extended families makes single-male migration, leaving the rest of the family behind, a more likely option, because settling with a larger family is more difficult, and (in a patriarchal setting) leaving women with the rest of the family more acceptable. Similarly, restrictions on female mobility outside the household equally makes circular migration a more likely option.
BIBLIOGRAPHY


_____ 1990, Labour Migration and Rural Transformation in Colonial Asia, Comparative Asian Studies 5, Amsterdam: Free University Press


Dereje Feyissa, ‘Village Study: Do’oma’ unpublished report, Addis Ababa University


23


de Haan, A., 1994, Unsettled Settlers. Migrant Workers and Industrial Capitalism in Calcutta, Hilversum: Verloren


Kibreab, Gaim, 1996, People on the Edge in the Horn, London: James Currey


Lipton, M., 1980, ‘Migration from rural areas of poor countries: the impact on rural productivity and income distribution’, *World Development*, 8


van Schendel, W. and Aminul Haque Faraizi, 1984, ‘Rural Labourers in Bengal, 1880 to 1980’, CASP 12, Rotterdam

Scudder, T., 1981, ‘What it means to be dammed: the anthropology of large-scale development projects in the tropics and sub-tropics’ in Engineering and Science, Vol 54 No 4: 9-15


Singh, M., 1995, Uneven Development in Agriculture and Labour Migration: A Case of Bihar and Punjab, Shimla: The Institute


Survival International, 1988, ‘For Their Own Good ... Ethiopia’s Villagisation Programme’, London: 56


UNHCR, 1996, Executive Committee of the High Commissioner’s Programme: Update on Regional Developments in Africa, Geneva, May: 40


van Velsen, J., 1959, ‘Labour migration as a positive factor in the continuity of Tonga tribal society’ in Economic Development and Cultural Change, Vol 8 No 2


Watson, W., 1958, Tribal Cohesion in a Money Economy, Manchester: Manchester University Press


Wilson, G. 1941, 'An Essay on the Economics of Detriabalisation in Northern Rhodesia', Rhodes-Livingstone Papers No. 5

Wittmann, H., 1975, Migrationstheorien, Saarbrucken: Verlag der SSIP-Schriften
SUSTAINABLE LIVELIHOODS RESEARCH PROGRAMME (SLP)

This research project is exploring alternative routes to sustainable livelihoods for poor people in contrasting agro-ecological settings. The research asks two questions: an analytic one - what institutional arrangements enable some poor people to achieve secure, sustainable livelihoods, when others fail?; and a practical one - what policies can support both groups?

The work focuses on the institutional arrangements which allow people to achieve sustainable livelihoods, or otherwise. We understand institutions in a very broad sense to mean the regularised practices or patterns of behaviour structured by rules which have widespread use in society; such institutions may be formal or informal. Such institutions mediate a range of livelihood processes in rural areas. We are focusing on four, related, processes: agricultural intensification, crop-livestock integration, livelihood diversification, and migration.

These livelihood processes will be investigated in four case study countries - Bangladesh, Ethiopia, Mali and Zimbabwe - with research sites located along agro-ecological gradients from high to low natural resource endowment and differing livelihood systems. In each country we work closely with local researchers and officials. The work started in 1997 and will continue to 1999.

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