

**Drylands Research
Working Paper 40**

**LIVELIHOOD TRANSFORMATION
IN SEMI-ARID AFRICA 1960-2000**

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agriculture'*

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Preface

Drylands Research Working Papers present, in preliminary form, research results of studies carried out in association with collaborating researchers and institutions.

This working paper is part of a study which aims to relate long-term environmental change, population growth and technological change, and to identify the policies and institutions which are conducive to sustainable development. The study builds upon an earlier project carried out by the Overseas Development Institute (ODI) in Machakos District, Kenya, whose preliminary results were published in a series of *ODI Working Papers* in 1990-91. This led to a book (Mary Tiffen, Michael Mortimore and Francis Gichuki, *More people, less erosion: environmental recovery in Kenya*, John Wiley, 1994), which was a synthesis and interpretation of the physical and social development path in Machakos. The book generated a set of hypotheses and policy recommendations which required testing in other African dryland environments. Using compatible methodologies, four linked studies were carried out in:

Kenya	Makueni District	
Senegal	Diourbel Region	
Niger	Maradi Department	(in association with ODI)
Nigeria	Kano Region	(in association with ODI)

For each of these study areas, there is a series of working papers and a synthesis, reviewed at country workshops. Due to the limited number of working papers on Nigeria, they are included in a combined Niger-Nigeria series.

An overall synthesis was discussed at an international workshop at London on 17 January, 2001. The proceedings of the workshop are published in *Drylands Research Working Paper 40*.

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1 Introduction

The workshop was introduced by Simon Maxwell, Director of Overseas Development Institute (ODI), who referred to the earlier study carried out under the ODI on the Machakos District, Kenya, 1960-90. The current study is a follow-up, in which similar methodologies have been used to examine changes in four different semi-arid areas of Africa – Makueni District, Kenya, Diourbel Region, Senegal, Maradi Department, Niger and the Kano hinterland in Northern Nigeria.

2 Presentation of main results

Michael Mortimore and Mary Tiffen presented the main findings of the study.

2.1 *Investment constraints in semi-arid areas*

This research is concerned with semi-arid farming areas in Sub-Saharan Africa, where certain natural constraints act on farmer investments:

- Rainfall is low, seasonal (4-6 months per year), variable and, in the Sahel, recently in decline;
- Bio-productive potential is low, except where water can be concentrated, naturally or artificially, on small areas.

These characteristics were illustrated by graphs of rainfall in the four study districts, and of rainfed plant biomass production.

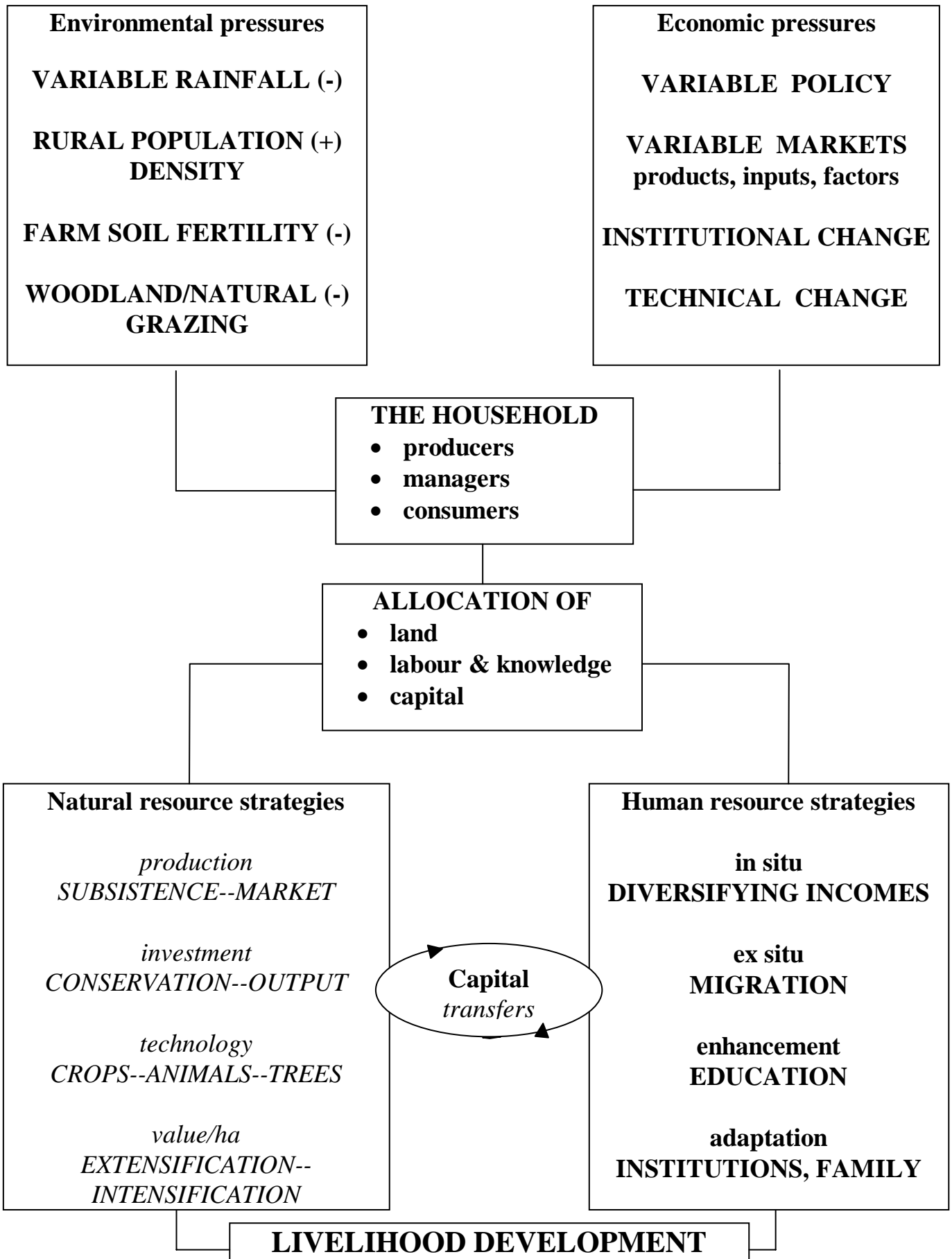
2.2 *Research goals*

The research goals are:

- to obtain a better understanding of the responses of smallholders in semi-arid environments to environmental, economic and demographic change over the past 40 years;
- to derive policy lessons for enabling measures that will enhance their ability to invest and to develop their natural resources and their livelihoods; and
- to validate the Machakos hypothesis that there can be positive linkages between population growth and livelihood intensification.

The research design reflected policy makers' concern for sustainable natural resource management. Donors and development agencies now recognise a need for diversifying livelihood development beyond natural resources. The research findings show that the two objectives are compatible, and that farmers in semi-arid areas have always had multisectoral livelihood strategies.

A DEVELOPMENTAL MODEL FOR LIVELIHOODS



2.3 A developmental model for livelihoods

The authors' Machakos model proposed that as land becomes scarce, the options for farmers are:

- migration to a rural area with vacant land;
- urban migration;
- intensification of the existing farmed area.

Currently, within the study districts, the first option no longer exists, though it was still open in Makueni and Maradi until a few years ago.

A new livelihoods development model¹ reflects this reality. Central to it is the household, which combines producers, managers and consumers. Since we are concerned with farmers, it possesses both land and labour. It is subject to environmental and economic pressures (including those derived from policy), which influence its allocations of labour, capital, and other factors among its economic activities. These may be based on natural resources (crop and livestock production, harvesting of wild products, etc.) and/or on labour (diversifying incomes, migration, education, adapting family and other institutions). This 'twin-track' framework of decision-making is reflected in the two sides of the model. Knowledge, skills and capital offer a framework of opportunities and constraints. Where activities are managed on a household basis, capital generated by one activity can often be invested in a different one. Thus, the two sides of the model suggest a dynamic balance whose exact specifications result from the circumstances of a particular household.

The model assumes that a rural household (and, of course, an individual within it) has a capacity to make rational decisions to respond to changing opportunities or constraints, including those offered by markets. The research supports this assumption. Hence, policy should enhance people's ability to take advantage of opportunities, rather than directing or prescribing what they should do with their assets.

2.4 Population increase and urbanisation

Population increase is a common pressure driving change since it alters land/labour relationships. All four areas have experienced rapid population growth in the past 40 years, but whereas in Makueni and Maradi, farmers could still disperse to vacant, though less attractive, land at the beginning of the period, in Diourbel and Kano the frontier had already closed by 1960 (a point called 'saturation' in French literature). This led to rapid urbanisation in both places. The importance of urbanisation for rural livelihoods is that there is:

- an increasing market for foods that semi-arid areas can produce, *if currency management and national subsidy policies allow*. In Nigeria, there has been a huge increase in the demand for local foodstuffs; in Senegal policies have long favoured the import of rice;

¹ The model on the facing page has been slightly modified since the workshop presentation.

- an increasing alternative market for rural labour on either a seasonal or permanent basis.

Non-farm income has always been a component of income in semi-arid areas owing to the long dry season, but it has increased in importance, and in West Africa the element which is due to migratory urban activities, rather than local activities, has increased.

2.5 *Land-based production over time*

This was illustrated by charts showing:

- output value/ sq. km, Machakos, 1957-87;
- groundnut and millet yields/ha, Diourbel 1960-94;
- groundnut and millet yields/mm rain, Diourbel 1960-94;
- millet and sorghum yields/ha, Maradi, 1979-98;
- output value per capita, Machakos 1957-87;
- groundnut and millet yields/per capita, Diourbel, 1960-96;
- cereal output per capita, Maradi, 1964-98;
- livestock population, Diourbel, 1960-96;
- livestock population, Maradi, 1988-97.

While the West African statistics do not show increases in value-added per ha comparable to those in Machakos up to 1987, they nevertheless provide grounds for cautious optimism about the capacity to sustain farm production against declining rainfall and soil fertility constraints, in the longer term (eliminating trend distortions of climatic or economic shocks). Notable features are the maintenance of millet yields per unit of rainfall in Senegal (while falling per capita and stagnating per ha), the maintenance of millet output per capita in Maradi, with variable but falling yields, and the rising importance of livestock in Maradi and Diourbel.

2.6 *Intensification and soil fertility indicators*

A model of the transition from degradation to intensification, as population density increases, was presented. The model suggests that a transition occurs from extensive agriculture, associated with soil degradation under increasing population density, to intensification and recovery of soil fertility as labour and technology are applied to increasing output per ha. The research shows that the four study areas are at different stages in this transition, and that intensification and output are influenced by policy, markets, and rainfall. As population densities increase, there is:

- an advance of cultivation (as a percentage of area);
- an increase in labour use per ha (most clearly evident in peak labour use in critical farm operations)

As the labour for intensification might not be available if other work options are preferred, it is important to understand the opportunity costs of farm (and of livestock tending) labour.

Soil fertility indicators have been measured in all four study areas. Rather than the overall decline predicted by conventional models, the data show a clear division between sustainable regimes on infields (where integrated or 'agro-ecological' practices are applied) and outfields (where the decline of fallowing and the high cost of inorganic fertilisers have created a crisis). This was illustrated in reference to Sob village, Senegal.

2.7 Access to land

Tenure systems are having to adapt increasingly to:

- scarcity of unclaimed resources;
- subdivision of claimed resources;
- consumption needs;
- market participation; and
- monetarisation of the factors of production.

The responses were characterised by:

- adaptation of custom;
- investment;
- individualisation;
- inequality; and
- competition.

In general, the research suggests that tenure insecurity does not inhibit private investment. This weakens the case for state intervention, which has sometimes been ill-informed and even counter-productive.

2.8 Nature of the rural family and its financial management

The rural family remains a strong social unit, united by ties of affection and duty, but its nature is changing. Family residences can be spatially separate – partly in new farm areas, partly in urban areas. While different family units headed by adult children have independent incomes, there are family financial flows between units, to meet:

- consumption needs, emergency or regular;
- investment needs, farm or non-farm, including education of young;
- social networking (ceremonies, festivals, marriage, funerals, religious brotherhoods, etc).

Examples were given for Kenya and Senegal. In both, funds are derived from crops, livestock and non-farm income, with livestock being important as a source of both emergency funds and regular expenses, but there are also strong differences. In Kenya, livestock are exposed to high disease risks and education of children is regarded as a priority investment (in the hope it will lead to a skilled non-farm job). Educated children often provide investment funds for the farm. In Senegal, formal education has a low

priority, and unskilled jobs in urban centres and abroad (mainly in marketing and transport) are obtained through religious and family contacts and related social investments in the important Mouride brotherhood. The main investments have been in urban development and overseas petty trade. In so far as there has been investment in farming, it was directed to livestock, disease appearing to be under better control than in Kenya.

2.9 *Relevance of education*

Parents in Makueni see the education provided by primary schools as essential for communication skills, and relevant to rural life as well as preparation for higher education and jobs. However, some are beginning to doubt the value of Year 8, and the cost-benefit ratio of secondary education. Parents in Diourbel and Maradi, while valuing wisdom for their children, are less likely to see academic education in a French language primary school as relevant, or in accordance with their Islamic social norms.

2.10 *Policy links: markets*

The studies show farmers' ability to transform their output in response to market signals, for example:

- Senegal – from groundnuts in 1960 to livestock and non-farm income in 1999;
- Niger – from groundnuts to cowpeas and tiger nuts in response to Nigerian demand;
- Nigeria – from maize as a minor to a major crop, from groundnuts to cowpeas.

Policy on infrastructure is important.

2.11 *Policy links: non-farm*

Given that in semi-arid areas, rural livelihoods depend on a combination of farm and non-farm incomes, relevant policies embrace those directed towards creating more remunerative non-farm opportunities, for example, the development of rural towns with water and electricity for workshops, and a school curriculum relevant to informal and self-employment.

2.12 *Prices*

Governments recognised the importance of prices and reacted by attempting to control them, in the belief this would enhance stability and improve the investment climate. Seasonal price fluctuations are well-known to farmers and traders, and provide incentives for storage. But during the study period, uncontrolled millet prices were more stable in Niger than the controlled prices of Senegal. Uncontrolled meat prices in Senegal showed stability or gradual rises, rather than the more violent fluctuations of controlled groundnut prices. In Kano, livestock prices were also stable or rising. In Makueni, prices for labour, bull services, and grazing land rental varied according to demand, quality, marginal output, etc.

What can cause dislocation are sudden changes such as those caused by devaluation (such as that of the CFA franc in 1994), the abrupt removal of subsidies (as in Nigeria

after 1986), or an inflationary burst (such as Kenya experienced in 1993, which affected both farm managers and managers of community assets such as water facilities). Monetary policies are important in relation to:

- avoiding over-valuation of the currency, which leads to food imports as well as eventual devaluation;
- avoiding acute inflation;
- tariffs for food imports and agricultural inputs;
- credit policies.

2.13 Credit

Credit is often seen as a remedy to capital scarcity, but, especially in a risky semi-arid environment, it can bankrupt both borrower and lender. Credit policies must consider the following.

- Is it repayable by farmers?
- Is it viable for governments?
- Should its role be restricted to introducing new technologies?

Maradi farmers first bought new farm implements with credit, but have continued buying them since credit stopped, because the Nigerian food market was providing a profitable outlet for the extra production they enabled. This story replicated that of plough-farming in Northern Nigeria, both before and after 1960.

2.14 Limitations on governments

All four countries now have static or falling GDP per capita, leading to limited taxable capacity. For some, aid per capita has been high in the past, but is now falling rapidly. Hence, all policy recommendations have to take account of limited government resources. This justifies our emphasis on policies to enable private household investments, which have played a greater role in the past than has been acknowledged.

3 Farmer investments: presentation by country co-ordinators

Highlights of the research were presented jointly, with examples from each country.

Kenya: Dr Francis Gichuki (University of Nairobi). Huge private investments in farm development have been made over time in Makueni, particularly in water-harvesting and soil conservation, but also by government. Questions in relation to these investments are:

- Were they timely?
- Are they effective?
- Is policy intervention timely?
- Did policy create an enabling environment?
- What are the implications of untimely and inefficient investments?

- What is the way forward?

Examples of supportive policies in Kenya are soil conservation and most education policy. Some government investments had not been timely or efficient, or were too sudden (education and water costs off-loaded on to consumers when incomes were falling, some educational changes, abolition of the cotton parastatal) and this could deter farmers from making their own complementary investments. As chains break at the weakest link, there is a need for government-community-farmer partnerships, with government providing support where needed.

Nigeria: Dr Joseph Ariyo (Ahmadu Bello University, Zaria). In Kano, where the study was more restricted in scope than in the other countries, concentrating on policies and food marketing, the development of the farmers' investment environment falls into two periods.

(1) *c.1950 - mid-1980s:*

- Rainfall was variable, but macro-economic policies were slowly evolving and fairly consistent, providing a farm investment environment with moderate risks which led to large farm investments.
- Prices were stable except when there was civil unrest (1966) or drought (1972-73).

(2) *Mid-1980s - 2000:*

- Rainfall decreased
- Macro-economic policies changed rapidly and were sometimes contradictory, particularly in the case of the:
 - (i) massive devaluation of the national currency;
 - (ii) withdrawal of subsidies on fertilisers, and other farm inputs
 - (iii) high fuel prices (which are major costs for traders)
 - (iv) trade liberalisation
- The investment environment became very risky, marked by hyper-inflation, crippling industry and its demand for agricultural raw materials, leading to:
 - (v) competition with imported foods
 - (vi) sharp decline in consumer purchasing power and falling effective demand.

Returns on investments were unsustainable and unpredictable. Suggested policy improvements were:

- Price stabilisation, with particular reference to inputs such as fuel and fertiliser
- Creation of diverse opportunities to generate incomes through
 - (i) improvements in infrastructure;
 - (ii) development of alternative energy sources in rural areas;
 - (iii) improvement of access to education; and
 - (iv) micro-credit for irrigation.

Senegal: Dr Adama Faye (also representing **Dr Abdou Fall**, Institut Sénégalais de Recherche Agricole). The Diourbel Region was transformed from 1960 to 1999. Farmers reacted to various policies, instituted with the aim of increasing groundnut production for export, by:

- reducing groundnut domination in the cropping system and putting emphasis on food crops (millet, sorghum, cowpeas);
- intensifying animal production;
- developing non-farm enterprise (trade, artisanal production).
- exporting farm labour to urban areas and other countries

The question now before Senegal is how to build a new paradigm and policy environment for sustainable rural development. This involves:

- facing the dilemma of groundnuts, hitherto regarded as central to both the rural and national economies;
- recognising livestock intensification as a key element in a sustainable production and income system;
- promoting non-agricultural activities to alleviate land pressure;
- involving all the stakeholders, including the Mouride leaders, to debate these issues and the strategies.

Niger: Dr Boubacar Yamba (University of Niamey). In Maradi Department, there have been three policy periods:

(1) 1960-1974: Modernisation of the economy

- Development of a groundnut industry
- Guaranteed producer prices
- Increases in taxes on producers

Tax and price policy were in contradiction.

(2) 1974-1980: Food self sufficiency

Prompted by food deficiency (the Sahel Drought of 1972-74), and the availability of uranium revenue, the Government launched a variety of rural projects, some loan-financed. Credit was made available for new farm equipment.

(3) 1984 - 2000: Structural adjustment

The state had been omnipresent, but now withdrew, leading to the end of credit and of most projects. While this might be thought uncondusive to farm investment, in fact the capacity to adapt had increased, and farmers have continued to invest in new crops and

equipment despite the withdrawal of credit. Motivation was provided by the strong influence of Nigeria on Niger's economy and the increased demand for food products.

4 Plenary discussions

4.1 *The role of education*

Phil Bradley asked for information on Niger or Nigeria. Camilla Toulmin gave the example of community schools being set up in Mali. Matthew Okai called for more gender analysis. Joseph Ariyo said that Hausa farmers see no obvious returns to formal education, and need their children's labour on the farm. Kathy Homewood cited Masailand, where income diversification is associated with a leadership position or with education. James Fairhead said Islamic education is very important, and economic gain is not the only motivation for education. Valentina Mazzucato agreed that the social returns are important, and asked how risky educational investment is. Mary Tiffen responded with additional information from the reports. Simon Maxwell said the study was an example of the power of the livelihoods approach and the findings connected with the education debate. Adama Faye said that the Mourides in Senegal reject state provision, having their own definition of education. It is necessary to involve them in the discussion on priorities.

4.2 *The model and diversified incomes*

Deryke Belshaw said that the model should show international as well as national economic influences. It should be made dynamic, with the household decisions affecting the technical and institutional via feedback loops. Karim Hussein asked for more disaggregation, the poor and the less poor, who may be differently affected by, for example, devaluation of the Franc de la Communauté Financière Africaine (FCFA), access to education, or credit. He also raised the importance of social networking, especially producer organisations. David Niemeijer said there are pressures and opportunities in the model, but the poorest groups may drop out of sight. Matthew Okai asked for more definitions. Claude Raynaut said the model is too general: there are differences by category and region. He asked what the state can do about the increasing inequality referred to in Murton's study in Kenya, and suggested that poor people can better make labour than money investments. Joos Koster noted the importance of rural-urban linkages. Andrew Dorward said non-farm diversification is increasing and the poor are dropping out of the natural resource sector. Grace Carswell asked when diversification income is substituting for, and when adding to, natural resource based activity. Camilla Toulmin said the model should show that dryland areas are often affected by non-dryland events. Lucy Ambridge said livelihood analysis is useful in seeing what people have and do not have; the issue is the connection to policy changes.

4.3 *Social institutions*

Mazzucato said that in Burkina Faso, social networks for accessing land and labour affect the ability to intensify, and could benefit the poor. Toulmin emphasised the continued importance of the family.

4.4 Discussions following the country co-ordinators' presentation

Deryke Belshaw noted that 1979 was a seminal date in Nigeria – an increase in the petroleum price, massive spending, the collapse of agricultural exports, and labour sucked out of farming. Big issues such as these need flagging.

John Pender asked about soil conservation returns to labour. In a staged investment strategy, the first investments are the most profitable. The importance of livestock in livelihoods indicates the importance of giving more attention to grazing land. Matthew Okai noted total factor productivity analysis may not take account of ecological sustainability. Adam Pain commented on the missing meso-link between micro- and macro-priorities. Given the restricted funds, planning is about choosing.

5 Agenda for working groups

Participants were invited to join one of four groups, as follows:

Group 1: Conserving natural resources and improving their management

Group 2: Increasing the value of crop, livestock and other NR-based outputs

Group 3: Developing investment capacity and market access

Group 4: Enhancing human resources and the non-farm sector

Each group was asked to consider the following key questions:

- (1) Is a view of rural livelihood transformation as driven by capacities as well as by constraints a practicable basis for policy formation?*
- (2) What areas are critically important in constructing an enabling policy framework for livelihood development in the drylands?*
- (3) Recognising that politicians are influenced by interest groups, how can a participatory debate on enabling policy formation be initiated and sustained at the national level?*

6 Reports of working groups

Group 1: Conserving natural resources and improving their management

Members

Camilla Toulmin	IIED (Chairman/ Rapporteur)
Andrew Warren	University College, London, Geography
Bill Adams	Downing College, Cambridge, Geography
Yamba Boubacar	University of Niamey
David Bourn	Environmental Research Group, Oxford
Phil Bradley	University of Hull, Geography
Constance Corbier-Barthaux	Agence Française de Développement
Robin Grimble	Consultant, ex Natural Resources Institute

Hassan Hassan	World Bank
Kathy Homewood	University College, London, Anthropology
Adam Manvell	University of East Anglia, Development Studies
Michael Mortimore	Drylands Research
David Niemeijer	Wageningen University, Environmental Systems Analysis Group
Matthew Okai	Consultant
Henry Osbahr	University College, London, Geography
John Pender	International Food Policy Research Institute
Claude Raynaut	University of Bordeaux II
Beryl Turner	Consultant
Magatte Ba	Centre de Suivi Ecologique, Senegal

More comments on the model:

There needs to be more feedback within the system, rather than it being linear in form. Clearly the natural resources available are not just given but are themselves transformed by human and livestock interaction. Thus additional loops are needed. Also it was felt that the options faced by poorer and better-off groups are substantially different, requiring a range or family of models to suit their different circumstances.

A reminder of the key findings from the studies to date:

- Farmers play a very active role in pursuit of more sustainable farming systems and improved livelihoods. They are highly competent in assessing the opportunities available and best able to find answers which are appropriate to their circumstances.
- They are highly responsive to economic conditions and market opportunities.
- Households remain a critically important social institution within which much diverse economic activity takes place, investments are made and risks and incomes are pooled.
- There are both winners and losers from the last 40 years of environmental, economic and social change.
- In general, farming systems have moved towards more sustainable production systems, a finding which is the result of actions by millions of small farmers and very rarely the result of direct government or donor intervention.
- Customary tenure provides a fluid, negotiated, dynamic set of institutions through which different groups try to gain firmer claims to land, and which has provided no disincentive for investment in agriculture.
- There have been enormous changes over the last forty years, such as a growing scarcity of land, the privatisation of certain resources (e.g. stubble) and the development of new forms of collective resource management.
- Natural resources are only one part of a broader livelihood system.

Question 1: Is a view of rural livelihood transformation as driven by capacities as well as by constraints a practicable basis for policy formation?

The group felt it is very important to shift from an approach emphasising constraints to one in which capacities provide the major focus. It was also thought that the term ‘opportunities’ is probably better than ‘capacities’. Such a shift challenges a techno-centred approach, in which constraints are identified from outside and solutions are drawn up, to one in which people are the principal actors. Constraints clearly exist, but they do not necessarily impose a firm cap on what people are able to achieve.

Question 2: What areas are critically important in constructing an enabling policy framework for livelihood development in the drylands?

A lot of time was spent discussing the role of the state – what minimal essential functions should it perform? It cannot be ignored and has a rightful place. A completely laissez-faire approach is not adequate. How can its responsibilities be redefined in ways which support local actors, rather than hindering them? Such responsibilities need to include:

- providing an enabling environment;
- negotiating, agreeing and enforcing the rules of the game;
- providing certain public goods, such as monitoring environmental change and data collection; equally, trying to tackle certain issues where externalities are involved which require higher level action – such as soil erosion. Also, there are certain fundamental issues which need to be addressed at governmental level – such as provision of basic water supplies;
- ensuring effective long-term management strategies for certain assets whose degradation is irreversible;
- creating a level playing field by providing an arena for trading off different objectives, e.g., is environmental sustainability the key objective, and what trade-offs are acceptable with meeting poverty eradication targets?;
- acknowledging the enormous power of markets and prices, and the limited capacity of governments to intervene.

It is a fact that ‘policy’ cannot be defined in some neutral technocratic manner – policy inevitably needs to be linked to desired objectives, which itself needs to be negotiated between the various stakeholders involved. The political system needs to identify and agree objectives and priorities.

What single thing could government do to improve natural resource management (NRM)?

Governments could ensure more effective representation of different interests, help resolve conflicts, act as impartial arbitrator, create a greater sense of security. They could promote processes through which people can express their views and negotiate both with the state and with others.

It was felt that there is no evidence for governments having a longer time horizon than local people regarding NRM. If anything, government and politicians work within much

shorter time-frames than local people, whose children and grandchildren will depend on the continued sustainability of certain resources.

Question 3: Recognising that politicians are influenced by interest groups, how can a participatory debate on enabling policy formation be initiated and sustained at national level?

Throughout the region, civil society organisations are playing a more important role, such as producer organisations, decentralised forms of local government, etc. These provide a means by which particular interests can be represented. But how can people in practice get their voices heard? What are the channels through which local people might be able to make their views heard? Participation is often largely cosmetic. Decentralisation equally does not necessarily provide the right structure and channels. People talk of empowerment, but what does this mean?

Is policy well informed? Often not - owing to an unwillingness to go out and seek ideas and views. How much does policy matter? It sets the broader framework within which people negotiate outcomes. Policy makers have a tendency to prefer tidy structures and solutions. In practice, life is rarely so simple. Hence, policy makers need to accept a degree of diversity and nonconformity, which reflects local circumstances. Government and donors need to become more demand-led. Yet their very organisation and structures tend to make this very difficult (spending targets, responsiveness to new initiatives, keeping up to date with the development jargon).

Group 2: Increasing the value of crop, livestock and other NR-based output

Members

Karim Hussein (Chairman)	ODI
Kate Longley (Rapporteur)	ODI
Philippe Jouve	CNEARC, France
Adama Faye	Bureau de Cooperation Suisse, Senegal (ex-ISRA)
Mamadou Faye	Senegalese Embassy, UK
Johan Brons	Wageningen University, Netherlands
Mike Carr	Crop Water Management Systems (Int) Ltd
Fred Zaal	University of Amsterdam, Geography
Irene Hoffman	Giessen University, Livestock Science

The importance of institutional development, in addition to technical development, for:

- professional producer organisations;
- production committees;
- regional organisations;
- international co-operation.

Question 1: Is a view of rural livelihood transformation as driven by capacities as well as by constraints a practicable basis for policy formation?

- Policy outcomes can be unexpected (both beneficial and negative).
- Overcoming constraints at policy level is often difficult – it is often better to build on local capacities.
- Information about the significance of certain events or phenomena (e.g. price changes) at local level is needed, to help local people to realise the implications and to evaluate and adapt local strategies.
- Focus on sedentary production systems makes it much easier to use the rural livelihood transformation approach. Not enough attention is given to migratory/pastoralist production. What about rangeland productivity?
- It is surprising that the Maradi paper did not address the Fulani pastoralist situation where permanent out-migration is part of a broader livelihood strategy.
- Rural livelihood transformation analysis allows the analyst to understand how people manage in a crisis and what the livelihood outcomes are. These outcomes can help to formulate policy, e.g. land tenure arrangements based on ‘use’ (valorisation) of land, but with the control of soil and water management on communal land.
- People want to exploit land but a lack of financial resources prevent this (as in Senegal).
- In Niger a big difference exists between local and regional levels in terms of agricultural production. Intensive production takes place near the village, but becomes more extensive further away. Farmers know how to practice intensive systems, but in some places they don’t. Why?

Constraints which pre-empt optimal productivity are complex (climatic, political, economic) and vary among different communities. If farmers don’t take up intensive farming practice, it is not because they don’t know how to, but because they lack the means, so we need to promote greater access to means of intensification. Overcoming constraints to access raises difficult and important questions:

- How can the private sector help?
- What is the gap left by the state?
- What is the role of producer organisations?
- How can the state favour such organisations and promote access to means of intensification?
- Have liberalisation policies increased the risks to the producer?
- If you provide better infrastructure, will this overcome technical constraints? Does technology disseminate itself? We need to address technical constraints as well as infrastructural problems.
- Problem of micro-macro articulation.

Question 2: What areas are critically important in constructing an enabling policy framework for livelihood development in the drylands?

Policies are often seen to be counter-productive, in that they may effectively prevent livelihood transformation, therefore the most effective enabling environment may be one in which the role of the state is reduced.

- Maybe the best enabling environment is to leave the policy out altogether (i.e. extreme decentralisation/democratisation) – politics can be completely counter-productive to local regulatory functions.
- In situations of conflict, e.g., at the “point of saturation” (i.e. population increase), when policies are developed there are inevitably winners and losers, and new dynamics and conflicts, e.g. north and south Niger.
- Current development ideas - e.g., participation, empowerment - do not make good policy in themselves. The local-regional interface must be taken into account and the role of the state.
- Can we promote regulation without state intervention?
- Reliability/transparency of the state is important.
- How can the state allow local processes to function?:
 - It can provide a safe environment through the provision of legal systems/security;
 - The state should enable local initiatives to flourish, e.g. communications, transport, infrastructure;
 - The state should provide security and freedom from threat;
 - Rural-urban links should enable rural producers to provide for larger urban populations;
 - Low food prices are a major reason preventing intensification – farmers have no incentive to increase production. Even though the state no longer intervenes in pricing, globalised markets may keep prices low due to cheap imports;
 - Growth in urban demand can lead to an expansion of agricultural activities, e.g., eggs and milk are in growing demand, but this depends on the purchasing power of urban dwellers. (However, in Mali, chicken and egg production remains low, despite demand);
 - Western agricultural investment is often heavily subsidised by government – the same cannot happen in Africa. It is not so much a question of subsidy as of regulation (e.g., guarantees of product quality – fertiliser, etc) which will promote market developments;
 - Credit systems must be sustainable;
 - Privatised input supply services, e.g. artificial insemination (AI)

Mike Carr recounted experience based on tea projects in Tanzania, a long-term technical research programme to increase production with private sector involvement, but with small farmers not necessarily benefiting. Some lessons were that:

- restructuring government services towards privatisation was possible for cash crops such as tea, coffee, etc., but in practice government may be reluctant to go down a privatisation route even if that is official policy;
- government bureaucrats/civil servants provided the biggest obstacle to change;
- an act of Parliament was eventually initiated to privatise the research system;
- committees that incorporate a local and long-term view are essential;
- countervailing powers are beneficial; and
- communicating price information is essential.

Question 3: Recognising that politicians are influenced by interest groups, how can a participatory debate on enabling policy formation be initiated and sustained at national level?

- Among the institutions at local or national level, civil society, producers' organisations, farmers' organisations are the best placed to influence politicians.
- International co-operation at national level helps a realisation that other countries share the same problems.
- Regional organisations, e.g. Comité Permanent Inter-Etats de Lutte contre la Sécheresse dans le Sahel (CILSS), provide a forum.

Group 3: Developing investment capacity and market access

Members

John English (Chairman)	ex World Bank
Polly Gillingham (Rapporteur)	HTS Development Ltd.
Joseph Ayodele Ariyo (Resource Person)	Ahmadu Bello University, Nigeria
Lucy Ambridge	Department for International Development (DFID)
Kathy Baker	School of Oriental and African Studies
Michael Barbour	Retired
Andrew Dorward	Wye College
Will Frost	DFID, Forestry APO
Joos Koster	Club du Sahel/OECD
Valentina Mazzucato	Economics, University of Amsterdam
Leen Molenaar	Ministry of Foreign Affairs, DGIS, Netherlands
John Nelson	Drylands Research
Remco Oostendorp	Free University, Amsterdam, Economics

The discussion was wide-ranging and often diverged from the three key questions. The reported views expressed were not necessarily held unanimously:

Question 1: Is a view of rural livelihood transformation as driven by capacities as well as by constraints a practicable basis for policy formation?

The group agreed with the proposition, but had some discussion about the implications of the morning's discussion and methodology.

1. The presentation painted a rosy picture of things not working out too badly for poor people. The analysis needs to be more disturbing/shocking.
2. In response, the research is showing that government policy is having both a positive and negative impact. For example, the *Projet de Développement Rural du Département de Maradi (PDRM)* shows that markets are important in rural livelihood transformation, but not everybody has access to markets.
3. Given the conditions that small-scale farmers operate in, they do their best.
4. People who live in the four researched areas are not at the bottom of the ladder in terms of poverty. There are areas where people are much worse off, e.g., in the Sudan, with no infrastructure, and a drier climate.
5. Questions were raised about methodology, particularly how study villages and households were selected. It was explained that selection was not random, but on a basis of agro-ecological zone and available secondary and historical data. Similarly, households were selected in order to get cross-sections of society. The important factor was not the characteristics of the village data alone, but how it varies according to external processes (e.g. devaluation, markets). Not all of the work in Nigeria was at the household level, but at market level – from big urban market centres, through regional markets to village markets.

6. John English concluded this discussion by saying that the first study (Machakos) had started approximately 10 years ago with a focus on natural resource management issues. Areas were selected on the basis of available data about the different agro-ecological zones. Secondly, the aim was to marry a number of different issues and studies.

Question 2: What areas are critically important in constructing an enabling policy framework for livelihood development in the drylands?

1. It was generally agreed that markets will develop wherever opportunities develop. The example was given of livestock markets in Burkino Faso. Devaluation of the FCFA saw a huge increase in the number of livestock markets without any external intervention. The group agreed that the important thing is the development of enabling conditions for markets rather than the markets themselves.
2. There is a need to recognise the broader influence of markets beyond just increasing commodity exchange – they also provide opportunities for paid labour and alternative, non-land based sources of income. In Benin, it was found that in the areas furthest from the markets the most intensification of agriculture had occurred, because closer to the market people had been influenced by the broader opportunities offered by the market. It was agreed that this was an important point as this discussion is concerned with developing broad-based sustainable livelihoods rather than just agricultural intensification alone.
3. There is a need to support complementary markets. For example, there might be a good market in fertilisers, but it would work even better if finance markets worked so that more people could get credit to afford the investment at the beginning of cropping season.
4. Finance markets are crucial, in particular the need to build confidence between government and the private sector. The private sector needs a government that will support infrastructural development but not interfere in the development of markets themselves.
5. There are many micro-level transactions and local-level institutions, and we need to work through these as well as the macro-level. In many areas social exchange is just as important as commodity exchange. If we understand what is happening at the micro-level, it will help us understand the impact of macro-level changes.
6. It was asked whether we really should ‘rescue these miserable parts of Africa’. This research is tending to focus on the short to medium term. But in 20-30 years time we may find that these areas really have no comparative advantage, and it would be better if people moved to areas that are developing economically and require their labour. Responses to this proposition were argued on the basis that we need to empower people so that they can make choices, including:
 - (i) Stay put and invest in agriculture
 - (ii) Stay put and diversify

(iii) Migrate

7. It was argued that one of the purposes of this research should be to clarify what we need to do to help farming to remain a functional and viable option, and what policies are needed to achieve this.

Question 3: Recognising that politicians are influenced by interest groups, how can a participatory debate on enabling policy formation be initiated and sustained at the national level?

1. If we are really to influence policy in terms of its being understood and owned ‘in-country’, African ministers and private sector actors from Africa need to be closely involved in research such as this. They often do not know about such research work, so how can they learn about it, let alone from it? This is why having the African partners that are involved in this research here is important, but we need to go further. There was general agreement to this, with more discussion of the idea of offering choices – which resulted in point 2:
2. Offering choices requires a profound change in the way we do aid. Lucy Ambridge introduced the example of the Uganda Project for Modernisation of Agriculture. This is a very collaborative process with a chain of discussion and feedback through national government, local government and people themselves. There is ownership at all levels, but it has so far taken more than three years and is still not complete. DFID is changing the way it does aid – untying aid will be important in this.

John English summed up as follows:

- The societies with which we work are very much market-driven and will respond rapidly to market opportunities.
- Enabling markets require infrastructure and sound financial markets.
- Other social mechanisms are also important, and we need to work with these micro-level institutions.

There was some final discussion on the role of local government, which is not addressed specifically in the research papers. No major conclusions were reached, but there was one final passing shot: democracy has been disastrous for poor people as politicians follow populist policies rather than sound policies, and people do not necessarily elect the most competent people.

Group 4: Enhancing human resources and the non-farm sector

Members

Simon Batterbury (Chairman) London School of Economics

Pippa Trench (Rapporteur) SOS Sahel

Deryke Belshaw School of Development Studies, University of East Anglia

Francis Gichuki University of Nairobi

Christian Lund University of Roskilde, International Development

Mary Tiffen Drylands Research

Question 1: Is a view of rural livelihood transformation as driven by capacities as well as by constraints a practicable basis for policy formation?

This question represents a false dichotomy and the group did not see a need for an 'either/or' approach. Starting with capacity avoids an elitist technocratic approach from dominating from the beginning but we need to look at constraints as well.

- We need to define where we are from the beginning.
- There is a need to take into account external factors, such as devaluation, in the region or in international policies.

Deryck Belshaw said that a capacity approach acknowledges and validates indigenous knowledge, and in this respect, is similar to the participatory approach of development agencies, which also has drawbacks if taken alone. For example, communities alone may not be able to solve conflicts or constraints such as few, poor rural roads.

Question 2: What areas are critically important in constructing an enabling policy framework for livelihood development in the drylands?

We need to define what institutions we are talking about: these include private, community- and family-based organisations, NGO, governmental, parastatal institutions and interlinkages between them are fundamental.

Looking at service provision:

Local level institutions (e.g. *harambees* in Kenya) may be a source of one-off provision such as building a school or clinic, but recurrent funding (teachers, materials) is more problematic as they depend on a surplus coming from somewhere. In resource-rich environments which have the ability to pay from within the community, one could imagine a virtuous cycle. But in poor areas a lack of surplus leads to reductions in services, which in turn leads to less investment in human resources and back to lower surpluses. One could imagine a vicious cycle.

Decentralisation, which is an unstoppable process in West Africa, with its own momentum, is a source of different forms of institutional investment, from local taxes, with what should be greater accountability and investment at meso-level. Belshaw said allocating resources between districts requires a rational, depoliticised basis (such as that provided by the formula for the interstate allocation of federal government block grants used in India).

Looking at the relative advantages of different sources of service provision is to some extent a political debate (e.g. the relative advantages of public-private partnerships), but we can draw lessons all the same:

- Francis Gichuki said we need to look at where existing models went wrong (e.g. parastatals) before coming up with new ones.
- Some institutions are inherently more accountable than others. Home-town associations have a massive potential for sourcing finance and information, and their

finance is often directed to human resources (e.g., education). But individuals also have an incentive to be accountable, for example so that they can retire as respected members of the community. Should extensionists come from the local area or from elsewhere?

- “Negative social capital” (or criminality) cannot be ignored. Corruption plays a role in undermining institutions at all levels, and investment. It has also led to a backlash against politicisation of any ‘private’ institution because of the potential for corruption.
- In Niger, public authority is exercised by people below the lowest recognised level of local government, and this is legitimised by people’s behaviour. “Parallel polity” takes place whether we like it or not. The state has to catch up because these unofficial institutions will not be able to use opportunities for collaboration or make long-term broader policy choices.

So on the question of prioritising policy:

1. New policy comes in on top of old policy and does not necessarily resolve the old problems.
2. Policy is for whom, or what? In South Africa, “policy to support rural farmers” did not differentiate between wealthy, black, large-scale farmers and resource-poor, small-scale farmers.
3. As the studies show, any policy will always be renegotiated according to local needs, priorities, power balances, and interests.

Taking this into account there was a consensus on two areas for policy prioritisation:

- a. *Decentralisation* to cope with the diversity of environments (ecological, economic, etc.) that exist, and with this the ability to allocate resources in a way which reflects this diversity.
- b. *Improving governance/accountability* through incentives as well as regulations.

Other policy ideas that were put forward but not fully debated included:

- support for urban and densely populated areas in semi-arid regions, as a cost-effective way of boosting off-farm income through trickle-back effects (but this does not resolve on-farm capacity demands);
- streamlining costs rather than off-loading the costs of the existing system on to civil society;
- continued education and adult learning (information and communication).

Question 3 was not discussed

7 Concluding plenary and final remarks by Claude Raynaut

Claude Raynaut said the research has yielded a rich narrative through its historical approach. It shows that farmers are active, and have overcome huge constraints. There is

consistency with Boserup's hypothesis that people innovate and find solutions. People have a good memory of their locality - and of the promises they have heard before.

There is still a question over appropriate policies. External actions have contributed to constraints and vulnerability, which farmers must rectify. As we also are outsiders we should not make a list of priorities. If we want a single narrative it is that local situations are diverse, and the question is how to meet the challenge of this diversity, and give space to the strong dynamics which are at play and which are specific to the locality, and in which local people are the actors.

The important word is negotiation, and how to enhance negotiations between actors at different levels. Under what conditions can policy enhance the capacity of local people to make their voices heard, taking account of the contradictions within communities, and between communities and outsiders. The state has to play a role as guarantor and regulator of the rules of the game. We have to think in terms of processes rather than ready-made solutions.

8 Appendix: Participants

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