SMALL-SCALE FARMING, AGRICULTURAL SECTOR REFORMS AND RESOURCE REDISTRIBUTION IN THE NORTHERN PROVINCE OF ZAMBIA

S. Andrew Long
Aims and Scope

*Poverty and Prosperity in Africa: Local and Global Perspectives* is a series of occasional papers that seek to scrutinise the different perceptions, policies and practices carried by the interrelated concepts of poverty and prosperity. The series seeks to subject social and cultural reality to critical analysis and to present work that is creative, challenging and sometimes controversial. Above all it aims to be a pace-setter for the development of fresh analytical ways of understanding and dealing with the problems of poverty.

All disciplines within the social sciences and the humanities are within the series' interest, but we are also glad to publish papers which blend the approach of these with those of the natural sciences as long as it is relevant to the scope of the series. We welcome both longer and shorter manuscripts in a form accessible to practitioners and policy-makers as well as to an academic audience.

---

Notes for Contributors

- Manuscripts should be typed double-spaced with wide margins, on one side of the paper only. Authors are advised to keep one copy of their manuscript for reference.

- Illustrations, tables and footnotes should be submitted with the manuscript on separate sheets.

- The title should be brief, typed on a separate sheet and the author's name should be typed on the line below the title; the affiliation and address should follow on the next line. In the case of co-authors, respective addresses should be clearly indicated. Correspondence and proofs for correction will be sent to the first-named author, unless otherwise indicated.

- The body of the manuscript should be preceded by an Abstract (maximum length 100 words) which should be a summary of the entire paper, not of the conclusion alone.

- The papers should be reasonably subdivided into sections and, if necessary, subsections.

- All references should be arranged in alphabetic order and grouped together at the end of the paper.

Journal references should be arranged thus:


Book references should be given as follows:


In the text, references should be cited by the author's name and the year in parentheses (Smith 1979). Where there are two or more references to one author in the same year, the following form should be used: (Smith 1965a) or (Smith 1965b). Where references include three or more authors the form (Smith et al.) should be used.
SMALL-SCALE FARMING, AGRICULTURAL SECTOR REFORMS AND RESOURCE REDISTRIBUTION IN THE NORTHERN PROVINCE OF ZAMBIA

S. Andrew Long
Table of Contents

List of Figures and Tables ii
Acknowledgements ii
Preamble iii
Terms of Reference 2
Summary 2
A Model of Redistribution Revisited 5
Farming System Zones of Northern Province 6
Zone 2 – The Central Plateau. 8
Agricultural Policy Reforms in Zambia 9
Implications of Pre-Reform Agricultural Policy 13
Hybrid Maize – Production, Constraints and Outcomes 13
Impact of Policy Reform on Agricultural Livelihoods Northern Province and Mpika District 19
Markets and Pricing in the Post-Reform Period 22
Input Supply and Credit 23
Production Trends 25
Incomes, Gender and Control of Farm/Household Resources 26
Food Consumption Patterns 30
The Research Locality – Chief Mukungule 32
Survey Data 34
Social Relations and Household Composition 34
Agricultural Data 40
Credit and Acquiring Inputs 42
Alternative Sources of Food and Income 43
Resource Flows 45

Conclusions 47
References 51
List of Figure and Tables

Fig. Mean Crop Area per Crop iv

Table 1. Age-Sex Distribution for Sample Population 36
Table 2. Size of Households/Gender of Head Person 36
Table 3. Bride-Service Provided Cash/Labour 38
Table 4. Labour Sources 39
Table 5. Maize Production Strategy of Resource Rich Farmer 41
Table 6. Sources of Inputs and Credit 43
Table 7. Sales Outlets for Agricultural Produce 44
Table 8. Purchased Goods 45

Acknowledgements

This research forms part of a larger programme of collaborative research between NAI and the University of London’s Centre for African Studies (located at SOAS) and through this centre the Gender Institute, London School of Economics. It was funded by the Norwegian Foreign Office.

Debts of gratitude are owed to the Ministry of Agriculture’s Research Staff, at Mount Makulu, and Misamfu research stations in Zambia. Various individuals working for the Ministry of Agriculture deserve special mention for providing incisive comments on the present situation for small-scale agriculturalists in Northern Zambia and for logistical support in the field. These include, Dr. A. M. Bunyolo, Chief Agricultural Research Officer, Northern Province; Mr. Collins Nkatiko, Provincial Agricultural Co-ordinator, Northern Province; Mr B. Mwalongo, Mr. M Simwengwa, (FSRT) Northern Province. Mpika District agricultural staff and members of the extension services provided logistical support and their assessment of the plight of farmers in the District. Thanks are also owed to the National Parks and Wildlife Services in Zambia and staff of the North Luangwa Conservation Project for providing invaluable assistance with access to the field work site, during the particularly severe rainy season of 1998. Lastly, I would like to acknowledge the generosity and hospitality of
the people of Chief Mukungule who facilitated fieldwork in so many ways. Special thanks go to Mr. David Samala (senior advisor to Chief Mukungule) and to the late Chief Mukungule, who sadly passed away in late April 1998.

Preamble
Under this programme of research, the Zambian study was designed to explore the extent to which recent policy changes in the agricultural sector (under the Agricultural Sector Investment Programme, ASIP), have impacted on the livelihoods and farm/household organisation of small-scale agrarian producers in Northern Province and to test the application of a hitherto untested 'model of redistribution' (Moore 1994; Long 1998). To meet these objectives, research data was accessed through a combination of secondary literature sources and first hand research. The former involved consultation with the Ministry of Agriculture to access unpublished materials written under the auspices of two agricultural sector research and development projects in the late 1980's and early 1990's. These were supported with the assistance of DFID (UK) and NORAD (Norway). Other data was collected through a small survey of producer households in Mpika district of Northern Province.

Northern Province is vast covering an area of 147,825 sq. km, which represents about one fifth of Zambia’s total area. Within the province there are five major agro-ecological zones (see figure), with a total human population of 855,177 (GRZ 1990). This report is concerned primarily with the impact of liberalisation on farm households variously involved in the production of hybrid maize and therefore will focus on the Central Plateau region of Northern Province – a key area for hybrid maize production.
Fig. Mean Crop Area per Crop

Mean Crop Area, Chief Mukungule 1998

Hectares

Crops

- G.nuts
- Beans
- F. Millet
- H. Maize
- S.potatoes
- Sun flower
- Soya Beans
- Sorghum
- Cassava
- Castor
SMALL-SCALE FARMING, AGRICULTURAL SECTOR REFORMS AND RESOURCE REDISTRIBUTION IN THE NORTHERN PROVINCE OF ZAMBIA

S. Andrew Long

The analysis presented in this report takes an historical perspective. It examines the implications of the adoption and subsequent demise of hybrid maize production in response to various agricultural policy measures and reforms. I argue that the livelihoods of agrarian communities in the Northern Province of Zambia have undoubtedly changed over time but there are also important continuities with respect to the organisation of livelihood strategies at the household level. The impact of the commoditisation of specific crop production has led to an emphasis on monocropping and specialisation. The introduction and adoption of hybrid maize led to a shift away from the production of a range of agro-ecologically and context specific crops and technologies that provided good food security and a surplus for exchange on local markets. Since the demise of hybrid maize, producers have returned to the production of these ‘indigenous’ crops to meet their food and income needs. This has by no means been a smooth nor successful transition. The reorganisation of labour allocation and the adoption of different crop regimes and technologies during the long period in which hybrid maize was promoted has resulted in a number of difficulties vis-à-vis the production of existing alternatives. Despite this, I argue that the responses of farmers to the demise of hybrid maize illustrates how the livelihood strategies of farmers have oscillated between a limited range of alternatives which have persisted through time.

The report is organised in the following manner: Following the terms of reference, a short summary of the key findings of the research.
This is followed by a short discussion of the ‘model of redistribution’ in the context of short term and predominantly quantitative research. A number of preliminary findings are also summarised here. Then the report presents an overview of the farming systems zones of Northern Province, which describes the broad characteristics of small-scale agrarian production in the Central Plateau region and identifies the fieldwork site. This will locate (both geographically and in terms of a more specific ecological and agricultural topography) the area of Mpika district in which fieldwork was conducted. The discussion then considers more precisely what recent policy reforms in the agricultural sector have entailed and will go on to discuss the implications of pre reform policy for hybrid maize production. This provides the necessary background to examine the implications of recent reforms for livelihoods. In this section I explore the detailed implications of policy reform for Northern Province and Mpika District. This is followed by a preliminary discussion of the findings of research conducted in Mpika District. In the concluding section I provide a summary of the main findings of this research, and suggest that a future research agenda should focus on our understanding of the notion of livelihoods.

Terms of Reference

- To test ‘a model of redistribution’ through fieldwork in Zambia.
- To conduct a background literature review, based on the collection of written materials available in Zambia.
- To conduct fieldwork in Zambia, and collect first hand data through the use of a survey methodology.
- Analyse data and prepare the final report.

Summary

It is clear from recent research that for Northern Zambia there have been a number of significant changes but also important continuities with respect to the techniques and strategies of agricultural production in meeting both the food and income needs of agricultural households over time. This remains the case across the array of agricultural complexes, farming
SMALL-SCALE FARMING, AGRICULTURAL SECTOR REFORMS AND RESOURCE REDISTRIBUTION IN THE NORTHERN PROVINCE OF ZAMBIA

S. Andrew Long

The analysis presented in this report takes an historical perspective. It examines the implications of the adoption and subsequent demise of hybrid maize production in response to various agricultural policy measures and reforms. I argue that the livelihoods of agrarian communities in the Northern Province of Zambia have undoubtedly changed over time but there are also important continuities with respect to the organisation of livelihood strategies at the household level. The impact of the commoditisation of specific crop production has led to an emphasis on monocropping and specialisation. The introduction and adoption of hybrid maize led to a shift away from the production of a range of agro-ecologically and context specific crops and technologies that provided good food security and a surplus for exchange on local markets. Since the demise of hybrid maize, producers have returned to the production of these ‘indigenous’ crops to meet their food and income needs. This has by no means been a smooth nor successful transition. The reorganisation of labour allocation and the adoption of different crop regimes and technologies during the long period in which hybrid maize was promoted has resulted in a number of difficulties vis-à-vis the production of existing alternatives. Despite this, I argue that the responses of farmers to the demise of hybrid maize illustrates how the livelihood strategies of farmers have oscillated between a limited range of alternatives which have persisted through time.

The report is organised in the following manner: Following the terms of reference, a short summary of the key findings of the research.
This is followed by a short discussion of the 'model of redistribution' in the context of short term and predominantly quantitative research. A number of preliminary findings are also summarised here. Then the report presents an overview of the farming systems zones of Northern Province, which describes the broad characteristics of small-scale agrarian production in the Central Plateau region and identifies the fieldwork site. This will locate (both geographically and in terms of a more specific ecological and agricultural topography) the area of Mpika district in which fieldwork was conducted. The discussion then considers more precisely what recent policy reforms in the agricultural sector have entailed and will go on to discuss the implications of pre reform policy for hybrid maize production. This provides the necessary background to examine the implications of recent reforms for livelihoods. In this section I explore the detailed implications of policy reform for Northern Province and Mpika District. This is followed by a preliminary discussion of the findings of research conducted in Mpika District. In the concluding section I provide a summary of the main findings of this research, and suggest that a future research agenda should focus on our understanding of the notion of livelihoods.

Terms of Reference
- To test 'a model of redistribution' through fieldwork in Zambia.
- To conduct a background literature review, based on the collection of written materials available in Zambia.
- To conduct fieldwork in Zambia, and collect first hand data through the use of a survey methodology.
- Analyse data and prepare the final report.

Summary
It is clear from recent research that for Northern Zambia there have been a number of significant changes but also important continuities with respect to the techniques and strategies of agricultural production in meeting both the food and income needs of agricultural households over time. This remains the case across the array of agricultural complexes, farming
systems and ethnic backgrounds of Northern Province inhabitants. It is also evident that the social composition and organisational makeup of households in the small-scale agricultural sector have undergone certain transformations over time. In the latter case, despite a number of well documented changes in settlement organisation and composition (principally arguing that the increased nucleation of farm households is a response to increasing integration into commoditised agricultural production) recent research reflects the extent to which certain key organisational principles remain important at both the household and wider settlement levels. In this context, new crops bring with them changes in the organisation of production at the household level. Old cropping practices are modified to suit changing production practices, and new opportunities are sought within specific livelihood contexts.

The story of hybrid maize production among small-scale farmers illustrates the dynamic way in which both external interventions and localised priorities and organisational arrangements have been fused, thus changing the shape of agricultural production in Northern Province. What is interesting is that it is the farmers themselves, as active agents, who adapt or modify their livelihood practices to meet changing sets of agro-ecological and social circumstances. Now that liberalisation has led to the demise of hybrid maize, farmers' livelihood strategies have returned to an emphasis on indigenous crops. This is nothing new as the vagaries of rainfall patterns in Northern Province and the poor institutional arrangements provided in support of maize production have left farmers with long experience of uncertainty. Their responses have often led back to tried and tested on and off farm livelihoods strategies.

While it may not seem surprising that we are effectively dealing with both continuity and change what is significant (and deserves more attention) is the extent to which there is an oscillation between different livelihood options that are shaped by different internal and external factors and relationships. Such oscillation can be affected or catalysed in various ways but continuities illustrate the importance of locally significant organisational strategies. In this context the composition and organisation of households is also subject to certain oscillations. In response to seasonal
and climatic uncertainty, the dictates of the ‘market’, policy reforms and
the need to maintain a range of different social relationships, household
composition remains somewhat flexible. This flexibility and adaptability is
what gives rise to the sense that households are unbounded units. Despite
this it is important to recognise that for householders themselves, there are
clear parameters of inclusion and exclusion which have solid foundation in
terms of idiomatic principles based on kinship, livelihood imperatives and
other legitimising factors. These will be explored in more detail below.

For Northern Zambia policy reform has led to the following
general scenarios, which will be explored further in this report; the shift in
emphasis from commercial hybrid crop production to traditional pulses,
legumes and other oil seed crops; the increasing commercial importance of
these; the gender divisions of labour and the contests that exist with
respect to accessing cash raised from these (traditionally women’s crops);
the increasing emphasis on both traditional techniques and the variety of
crops produced (most significantly citemene millet production; increasing
reliance on cassava as a food security crop; the production of pulses using
fundikila or mounding). With specific reference to the organisation and
composition of households and the larger aggregation of residential units
within which households are invariably located, the impact of reforms has
given rise to a number of issues. Firstly, continuities reflect the extent to
which matrilineal kin relations remain an important organising and
idiomatic principle. Secondly, it is clear that the demise of hybrid maize
production has highlighted the fact that at the level of the household
conjugal conflicts are not necessarily evidence of ‘women as victims’ but
rather evidence that men and women have vested interests in the
successful outcome of a range of livelihood pursuits. Achieving the desired
outcomes demands negotiation and accommodation, which may result in a
degree of conjugal conflict, but this must not be mistaken for the
subordination of women. A focus on conjugal conflict has a tendency to
diminish the role that women play as active decision makers who have
(albeit differentially) the capacity to negotiate and to influence production
decisions. Secondly, projects that involve agricultural production for
individual gain (as was the case with sweet potatoes or beans - being the
reserve of women) may, during times of stress, be engulfed by the needs of all group members. There is good ground here to argue that the individual livelihoods and joint enterprises of men and women across a longer time frame shift between more or less emphasis on collective as against individual needs. Such processes would, however, affect different households and individuals in different ways. The outcome of such processes leads towards further social and economic differentiation as the gap between resource poor and better off farmers leads to greater disparity in terms of farmers’ ability to with each other over access to inputs and markets. Clearly those who have a degree of income and food security are better able to raise sufficient capital to purchase inputs, pay for labour and purchase food staple in times of shortage.

A Model of Redistribution Revisited
The model of redistribution adopted under this programme of research essentially proposed that to understand the organisation and composition of agrarian households required rethinking the notion that these households were bounded units of production, consumption and redistribution. Instead the redistribution model insisted that households are better conceptualised as political arenas and as constellations of particular actors who coalesce around specific resource redistribution practices central to livelihood strategies. The general findings of recent research support the assumptions that underpin the model of redistribution, but due to the constraints of short term and predominantly quantitative based research it is difficult to make more than a few cursory remarks concerning the efficacy of such a model for exploring the nature of social relations and their significance for livelihoods. In addition, it was clear that for actors themselves the issues of defining household composition was largely irrelevant, since for household members it was entirely clear who qualified for inclusion. In terms of specific redistribution local actors could invariably identify which other members of their social networks would be most likely to make legitimate claims on the resources of their immediate household. Despite this, it was also clear from the information provided by informants that gaining access to particular
resources and successfully negotiating the terms of access did not necessarily entitle those who made claims to resources rights to household membership. In terms of settlement composition it is perhaps more accurate to think in terms of aggregates of social relations that are located within specific arenas, that will in times of stress or in response to various factors relocate, recompose, mutate or coalesce.

What is also worth noting is that in order to explore the sequential changes that take place in terms of settlement composition and organisation requires lengthy periods of fieldwork. In fact the whole nature of conducting quantitative survey based fieldwork has the tendency to solidify households at a given point in time. This creates the appearance that these households are somehow bounded entities. A visit to the same social group the following season may reveal that organisational arrangements, arenas of any conjugal conflicts, the numbers of residents and the resources central to their livelihoods have changed. What may not change in such a dramatic way are the idiomatic principles that shape or guide the behaviour and expectations of individuals within these contexts. Despite this, it is not misleading to propose that a model of redistribution provides a useful framework for exploring the link between shifting social relations and peoples livelihoods, but to effectively apply such a model requires a considerable amount of qualitative research. Nevertheless there a number of interesting issues that emerged out of recent fieldwork. These will be examined further below.

Farming System Zones of Northern Province

Agricultural research carried out in Northern Province during early 1986, by the Farming Systems Research Team (formerly the Adaptive Research Planning Team), of the Ministry of Agriculture identified five broad agro-ecological zones (ARPT 1986). The five zones were assessed according to the following criteria: climate, duration of the growing season, soils and other physical factors, socio-economic considerations (for example, traditional cattle ownership, population density and market access). These criteria led to relative homogeneity with regard to the classification of farming systems under consideration.
The zones’ classification focusing on the characteristics of farming per se, can be summarised in the following way:

Zone 1: The Lakes depression – an isolated cassava/fish system covering Kaputa and part of Mbala Districts.

Zone 2: The Central Plateau – Traditionally a *citemene* based finger millet/bean cropping system; with increasing land pressure and better market opportunities this has become an important maize producing area.

Zone 3: The North Eastern Plateau - a highly productive maize/cassava/finger millet cropping system based on the increasingly permanent land use methods, with a tradition of cattle keeping.

Zone 4: The Chambeshi Bangweulu floodplains - a predominantly cassava/fish system, located on the perennially waterlogged areas surrounding the Chambeshi river and lake Bangweulu; rice is a increasingly important cash crop.

Zone 5: The Luangwa Valley - a largely sorghum based system located in the much drier area found in the descent into the Luangwa Valley.

Zone 2 is of special interest in the context of this report as the fieldwork site for the present study was located in the southern part of the Central Plateau, in Mpika district. While the criteria used in the system of classification derived from the FSRT research is useful it must be emphasised that even within these broad categories there is considerable micro-ecological and socio-economic variation. Nevertheless, it is worth providing a more detailed account of the general characteristics of Zone 2. In addition, FSRT were very concerned to characterise the farming population of each Zone in terms of their socio-economic makeup with specific reference to their level of involvement in commercially oriented crop production. During the 1980’s it was common practice for farmers to be classified according to their levels of involvement with hybrid maize
production. Recent fieldwork has shown, however, that this is a wholly unsatisfactory method of classification due to the seasonal shift in strategies that farmers may adopt to meet the climatic, socio-economic and institutional changes that effect their levels of production. Furthermore, in times of stress local criteria of differentiation shift from accumulation to food security. Such variation will be illustrated in more detail later in this report. To avoid the overly tight classifications of farmer type used by FSRT, the socio-economic and farming systems data recorded in FSRT publications have been amalgamated to provide an illustration of the range of significant characteristics. General criteria of a geographic and climatic nature will be represented in summary form.

Zone 2 – The Central Plateau.

Mpika District and Chief Mukungule fall within this zone. A brief description follows.

The Central Plateau has an annual rainfall of between 1000-1600mm. The onset of the rains is usually between the 1st and 20th of November, with a approximate number of rain days being between 80-130. The dry season begins in April. The length of the growing season is between 140-200 days, with not usually less than 700-850 sunlight hours during this period. There is no frost risk, with a mean monthly minimum temperature of 10+ degrees Celsius. The Monthly maximum temperature ranges between 33-35 degrees. The central plateau has the highest altitude range for the province with much land falling between 1200-1800 metres above sea level. The predominant vegetation type is mixed Miombo and grasslands with a mean soil acidity of 4-6 pH.

Socio-economic factors considered by FSRT identify the Central Plateau as an area with no tradition of livestock keeping. The rural population is one of the highest for Northern Province, there being approximately 340,600 persons. The number of identified families is cited by FSRT as 71,000 with an average density of between 4 and 7 persons per kilometre squared. Official market access and use is considered low-average, while private market access is considered average.
FSRT identified the following major criteria for classifying farming systems in each of the zones identified; principle starch staples; main cash sources; land use and cultivation method; resource inputs. Following these we can identify small-scale farmers in the Central Plateau region of Northern Province as being predominantly involved in the production of finger millet, maize and cassava to meet their starch staples requirements: Maize and bean sales, beer production and wages as the major sources of cash incomes: Land use and cultivation methods are predominantly citemene, permanent fields and grass mounds, with axe and hoe methods being the principal technologies employed: Resources inputs are primarily based on the availability of suitable land for citemene cultivation and there are few limiting factors, beyond the labour constraints of clearing, for permanent field cultivation.

During both the colonial and post colonial periods there have been a number of policy reforms in the agricultural sector. While this report is primarily concerned with recent reforms, a number of issues first raised in the 1940’s are particularly relevant and worthy of discussion. Reviewing these provides a context within which the impact of recent reforms can be further analysed. Here, the issue of continuity and change in the small-scale agricultural sector is central.

Between 1932 and 1942 a substantial ecological survey was coordinated and conducted by C. G. Trapnell on behalf of the colonial government (Trapnell and Clothier 1936 and Trapnell 1943). This work focused on the soils vegetation and traditional agriculture of (then) Northern Rhodesia. The resulting reports and the recommendations therein together with the discovery of indigenous agronomic practices detailed in anthropological accounts led to the formulation of an Agricultural and Forestry Development Plan (Lewin 1945). In summary, this ‘plan’ was to see the gradual and voluntary improvement of indigenous methods, and it was hoped that various indigenous crops could be selected, then promoted and brought into the market so that they could become cash crops (Kajoba 1996). Such recommendations came from
the recognition that many of the semi-permanent forms of cultivation recorded in Zambia, including the *citemene* and *fundikila* methods common in Northern Province were in effect advanced agronomic practices that employed crop rotations, green manuring, intercropping and underplanting. These cropping practices were themselves adaptive. For example, Moore and Vaughan (1994) in their historical analysis state that among the Bemba of Northern Province, the production of cassava and its increasing role in supplanting millet as a staple food is a process that has occurred over a long period of at least a hundred years. In addition they add that the spread of green manuring (or *fundikila*) was a technique borrowed from the Mambwe, again suggesting a degree of adaptation by indigenous cultivators. Kajoba (1996) suggests that many of these indigenous cropping techniques could be termed 'sustainable' in today's agricultural-development 'speak'. Indeed their persistence through time is some testimony to their sustainability.

The Agricultural and Forestry Development Plan never actually came to fruition. It remains unclear exactly why this was the case, but undoubtedly it was a political decision on behalf of the colonial authorities. In 1945 the colonial office brought in a new agricultural advisor by the name of George Clay. He had proposals of his own which no doubt favoured the broader economic and political imperatives of feeding a burgeoning urban population and providing support for the European commercial farmers. The proposals Clay made, which included getting rid of 'African' methods of tillage and replacing them with large-scale tractor production, abolished the approach which the Deputy Director of Agriculture (William Allan) and Trapnell had put forward. Although the two tried to oppose Clay's proposals, their opposition was neutralised by retiring the Director of Agriculture and transferring the Deputy to Mauritius (Kajoba 1996:51).

The outcome of such a dramatic shift in focus in colonial policy towards indigenous agriculture is that what followed was almost an exclusive concern for drawing small-scale 'African' producers into commercial agriculture modelled on European lines. The 'peasant farming schemes' of the 1950' and 1960's were predominantly focused on the
production of tobacco, cotton and hybrid maize (see for example Long 1968). In the context of the present report and the findings of recent research what is significant is the extent to which the impact of recent policy measures on small-scale agrarian production and the responses of farmers reminds us of the insightful recommendations made by an enlightened group of colonial agricultural specialists half a century ago. This is not to say that 'peasant' agriculture in Northern Zambia hasn't changed or adapted, rather, it is to suggest the important place of indigenous cropping techniques and practices in the livelihoods of small-scale producers. Since the 1980's and particularly more recently there has been concern for supporting a diversified array of indigenous crops and technologies. This is largely a response to the problems of food insecurity in the region. ARPT documents (1987) and the work of NGO's and development organisations has recently shifted attention away from support for improving commercial production of crops like maize and begun to focus on supporting a diversified range of indigenous existing cropping technologies. It has long been recognised that diversification in crops grown and techniques used leads to better food and income security.

Since independence agricultural policy has fluctuated with the practical and rhetorical emphasis being focused at different times on social considerations, economic needs and political goals (Wood 1985). The major aim, however, being predominantly to secure urban food needs without recourse to importation, hence the continued emphasis on hybrid maize. Policy stressed increased 'African' participation in marketed agriculture so as to reduce the reliance on the predominantly European commercial farms and in so doing to redress the economic imbalance between regions. Specifically with respect to hybrid maize, policy was directed towards the monopoly in the trade of maize and state control over producer and retail prices. In short this led to:

- Credit for agricultural inputs being made available to farmers at concessionary rates which enabled many male and female farmers to take up hybrid maize production (Mwansa et al 1994).
Input supply, research and extension being biased in favour of producing hybrid maize.

Prices of agricultural inputs and produce being fixed by the government.

The government embarking on a highly expensive door-to-door maize purchasing and maize collection strategy which enabled farmers in the remotest corners of the country to be involved in maize marketing, with all the expenses borne by the state.

These measures led to considerable investment in the agricultural sector and accounted in part for the fact that in Northern Province sales of hybrid maize between 1970/71 season and 1985/86 season rose by ten fold or 1125 per cent (ARPT 1986). Such increases were by no means uniformly linear as some seasons were adversely affected by poor rains and the sales figures therefore reflect some fluctuations from one season to the next. In addition to climatic uncertainty, the inefficiencies of the infrastructural arrangements supported by government (particularly during the late 1980's) led to delays in the arrival of inputs, the deterioration of transport, and the late or non-collection of maize that had been sold to the marketing organisation. Furthermore, farmers faced many difficulties in acquiring the credit they needed to purchase inputs (Moore and Vaughan 1994:207). The implications for changes of this scale at the household level in terms of labour allocation, income levels, consumption patterns and dietary preferences etc, can not be overemphasised. What is clear however is the extent to which maize production had become central to the livelihoods of many small-scale producers in Northern Province.

In 1992, the new pro-reform Zambian government questioned the economic wisdom of most of the agricultural policies put in place by their predecessors. In line with the requirements of the structural adjustment programme advocated by the new government and the international donor community, agricultural policy reforms were instituted, with the aim of providing an environment in which the private sector would play a leading role in produce marketing, credit and input supply. Advocates of trade liberalisation argued that government subsidy in agriculture
distorted the true market value of agricultural produce and imposed high levels of direct and indirect taxation on farmers. They further argued that government subsidy benefited urban consumers and a small number of farmers who lived in close proximity to urban centres, who were able to purchase mealie-meal at a reduced price.

Liberalisation in the agricultural sector has centred around input supply, crop marketing, agricultural pricing, withdrawal of government subsidies and privatisation of agricultural credit and marketing parastatals (Mwansa et al 1994). This represented a move away from a centralised to a liberalised market-driven economy (GRZ 1994). The Agricultural Sector Investment Programme was introduced which focused on three key areas; restructuring the three small-scale lending institutions; phasing out agricultural subsidies; completing a programme of privatisation. This latter programme identified the following areas for privatisation; agricultural training and research; crops extension; information services; animal production and health; irrigation and mechanisation; marketing and trade; fisheries; standards; land administration and use; food security agency (GRZ 1993:6). The key credit institutions (CUSA, ZCF and LIMA bank) were earmarked for privatisation and with the phasing out of credit subsidies small-scale farmers are now expected to be charged commercial interest on their loans. A special credit programme was established for vulnerable groups with the aim of enabling hoe cultivators to improve productivity and incomes. It was also reported that 'loans will enable the small-scale farmer to develop an appreciation for the commercial concepts of borrowing and repayment' (GRZ 1993). In Northern Province, however, for the contemporary period there is no evidence that any government supported credit is actually available.

Implications of Pre-Reform Agricultural Policy

Hybrid Maize – Production, Constraints and Outcomes

In this section I will review the various ways in which recent agricultural policy has led to a number of changes to agricultural livelihoods and crop
production strategies in particular. As a precursor to this discussion it is necessary to consider in what ways agricultural livelihoods (in terms of food security, income strategies and their social organisational dynamics) have been shaped through the incorporation of hybrid maize production. Over the past twenty five years or so in rural Zambia, there has been an increasing tendency towards the commoditisation of agricultural production - albeit restricted to a few select cash crops. In addition to various forms of government support to foster processes of commoditisation and commercialisation in the agricultural sector there have also continuously been limited local markets for traditional grain and pulse crops in Zambia and there has been a long history of urban informal trade in agricultural and forest extracted produce. The promotion of hybrid maize production perse has, however, led to the greatest transformations in the small-scale agricultural sector. To the extent that hybrid maize became a key food and cash crop, its incorporation into existing cropping regimes illustrates both continuities and changes vis-á-vis the (re)organisation of household livelihood production strategies.

The central argument of this report is that, in the context of producing hybrid maize, broader farm household organisational strategies particularly with respect to the gender division of labour have at various times been modified by farmers to meet their own livelihood priorities. These have been achieved in culturally acceptable ways, but not always without a degree of conjugal conflict. Furthermore, in the context of recent policy reforms and the demise of wide spread maize cultivation such organisational strategies and adaptations have once again been modified (in continuous and discontinuous ways) by actors themselves. These will be explored below. But first some discussion of the pre-reform implications maize production for household organisation and livelihood strategies.

A comparison of production and sales figures for Northern Province from the 1986/87 (ARPT 1986) and 1996/97 (CSO 1998) seasons illustrates the extent to which there has been an overall drop in the total
amount of maize produced. Such a comparison also shows how the geographical focus of maize production has shifted. In the 1980's by far the largest proportion of hybrid maize produced in Northern Province came from Mbala and Isoka Districts. Recent figures illustrate that this concentration has now shifted to Mpika District. Nevertheless, total production for Northern Province has fallen by approximately 70 per cent. This is a clear indication that recent policy has had a huge impact on the contribution of small-farmers to the total production of hybrid maize. Prior to recent falls in maize production there was a steady increase in the total amount of hybrid maize produced in Northern Province, but this was not achieved without considerable difficulty on the part of small-scale producers. The reasons for this are attributable to both local factors (including the limits to available labour and conflicts with the production of other cropping priorities) and factors beyond the control of the producer. It is useful to consider the impact that a long period of government policy in support of hybrid maize production has had on small-scale farmers. In many areas of Northern Province and elsewhere in Zambia promoting hybrid maize production has lead towards a tendency for agricultural specialisation and monocropping. The demands of producing maize have conflicted in many ways with the demands of producing other cash and food consumption crops. These have been well documented in the literature on the commoditisation of agriculture in Zambia (Loxley 1990, FSRT 1992, Berry 1993). Indeed, much of the FSRT (ARPT) documentation shows, for selected sample points, that hybrid maize production has, despite widespread adoption and a huge overall growth in its production (1125 per cent since 1976) created a number of changes in the organisation of small farm households. The increased levels of production that the sales figures suggest belies the fact that there have also been a number of important implications for soil fertility and in real terms the yields per hectare of small-scale producers has actually fallen.

\[1\] Naturally, relying solely on such figures needs to be treated with caution. While there has been a steady increase in maize sales for Northern Province as a whole, from season to season there is also some flux.
Before examining in more detail the impact of recent policy measures it is worth considering, in brief, the implications of commercial maize production.

According to the studies conducted by IRDP (Serenje, Mpika, Chinsali) (IRDP 1982) and subsequent works by ARPT one of the key changes that took place at the household level during the maize boom is the extent to which women took over an increased responsibility for the production of traditional crops, for example millet and cassava. In contrast men assumed an increased responsibility for producing hybrid maize. There are a number of factors that have an effect on this conclusion however. The most significant of these relates to the level of a households involvement in the commercial production of maize. The ARPT and IRDP studies placed farm households into different categories dependant on their level of production. While this is by no means a wholly satisfactory way of assessing individual household livelihoods, for the purposes of the ARPT research the number of bags of maize that households sold at least gave a proxy measure with which to delineate the effects of agricultural commoditisation on different kinds of farm households. If we examine in more detail the labour implications of maize production we find that in some areas men and women have different kinds of increased responsibilities. The commercialisation of maize gave rise to several problems and constraints that relate to the supply and allocation of labour. Most significantly adding maize to *ibala* production entailed a significant increase in total labour input at particular times of the year, most critically between November and January. This exacerbated competition with and between other crops and activities, in particular between maize and finger millet cultivation and between maize weeding and finger millet and bean cultivation (ARP 1986).

In general terms tasks such as land preparation, planting, weeding and harvesting based on existing patterns of sexual labour divisions have been affected by *ibala* maize production in the following ways: For those households involved in relatively low levels of hybrid maize production (selling less than 30 bags annually) hoe cultivation of maize on *ibala* land (which is the predominant form of cultivation throughout Mpika District
and Zone 2 generally) is shared more or less equally by men and women. In contrast women allocate more of their time to planting, weeding and harvesting than do men. For the same category of household involved in maize and *citemene* millet production men allocate more time than women to their *citemene* gardens. For local maize and bean crops on *ibala* land women allocate more time than men. Cassava labour time allocation is shared roughly equally by men and women. We find that these labour allocation arrangements change little with increased involvement in maize production, except that labour allocated to *citemene* is predominantly that of women. In short, commercialisation of maize leads to greater specialisation of women on traditional crops, while males increase their input in agriculture through involvement with maize production. These conclusions are often summarised (in a rather simplistic way) as being an extension of the ‘men control cash, while women control food crops’ argument. While this may indeed often be the case, such a conclusion omits to take account of the negotiations that take place between men and women in respect to the overall farm household enterprise. It also fails to recognise that while statistically it may well be the case that there have been a number of important changes in the gender allocation of labour these are not immutable nor inflexible. In support of this statement, Moore and Vaughan (1994) illustrate, in reference to data collected by Evans and Young (1987), that with the production of hybrid maize is has become necessary for the labour allocation arrangements to be somewhat flexible, whether these be based on traditional sexual divisions of labour or newly emerged allocations.

The labour demands of incorporating hybrid maize puts a degree of stress on overall food security. ARPT research (1988) identifies a number of problems relating to food shortages and the frequency of food item consumption. In summary, the ARPT studies show that, in the early stages of maize commercialisation the consumption frequency of all farm grown foods declines owing to a reduction of food crop area grown. With increasing areas of hybrid maize, indicating more established commercialisation, food crop areas and consumption frequency recover to just below the levels of subsistence farmer households. For farm
households able to further expand maize area, the consumption frequency of cassava and millet declines, while maize consumption increases. Millet area increases, however, in the more established maize categories, generally as a payment for Labour (see ARPT, 1988). The level of recovery in food consumption frequency with progressive commercialisation may also depend on typical food crop areas for categories of farmers within a given locality. Similarly low general food variety in a locality will also affect adequacy at all levels of commercialisation. In other words, progressive commercialisation does not necessarily lead to adequate food consumption frequency and variety, as this also depends on overall food availability patterns within an area.

In addition to the effects that maize production has had on the allocation of labour and subsequent problems of overall food supply, we must also examine some of the reasons why there has been a fall in the yields of small-scale producers. The falls in yields are first of all attributed to consistent late planting and to the poor timing of fertiliser application. Cultivating hybrid maize successfully requires careful application of certain technological recommendations (timely planting, accurate seed distribution and timely fertiliser application). The dissemination of this sort of information has been and continues to be the responsibility of the Zambian extension services. The tendency towards monocropping and the lack of suitable crop rotations has led to declining soil fertility. This lack of adequate rotations and periods of fallow is in part a consequence of the increased labour demands of maize production and the resultant lack of newly cleared land. The acidifying effect of continuously using chemical fertiliser has also led to declining soil fertility. It is clear, then, that the drive to sustainably produce good yields has not been without its own problems. Therefore, while there may have been overall growth in the total maize produced such successes must be examined in terms of the constraints faced by individual farmers.

It is clear that while recent policy reforms have had a serious impact on the food and income security of small-scale producers (see below) these must be seen in the context of the difficulty of both initiating and sustaining any significant involvement with hybrid maize production.
Labour constraints and the conflicts that have been identified between the requirements of different cropping practices to meet both food and income needs were throughout the pre-reform years exacerbated by infrastructural and institutional inadequacies. Perhaps the most significant of these latter relate to the supply of inputs (seeds and fertiliser), and marketing arrangements. Again we can draw on the research carried out by ARPT Northern Province in the late 1980's to examine these problems. Firstly, maize seed has been consistently delivered late. Again both basal and top dressing fertilisers were frequently received late. ARPT concluded that the delivery dates of basal and top dressing did not match with the times when these were required in the cropping season. The distance farms were located from the collection and supply depots of the NCU (National Co-operative Union) also had a marked effect on the times by which farmers received inputs. It is also clear that late planting is closely related to the times at which farmers received their inputs. In short, those who received their inputs on time planted on time. With respect to marketing problems, according to many ARPT informants the reason why many farmers planted late was that they had been paid late for their produce. Despite these problems small-scale producers were nevertheless numerously involved in hybrid maize production but at a high cost to the government.

Impact of Policy Reform on Agricultural Livelihoods

Northern Province and Mpika District

The discussion that follows provides a general description of the effects of recent policy reforms for Northern province as a whole. The impact of such policy reforms have had differential significance for people in the five different agro-ecological zones. The factors that lead to such variation principally relate to the proximity of rural settlements to urban centres and 'markets'; the nature of the farming system within a particular ecological

---

2 ARPT (1988) make the important point that late in this context not only refers to the last planting date but to the preparation time required to organise adequate labour and make other planning arrangements.
zone. What is also significant, however, is the extent to which, in different localities throughout the province, there exist private enterprises that seek to support small-scale production of hybrid maize. In this latter regard Mpika District is unusual for Northern province. As the projected maize sales for 1996/97 (CSO1998) suggest (see above), Mpika District is now the largest producer of hybrid maize. This is principally because of the existence of a number of private commercial lending organisations who support small-scale production. For this reason the first hand data that was collected during fieldwork reflects the extent to which small-scale producers have continued with hybrid maize. The prevalence of continued maize production in this district also provides a useful contrast to the majority of Northern Provinces small-scale producers and illustrates the difficulty of producing hybrid maize in the post market reform context. A number of general issues raised by recent research in Northern Province as a whole remain significant even for Mpika District.

In summary, the impact of policy reforms have lead to the following scenarios: Declining access to credit and inputs under liberalisation has lead to a dramatic shift from hybrid maize production to subsistence oriented production of traditional food crops such as cassava, sorghum and finger millet. The consequent declining availability of hybrid maize has reduced the food base and elongated the hunger period for most small-scale farmers. In respect of the declining food base it is clear that in the post reform period maize must be re-evaluated in terms of its food security value and not simply its cash crop value. Alternative starch staples, such as cassava, sorghum and finger millet are inferior to hybrid maize in terms of yield per unit of land. This effectively means that farmers must grow larger areas of these low yielding and less bulky alternatives to meet their household requirements. The declining food base and the elongated hunger period have placed female-headed households at a greater disadvantage than male-headed households since female-headed

3 Much of the following data is derived from a Norwegian commissioned study carried out in conjunction with the Farming Systems Association of Zambia (FASAZ), 1995.
households are characteristically labour deficient. The declining food base has also lead to a situation in which there is an increased need to purchase and/or barter in order to acquire additional staple food. This has increased the vulnerability of households because of their weaker bargaining power on the market place. This latter point is particularly significant as liberalisation is built on the notion that market driven pricing will lead to farmers obtaining higher prices for their produce. This has not been the case as generally small-scale farmers have weaker bargaining power in relation to other actors, such as urban based and long distance traders. These and other factors have led to greater disparity between the resource poor and resource rich farmers. In fact, those who we may consider as food secure may become more secure in the event that the resource poor provide their labour in exchange for food at very low rates of ‘pay’ leading to increased profit margins for resource secure farmers.

Under present conditions, the need to purchase additional staples has led to increased importance of off-farm and on-farm income earning activities for both men and women. Off-farm income earning activities tend to be more gender specific, with men dominating in activities such as charcoal burning and women in beer brewing. On-farm activities revolve around a range of new and emergent cash crops such as vegetables, Irish and sweet potatoes. For both off- and on-farm income generating activities there has been a tendency for men to move into those commodities traditionally controlled by women, for example caterpillars and sweet potatoes, once these commodities realise a higher market value.

The main conclusion reached in a recent Farming Systems Association of Zambia (FASAZ) study state that ‘the disruption of a well-entrenched but expensive-to-run system of hybrid maize production using purchased inputs and modern scientific methods has had profound effect on farmers’ welfare’. The same study also concluded that the private sector lacks the capacity and incentives to adequately serve farmers needs especially in the less favoured areas such as Northern Province. To gain an understanding of the impact of liberalisation it is worth examining this study in more detail. Some of the issues raised will then be taken up and examined in respect to the data collected in Chief Mukungule, Mpika.
District. The following discussion is organised according to the following headings; marketing and prices in the post-reform period; input supply and credit; production trends; incomes, gender and control of resources; food consumption patterns.

Markets and Pricing in the Post-Reform Period

The notion of a free market is a pre-requisite of the contemporary economic policy reforms in Zambia. The belief in the 'power' of the 'market place', as though it were an independent and immutable variable or agent in the management of social and economic change, has been broadcastly applied to all sectors of economic reform. In agriculture, but most particularly, in the small-scale sector the transformation of liberal market discourse into practice has met with a number of obstacles. The most significant of which, is that in real terms it is extremely difficult for small-scale farmers to realise high prices for their commodities on the market place because of a defacto monopoly by the small number of buyers, and the non-existence of any broader tangible markets.

From the outset of reforms in 1992 the government supported national lending institutions (ZCF, LIMA Bank and CUSA) refused to buy the 1991/92 crop. There were few private or institutional buyers to take their place and so farmers could only dispose of hybrid maize at the price dictated by the few who were willing to buy. Those who sold to traders who came to the villages to buy couldn’t command a decent price because supply outstripped demand. Furthermore, long distance traders prefer to conduct barter exchange rather than to purchase with cash as they can manipulate the terms of trade. A comparison of prices for agricultural commodities in Mpika town and the rural areas clearly shows how unequal terms of trade are exploited by traders. Long distance traders can speculate at the two market outlets and convert 700ZK worth of mealie-meal into beans which will fetch 4000ZK on resale. Despite this, according to the FASAZ study, beans sales to private traders haven’t increased in real terms, but in comparison to the declining maize sales they have assumed more prominence. The distance from urban centre to the rural farms often prohibits even more enterprising farmers from selling their produce.
directly. The additional costs of transportation and subsistence add substantially to declining price paid for maize. While the need to acquire what cash they can is paramount to smaller farmers, at times (notably the hungry period between January and May) farmers will knowingly undersell locally because of necessity (Long 1997). Traders again exploit this, putting the majority of rural producers in a no-win situation. To add further to the problems the emerging markets create, those farmers who attempt to store their grain to await the expected increased prices during the hungry season face storage problems and infestation with pests. These predicaments, common throughout Northern Province, have led many farmers to abandon hybrid maize in favour of other food grains that can, on a modest scale, also be sold or bartered in small quantities to meet contingent household needs.

For those who could still afford to obtain credit following the 1992 season’s change in practice the cost was high, with commercial rates of interest being charged. Compared to the price being paid for hybrid maize the cost of fertiliser was extremely high and prohibitively so for many. Maize is no longer a viable cash crop as people commented, in response to questions from the FASAZ team, ‘we don’t get back what we put in’ (1995:10). A similar response was recording during recent fieldwork in Mpika. Despite such an assertion and the clear recognition by small-farmers of the cash value of maize its recognition as a food crop, and food security crop cannot be overlooked. Given the right (and however marginal) opportunity costs many farmers would continue producing hybrid maize simply because over the past twenty five or so years it has assumed a prominent place in the rural economy. It is both a cash and food crop, and in many barter contexts it has become a standard measure of exchange value.

Input Supply and Credit

In Northern Province input supply and credit has effectively been privatised. Those private sector agents who have become involved have had to meet a number of stringent requirements. This has left the field of potential competitors limited to established retailers or those have access to
the requisite storage and transport facilities. Collateral is also a pre-
requisite to obtaining the appropriate licences. This move over to 
commercial control in credit and input supply has left the burden of 
paying for additional operating costs, interest and private profit in the 
hands of the producers. As a general rule, the acquisition of commercial 
loans by farmers requires a 10 per cent deposit. In contrast fertiliser is then 
allocated to loanees at a price above the existing market value to take 
account of interest and the rising cost of supply. Seed is not in many cases 
provided and the cost of paying for hybrid varieties remains the 
responsibility of individual farmers. A minimum area of land must be 
tilled and collateral in the form of fixed assets are required from potential 
loanees. These conditions effectively exclude most small-scale farmers and 
particularly those considered resource poor. These and other restrictions or 
conditions are different depending on the organisation. In Mpika District, 
for example, the Foundation for Sustainable Agricultural Development 
(FOSAD) offers favourable terms to small-scale farmers. They give loans 
on a payment in kind basis, and require an interest to be paid. FOSAD is 
rung by the Honourable Michael Sata MP for Mpika district. This particular 
organisation is one of only a handful run by individuals in Northern 
Province. The banks offer farmers commercial loans and require payment 
in cash, otherwise the sole means to acquire fertiliser is through outright 
cash purchases. In recent interviews with Mpika District agricultural staff, 
however, the incidence of full repayment are reported to be better than in 
the subsidised past. New attitudes to repayment have emerged in response 
to the heavy penalties imposed by commercial lending institutions.

The outcome of changes in the organisation of input and credit 
supply is that many farmers are simply unable to meet the necessary 
conditions and fail to secure loans. Those who are disadvantageously 
positioned or far from the urban centres are frequently left out of private 
trade strategies to supply inputs and credit. There is also a proliferation of 
various kinds of fertiliser on the market, some of which are reputedly not 
suitable to agronomic conditions in Northern Province.
Production Trends

Northern Province data suggests that in many areas there has been a dramatic shift away from hybrid maize production and a return to subsistence oriented production of traditional staple food crops such as cassava, sorghum and finger millet. Across the province such responses are unevenly distributed and largely depend on farmers continuing access to credit and inputs. One of the features of the process of liberalisation is the widening disparity between the resource poor and advantaged farmers. Those still able to access inputs and credit, or those who can, through various means, raise the capital they need to continue hybrid maize production clearly have certain advantages over those who are completely reliant on the production of traditional staples. While trends indicate a shift away from hybrid maize the production of traditional staples remains problematic. There are a number of limiting factors associated with both citemene and cassava production. In the former case the availability of suitably regenerated tree cover and the distance to such sites are clear disadvantages. In addition, female headed households are at a further disadvantage due to the increased and gender specific labour demands of citemene millet cultivation. Finger millet produced on ibala lands is also subject to declining soil fertility and reduced yields. In the case of cassava, the three years maturation period is too long to provide sufficient staple on an annual basis. Cassava is now commonly being harvested after a single season in order to satisfy peoples’ immediate subsistence needs (FASAZ 1995 and interviews with FSRT staff 1998). This results in the non maturation of cassava roots and the harvesting of immature tubers, which simply do not provide enough floor when processed. Supplies consequently run short much earlier in the season. To meet the problems of sufficiency cassava meal is often mixed with other grain floor when available to eek out supplies. Cassava is also enjoyed by elephants in parts of Mpika District who can destroy an entire crop at a single sitting. There has also been a reported increase in the presence of mealy bug disease. While the return to cultivating traditional staples has been a key response there have been significant problems with yields. In fact one of key reasons behind the desire to produce hybrid maize has been
because of its yield value per unit of land compared to other staples. Much of the cassava, finger millet and sorghum that is now being grown is done so on ibala (or upland flat) land formally used to produce hybrid maize. The lack of crop rotations, fallow periods and the tendency towards monocropping so common with hybrid maize production has lead to a significant decline in soil fertility. The successive use of chemical fertilisers has leached the soil of alkalinity and rendered many good loamy soils too acidic to successfully cultivate staple grains.

With declining access to staple foods there has been a corresponding increase in the need to secure cash with which to purchase additional grain. This has lead to an increase in the production of ‘traditional’ cash crops. The most significant of these being beans, groundnuts, Irish and sweet potatoes. In some areas vegetables have also become an important source of income. The production of these crops is blighted by an increase in the incidence of pests. Beans, for example, suffer from bean stem maggots. This is a problem that is restricted to crops produced on ibala land. Formerly, it was common to grow beans on a second year rotation following millet on citemene plots (fifwani). Groundnuts have also suffered from what are known as ‘pops’ or empty shells. Declining yields have not, however, deterred farmers from cultivating larger areas of these latter crops which command a high resale value. The FASAZ study concludes that it is those who formerly relied heavily on hybrid maize for their food and cash requirements who are now most involved in the production of these alternatives and are most dependent on cash to purchase staple food. This is in part a result of the low soil fertility of land due to continuous application of fertiliser.

Incomes, Gender and Control of Farm/Household Resources

Diversified food security and income generating strategies have long been characteristic of the livelihoods of small-scale producers. This certainly remains the case in Northern Province, although certain activities have assumed more prominence by men and women in the search for cash. Proximity to market places (or access to the tarmac road to transport items to urban centres) has an impact on the range and distribution of off-farm
income activities. Key among these are charcoal production, the collection of wild fruits, invertebrates and honey. The production of beer as a key source of circulating incomes in rural areas appears to have less prominence than it did previously. This is accounted for, in the main, by the lack of surplus or recreational capital circulating within rural localities. There is also less available grain to produce beer, particularly maize grain used to produce *katata* beer. The production of alcoholic drinks in rural areas is now often associated with the brewing of *involo* or ‘wine’ (a simple yeast, sugar and carbohydrate concoction).

In terms of the distribution of gendered responsibility, charcoal production is considered men’s work. In contrast, collecting wild or forest produce such as fruits and invertebrates remains predominantly the preserve of women. However, the most valuable invertebrates, caterpillars, are now increasingly attractive to men, who may accompany their wives and daughters on collection trips. The money realised from the sale of caterpillars was in the past deemed an addition to any other on and off-farm activity and as such the cash raised was frequently spent by men on beer and other leisure. Today, incomes from the sales of invertebrates are an increasingly important aspect of household incomes.

On farm or agricultural incomes we have already discussed as being centred around the production of traditional and newly emergent cash crops. Of the latter, sunflower, Soya and castor are relatively recent introductions. In Mpika district 30 per cent of former maize producers have turned their attention to sunflower (interview with K. Musangu, Mpika District Agricultural Engineer 04/03/98). While small farm produced sunflower has, in many areas, yet to gain status in the urban markets, it is pressed and sold locally. This provides a valuable source of cooking oil and a cash saving for many. *Yenge* or ram presses used to extract the oil from seeds are now wide spread in Mpika District. Presses provide the owners with a source of both cash and surplus sunflower seed as many transactions are conducted on an exchange basis. In some areas vegetable production has become an important activity. These ‘garden’ crops were traditionally the responsibility of women, but a recent activity profile conducted by FASAZ illustrates that men are increasingly involved
in vegetable production. That is, with the exception of watering, which remains and was traditionally a women’s task. Similarly, sweet potatoes, which were always regarded as women’s crops have now become increasingly attractive to men as they command a good market value. Despite the move over to alternative cash crops (some old some new) no crops have yet usurped hybrid maize as the single most important source of income. Although beans are perhaps the most likely candidate in this latter respect.

For a considerable period beans have been considered an important source of on-farm income, particularly for women. Beans are a biannual crop and it is interesting to note that the respective harvests of this crop serve different strategic functions. The first crop harvested in March, during the height of the hungry period is most frequently used a medium of barter exchange to acquire food. In contrast the second harvest in June is, when possible, sold to raise cash for other household needs. The timing of the bean crops is the key factor behind these different outcomes. Beans are occasionally marketed directly by the producers, but this involves additional costs of transporting produce to the urban markets. The FASAZ study reports the finding of occasional networks of co-operation between households who take it in turn to market beans on behalf of other group members (this was particularly so in Mpika). A small percentage of more enterprising producers will travel the long distance trade routes to Ndola, Kitwe and to Lusaka. These individuals may also speculate on the local market by buying off beans from others to resell. It is interesting to note that while this group of entrepreneurial farmers include both men and women this strategy is very often employed by well-to-do female headed households. In the early 1990’s a study conducted by Han Seur in Serenje District found that among enterprising women farmers this was a common strategy for accumulation and often used as a stepping stone to commercial hybrid maize production (Seur 1992).

The data on the contemporary situation with respect to these alternatives and the demise of hybrid maize production reveals some interesting points concerning issues of gender and the control over
resources. Material from both first hand research and secondary sources reveal that men and women would emphasise that they would in practice work together on food and cash crops as a joint enterprise. Both activities are central to the success of livelihoods. At any one time the opinions and decisions of either husband and wife may dictate the outcome of certain crop based strategies but contributions that lead to a cash income or enhanced short and long term food security are vital. This remains the case in a context where the tasks and responsibilities for crop production may be shared in accordance with expectations of local custom. The ultimate goal for both husband and wife remains the livelihood security of the household. This data may illustrate two coexistent sets of gender related issues. Firstly, the tendency to view women as ‘victims’ in the control of resources is to diminish the role that women play as active decision makers who have (albeit differentially) the capacity to negotiate and to influence production decisions. Secondly, projects that involve agricultural production for individual gain (as was the case with sweet potatoes or beans - being the reserve of women) may, during times of stress, be engulfed by the needs of all group members. The individual livelihoods and joint enterprises of men and women across a longer time frame shift between more or less emphasis on collective as against individual needs. Such processes, however, affect different households and individuals in different ways. In conclusion, the foregoing discussion highlights some of the ways in which structural adjustment and subsequent liberalisation has had a differential impact on men and women. Discussions with informants in Mpika, however, offer some interesting insights. First of all the distinction between what are women’s roles, responsibilities and rights vis-à-vis agricultural production are not as clear cut as analysts may assume. This supports the idea that both women and men’s livelihoods are often joint ventures. On asking whether or not the removal of subsidies has affected men and women differently, informants responded by stating that the demise of maize has led to less money being available, which has had an effect on both men and women. The comments and views of married men and women in Mpika District strongly suggest that they consider their livelihoods as intimately entwined. Responses to
questions concerned with who controlled various resources (apart from being accompanied by frequent laughter – indicating the question perhaps had an obvious answer) very often centred around the idea that responsibility was a joint enterprise.

Implicit in the preceding discussion is the recognition that the responses to recent policy reform from rural producers are different, but they fall broadly within a range or pattern of existing and modified opportunities. Perhaps one of the key ways of measuring the extent to which the livelihoods of whole communities across Northern Province have been affected is through responses to wealth ranking exercises. The criteria used when based on locally significant variables gives a measure of what commodities and social achievements are deemed of high value. The FASAZ data shows that the criteria of wealth ranking has shifted emphasis from achieving or acquiring a saleable surplus crop to good food stocks and year round food security.

Food Consumption Patterns

The post reform consequences of reduced access to the requirements of hybrid maize production point towards a simple conclusion. During the last twenty five years or so hybrid maize has become the key food crop and cash crop. Much of the contemporary development literature has focused attention on the various ways in which the production of hybrid maize has affected men and women differently. Special emphasis has been given, however, to its negative effects on the position of women and its importance to men as a cash crop. A central argument has been that hybrid maize production has diverted female labour from food crop production to the male controlled maize enterprise. It’s dual significance is now readily appreciated as important to both men and women. The arguments that postulated that the appropriation of female labour for ‘cash cropping’ has tended to jeopardise household food security and to foment conjugal conflict over control of income from maize sales now seems oddly redundant. Rather than female farmers rejoicing in the demise of hybrid maize as we may expect if its production subjugated them so, women emphatically state that the demise of hybrid maize production has
seriously the food security situation at the household level. Both men and women have in the past been joint stakeholders – albeit in different ways - in producing hybrid maize. This is to suggest that farm and household organisational strategies and livelihoods are more implicitly joint practices than previously assumed. There are nevertheless conjugal conflicts that hybrid maize production has brought with it. In its demise, these conflicts may no longer be focused around the imperatives of maize production but may shift to other arenas of tension in alternative crop production strategies.

The non-availability of hybrid maize has reduced the food base and elongated the hungry period. Food calendar exercises conducted by FASAZ clearly show an across the board reduction in the frequency of food items consumed. Even the stalwarts - traditional cassavas, sorghums and millets - have declined in their frequency of consumption. The removal of hybrid maize from the farming system or pattern of farming regime disrupts the balance between specific crops, the type and suitability of land used, yields, the prevalence of pests and their control. The hunger period for much of Northern Province now lasts for up to seven months. There are several reasons for this. The first of which is the increased consumption of traditional staples. Yields per unit of land are often much lower for these than for hybrid maize. Neither do the traditional staples have the carbohydrate bulk that hybrid maize has. Lastly, crops like cassava, are harvested early reducing their consumable mass. The implications of the prolonged hunger period for female headed households put them at a disadvantage to men. This is principally because female headed households are very often labour deficient and they are less able to grow more of the low yielding and less bulky alternative staples. At the lower end of the spectrum food deficient households find it difficult to break the vicious cycle of food insecurity because they tend to expend most of their labour working for food to meet immediate consumption needs rather than investing their labour in longer term food security. The terms of trade between labour and staples are unfavourable. The monetary values of grains are high at the village level compared to labour and thus food deficient households often have to work more for very little food.
The other implications of the hunger squeeze are a reduced overall frequency of meals for the food deficient households; an increased level of absenteeism by school children from these households, as they are forced or sent to look for food (collecting wild forest products, fruits, invertebrates, honey etc); lastly, there is an increasing reliance on cash to meet food consumption requirements. 'The market place is an increasingly important arena on which entitlements to food are negotiated' (FASAZ 1995:21).

The preceding discussion focused on the general implications of the policy reform period and those aspects of policy that have had a direct bearing on the livelihoods of small-scale farmers. Where appropriate specific reference was made to Mpika District. What follows is a preliminary review of survey data from one locality in Mpika: Chief Mukungule.

**The Research Locality – Chief Mukungule**

Fieldwork was conducted in Chief Mukungule’s area of Mpika District, which is situated approximately 90km North West of Mpika Boma in the South West of Zone 2. This research site was identified due to its accessibility during the rainy season. One advantage of choosing this particular site is that it had, during the late 1980’s, been chosen as a field site for the ODA’s Integrated Rural Development Project. In consequence, some base line socio-economic data was available within the district. Furthermore, this particular location had during 1996 been the focus of a short community development project evaluation carried out by the author (Long 1997). This work was focused specifically on the initiatives of the North Luangwa Conservation Project.

There are a number of points of interest that are worth noting in relation to Mukungule. Firstly, Mukungule borders the North Luangwa National Park, where the Bisa inhabitants of Chief Mukungule had up until the late 1930’s been resident. In common with other Valley Bisa, hunting and associated activities (for example, porterage, and tracking) were key livelihood activities. Since the introduction of the North Luangwa Conservation Project in 1986 and other Zambian Conservation
initiatives in Mpika District these activities have become increasingly marginalised from the main stay of the local rural economy. Today agriculture is the principal livelihood activity. Data collected under the auspices of the Integrated Rural Development Project in the late 1980’s provides clear evidence of the importance of hybrid maize production despite the high incidence of illegal hunting (poaching) that has been recorded for the Northern Luangwa Valley.\(^4\) Secondly, the presence of the conservation project provides a ready market for the sale of agricultural produce, most notably maize. Furthermore, the conservation project at times provides seasonal employment in order to maintain the parks access roads and airstrips. It is also worth noting that under the pressures exerted by the conservation project to dissuade the local population from illegal hunting various incentives were provided through a system of credit to encourage people to grow cash crops. The existence of the North Luangwa Conservation Project has, subsequently, led to the introduction (with varying degrees of success) of small-stock (goats and sheep), fish farming, and the widespread production of sunflower (Long 1997). Since 1996, the community development component of this project has been devoid of funds and while still in existence has been relatively inactive during the last two years.

Chief Mukungule’s area is typical of other areas of Zone 2. Although for 1996/97 Mukungule was the highest maize producing area of Mpika district. The population of inhabitants are predominantly Bisa in origin, but there are also a number of Bemba and Bisa-Bemba mixed families. In addition, around the school, agricultural camp and Rural Health Centre there are a number of government workers from other provinces in Zambia. Approximately 16 km’s from Mukungule primary

---

\(^4\) It is interesting to note that a number of research sites chosen by IRDP researchers in the 1980’s are in close proximity to the Muchinga escarpment and consequently the Luangwa Valley. There is no evidence in any of the socio-economic reports written, however, of the significance of illegal hunting as a key source of income and yet during the late 1980’s illegal off-take of wildlife was widespread.
school there is a major game camp, where there is a small store and a grinding mill.

Due to the short time frame of this study a limited sample of 50 households were earmarked for the survey. Data was collected on the following; marriage and settlement composition; production and assets; resource flows and income/expenditure; labour allocation; food consumption.

Survey Data

This section provides a preliminary review of survey data collected in March 1998. The first part of the analysis is primarily concerned with household composition and as such sheds some light on the use of a model of redistribution. The second part deals with agricultural data and resource flows.

Social Relations and Household Composition

The first two tables in the following series provide general demographic data for the fieldwork area. Most apparent is the equal proportions of men and women (51 per cent compared to 49 per cent). By contrast in the early 1980’s IRDP data shows that there were considerably more women than there are today (77 per cent men and 23 per cent women respectively). Also significant is the number of younger people. 50 per cent of the sample population are aged between 1 and 14 years. The next most populous age group is the 25-34 year age bracket. Overall the population sampled is relatively young. Table 2. shows that by far the majority of households are male headed (91 per cent). This compares favourably with IRDP data (1982) which identified 80 per cent of households sampled as headed by men. The majority of households were small with the most falling somewhere between 4 and 9 persons. Household composition, however, is subject to a degree of flux throughout the agricultural year.

---

5 The following analysis is preliminary. A more detailed analysis is currently being conducted at NAI.
There are a number of reasons for this. Firstly, for those families supporting children in secondary education the composition of their households will inevitably expand during the school recess. Secondly, during the lulls in the cycle of annual labour, people may leave their home area to visit relatives in town or other areas regionally. Thirdly, during harvest time households may also grow to accommodate visits from resource poor kin. Traders may join particular households, perhaps their clan relations, during this period. People who travel to more distant areas looking for invertebrates may also stay with their kin. In addition village composition across Northern province varies. It varies according to farming systems. In Zone 2 (including Mpika District), the composition and location of settlements reflects the system of *citemene* cultivation. It is common for households to have *mitanda*, where they will reside for the duration of the cutting and drying period. They will also reside there during harvest time. In contrast, the same households will live in close proximity to their kinsmen and women in 'villages' for other periods of the year. *Mitanda* are often at some distance from the sedentary village sites making the contact and visits prevalent at the villages less frequent.

Such flux in composition affects consumption and redistribution patterns at given times of the year. Invariably visiting kin will be given something food provisions, clothing or perhaps money (if they are distant visitors) with which they may return to their own homes. In this way they can communicate the status or welfare of those who they visit. There is a degree of expectation and obligation under such circumstances.
Table 1. Age-Sex Distribution for Sample Population

<table>
<thead>
<tr>
<th>Age Category (years)</th>
<th>Males</th>
<th></th>
<th></th>
<th></th>
<th>Females</th>
<th></th>
<th></th>
<th></th>
<th>Totals</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>%</td>
<td>No</td>
<td>%</td>
<td>No</td>
<td>%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-14</td>
<td>90</td>
<td>28</td>
<td>68</td>
<td>22</td>
<td>158</td>
<td>50</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-24</td>
<td>21</td>
<td>7</td>
<td>27</td>
<td>9</td>
<td>48</td>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25-34</td>
<td>24</td>
<td>8</td>
<td>26</td>
<td>8</td>
<td>50</td>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35-44</td>
<td>10</td>
<td>3</td>
<td>13</td>
<td>4</td>
<td>23</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>45-54</td>
<td>12</td>
<td>4</td>
<td>12</td>
<td>4</td>
<td>24</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>55+</td>
<td>6</td>
<td>1</td>
<td>7</td>
<td>2</td>
<td>13</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td>173</td>
<td>51</td>
<td>153</td>
<td>49</td>
<td>316</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2. Size of Household/Gender of Head Person

| No of persons in Household | No. | %     | Male headed | | Female headed | | |
|----------------------------|-----|-------|-------------|---|--------------|---|
|                            |     |       | No. | %     | No. | %     |       |       |       |       |
| 1-3                        | 10  | 20%   | 8   | 16    | 2   | 3     |       |       |       |       |
| 4-6                        | 18  | 35%   | 16  | 32    | 2   | 4     |       |       |       |       |
| 7-9                        | 16  | 31%   | 15  | 29    | 1   | 2     |       |       |       |       |
| 10+                        | 7   | 14%   | 7   | 14    | -   | -     |       |       |       |       |
| Totals                     | 51  | 100   | 46  | 91    | 5   | 9     |       |       |       |       |

In the context of a model of redistribution such shifts or changes in household composition would be expected. They are difficult to document,
however, without being present during the appropriate period during the agricultural year. Such changes may be temporary, but they are permanent potentialities. Indeed changes in membership of this sort are the norm for many households. Data on visitors, who were during fieldwork, present at the homes of informants (for varying periods of time) suggest that such occurrences are year round, but there are certainly periods during the year when household composition changes more than others.

Table 3., which concerns marriage data, is interesting as it illustrates the extent to which bride service remains an important institution. Firstly, of households sampled and headed by married males 86 per cent performed some bride service. The numbers of men who made payments as part of their bride service or marriage arrangements is high. In fact, most married men made cash payments in addition to the labour they provided. While the 25-34 age group shows the highest incidence of bride service, all adult married men sampled reported that they either performed labour for their in-laws and/or made cash payments. This illustrates that, despite considerable socio-economic change in rural Mpika, the institution of bride service retains its significance. Data on the duration of service and the number of children born before autonomy is bestowed on the young couple suggests that the obligation to work on the crops of ones in-laws is no longer strictly enforced – particularly when compared with the periods of time spent in service recorded by Richards (1939). However the sentiment of respect and of co-operation is nevertheless expressed through the continued existence of bride service and the cash payments made that symbolise the institution. The practice of bride service exemplifies the importance of both affinal links and reinforces patterns of residence among younger married couples.

It is also interesting to note that cash payments have not replaced service perse. Money has been traditionally given as part of the marriage transaction, and in recent years the sums that have changed hands have increased. However, both cash and labour are concurrently part of the arrangements made between in-laws. The continued importance of bride service also illustrates that it is the ability to actively co-operate and contribute to the labour pool of ones affinal relations that remains
important. In the context of an agricultural economy that depends entirely on manual labour such forms of co-operation are extremely important. Despite the commoditisation of crop production data on the prevalence of bride service suggests that maintaining social relations across lineage groups through marriage remains important and to some extent counters the argument that commoditisation leads towards increasing individualisation and the nucleation of settlements.

Despite the small size of individual households, data on bride service from Mukungule suggests that the links between females within a matrilineage and affinal links remain important. Geneological data also supports this, but it is important to recognise that those who may claim common allegiance to the same head person and an identified village may not be related matrilineally but through patrilineal lines of descent. There is, then, considerable variation in the composition of settlements.

Table 3. Bride-Service Provided Cash/Labour

<table>
<thead>
<tr>
<th>Age Category (years)</th>
<th>Payment</th>
<th>Labour</th>
<th>Both Pay and labour</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>%</td>
<td>No</td>
</tr>
<tr>
<td>15-24</td>
<td>2</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>25-34</td>
<td>16</td>
<td>31</td>
<td>17</td>
</tr>
<tr>
<td>35-44</td>
<td>9</td>
<td>18</td>
<td>8</td>
</tr>
<tr>
<td>45-54</td>
<td>11</td>
<td>26</td>
<td>8</td>
</tr>
<tr>
<td>55+</td>
<td>6</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>Totals</td>
<td>44</td>
<td>91</td>
<td>42</td>
</tr>
</tbody>
</table>

In respect of the composition and organisation of households the small size of settlements recorded belies the fact that most households consider themselves to belong to these larger corporate groups of extended kin. Households are, then, part of larger settlements, wherein residents are related to each other and to a senior man or woman. Most individuals are
related through either direct matrilineal links or through affinal links established at marriage – although this is by no means strictly the case. It must be remembered that in spatial terms people generally live in close proximity to each other and it is not, therefore, difficult to communicate or co-operate with one’s kin group.

The extent to which these relationships are important (beyond their emotional content) come to light in consideration of labour provision. Table 4 illustrates the important place of family labour in the production of hybrid maize. In support of these findings many respondents insisted that with the production of cash and food crops each household was entirely responsible for meeting their own needs. Despite this it is not unusual for younger members of extended kin groups to spend time with family other than their own parents. When this happens family labour includes the labour of those who may only be members of the household for a short period. In the context of recent policy it is reasonable to assume that the low prevalence of beer parties for labour and hiring labour is due to the absence of sufficient grain in the former case and the absence of cash in the latter.

Table 4. Labour Sources

<table>
<thead>
<tr>
<th>Family Labour (immediate h/h members)</th>
<th>Beer Party</th>
<th>Hired Labour</th>
<th>Hired and receiving Loans</th>
</tr>
</thead>
<tbody>
<tr>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>46</td>
<td>87%</td>
<td>2</td>
<td>4%</td>
</tr>
</tbody>
</table>

One of the expectations of a model of redistribution is that the frequency with which particular relations are involved in particular types of resource distribution activity will reveal the importance of particular social relations at the household level. One such resource (and perhaps one of the most significant is labour). An analysis of those who actually work together reveals the extent to which the core labour contributions come from able
bodied members of the nuclear family. Husbands and wives work together most frequently. Matrilineally related women who reside in close proximity also work together in a domestic capacity, sharing responsibility for looking after children and preparing food items (shelling beans and the like) females. In the context of agricultural work there may be some reciprocal arrangements made between women, but invariably final responsibility for production rests with only those who we may consider as belonging to a single household. We will explore the significance of other kinds of resource redistribution below.

Agricultural Data

Data on agricultural production clearly shows how hybrid maize retains its place in the cropping practices of people from this part of Mpika District. Fig.1. Clearly shows that proportionally more land is turned over to hybrid maize production than to any other crop. This is certainly not reported to be the case for other parts of Northern Province (see above). The existence of markets (in this case the North Luangwa Conservation Project (NLCP) and traders from Mpika) and the ability to receive favourable loans is the principle reason hybrid maize is still central to the economy of this area. Although continued production of hybrid maize is now relatively unusual for Northern Province as a whole, its existence here only reinforces how important the governments support was in the production of hybrid maize. It is clear from table 6. that there are two markets for hybrid maize in Chief Mukungule. These are through urban traders and to the NLCP. Discussion with informants supports the findings of other Northern Province research and if we examine the crop production histories of the biggest producers ⁶ in the area it becomes clear that continued involvement with commercial maize has not been without problems. In the case of a farmer from village 103 (survey codes) the following (table 5.) represents a summary of involvement with hybrid maize production since policy reforms and before.

---

⁶ Targeting the bigger maize producers in this way highlights the difficulties that most other farmers face.
<table>
<thead>
<tr>
<th>Agricultural Year</th>
<th>Source of Inputs</th>
<th>Place of Sale</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990/91</td>
<td>Credit from Zambia Co-operative Finance (ZCF), 8 bags total.</td>
<td>All maize sold to ZCF to repay loan and raise cash.</td>
</tr>
<tr>
<td>1991/92</td>
<td>Credit from Zambia Co-operative Finance (ZCF), 8 bags total.</td>
<td>All maize sold to ZCF to repay loan and raise cash.</td>
</tr>
<tr>
<td>1992/93</td>
<td>Credit from Zambia Co-operative Finance (ZCF), 4 bags, but only for basal dressing – other fertiliser unavailable</td>
<td>All maize sold to ZCF to repay loan and raise cash.</td>
</tr>
<tr>
<td>1993/94</td>
<td>Loan from NLCP (Mpika), 2 bags and bought on cash basis remaining fertiliser, 4 bags.</td>
<td>Sold all maize to NLCP</td>
</tr>
<tr>
<td>1994/95</td>
<td>Exchanged maize raised through barter with traders from Chinsali, bought 10 bags - cash.</td>
<td>Sold most maize to NLCP, remainder to traders from Boma</td>
</tr>
<tr>
<td>1995/96</td>
<td>Loan from FOSAD, 4bags, remainder paid cash.</td>
<td>Sold to NLCP and traders from Mpika.</td>
</tr>
<tr>
<td>1996/97</td>
<td>Loan from FOSAD, 14 bags</td>
<td>Sold to NLCP and Mpika traders, also exchanged maize for fertiliser with FOSAD.</td>
</tr>
<tr>
<td>1997/98</td>
<td>Paid cash for all fertiliser</td>
<td></td>
</tr>
</tbody>
</table>
The point raised earlier, that there is a widening gap between resource poor and well resourced farmers is given support by informants in Mukungule. In fact the farmer whose strategy is summarised above intended to retain almost all his seasons maize crop in anticipation of shortages during the 1998-99 hungry period. This, he would then sell on locally at an increased price. In contrast, many other less well resourced farmers commented that their key staple crops were finger millet and cassava. Maize they commented was no longer a viable cash crop, ‘we simply don’t get back what we put in, as the cost of fertiliser is too high and the price paid for maize too low’, was commonly cited as reasons for focusing on finger millet and cassava. Local indicators of change identified by farmers included the reduced amounts of maize beer being brewed and sold. In one case a farmer commented that, ‘you may buy a 1000ZK container worth of beer, but there will be many people to share it with.’

Alternative sources of income other than hybrid maize were not considered to be suitable substitutes for maize as the incomes raised were lower and often they were piece meal. For example, selling sugar cane or other agricultural products locally would take a long time to realise their value. At other times of the year, beans, sweet potatoes, and sunflower are the most significant alternative cash crops. In view of the continued production of maize, however, these latter were less significant than they otherwise might have been. Sunflower production offers a number of alternatives which may be used to either raise cash or to save its use. It is somewhat different to other alternatives since its introduction was supported through a community development loans scheme. Production has nevertheless increased substantially and across a range of farms. It is primarily pressed for local consumption, but the residues are used as chicken and small-stock feed. The oil and the seeds are also used in barter exchange at the local level.

Credit and Acquiring Inputs

Out of 161 loans for 1996/97, 61 or 38 per cent were received by women. The remaining loans (100) or 62 per cent were received by men. In contrast, loan repayments for the season were poor. Only a total of 8 loans were
repaid in full. Only 2 loans given to men were repaid in full (1 per cent), whereas women repaid a total of 6 loans (4 per cent).

<table>
<thead>
<tr>
<th>Table 6. Sources of Inputs and Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>H. Maize Producing Households</td>
</tr>
<tr>
<td>No.</td>
</tr>
<tr>
<td>53</td>
</tr>
</tbody>
</table>

The majority of the remainder part-paid some of their debt in kind, rolling over the remaining debt for the 1997/98 season. Local credit representatives accounted for the poor repayment records because of the late delivery of inputs, which remains a problem even in the private sector, despite good rains. Mpika District is at present the only district in Northern Province where a number of individuals offer small-scale credit for agricultural inputs. One of the MP's for Mpika and member of the cabinet has since 1995 offered small loans to farmers under the Foundation For Sustainable Development (FOSAD). The existence of this loan scheme accounts for the high level of continued small-scale production of Maize for Mpika District. For the 1996/97 season Mukungule was the highest maize producing area in Mpika District. The existence of a suitable market for maize also stimulates and gives good cause for farmers to continue hybrid maize production.

Alternative Sources of Food and Income

In view of the fact that hybrid maize production has continued in this and other parts of Mpika it is difficult to assess the extent to which alternative sources of income may have replaced maize. What we can say with some certainty, however, is that 100 per cent of households sampled used forest fruits to supplement diets. This lends weight to the importance of these
and other forest items, including honey, and game meat as a source of food. The relative contributions these make in the light of recent change is again difficult to judge. The prevalence of wild forest products must not be underestimated however. A concern expressed by many informants was the pressure they faced from competition with elephants over these fruits, particularly during the annual ‘hungry months’. Within the field work area there were a number of small store. These stocked basic provisions, including salt, sugar, soap, matches, paraffin and a few items of clothing. In total there were four of these small stores. The contribution these make to the individual owners’ livelihoods is in some cases substantial. Judging by the monthly expenditure on stock. In some cases this exceeded 500,000ZK. These stores are all, without exception, run by the more enterprising and entrepreneurial farmers. In many ways these store keeper farmers exemplify those who have embraced the ‘spirit of free market enterprise’ in rural Zambia. In contrast to others in Mukungule these individuals are considerably better resourced than other farmers. Many people with whom I spoke recognised that members of their own community were clearly becoming a business elite, but welcomed them for providing them with the goods they frequently needed without recourse to finding the expensive and infrequent transport to Mpika Boma. Table 7. Illustrates the percentage (54 per cent) of household consumption items bought in these local stores. Clearly the most frequently purchased items are salt, soap, cooking oil and sugar.

Table 7. Sales Outlets for Agricultural Produce

<table>
<thead>
<tr>
<th>Crop</th>
<th>Locally</th>
<th>NLCP (North Luangwa Conservation Project)</th>
<th>Urban Based Traders</th>
<th>No. Sales</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Maize</td>
<td>3 6</td>
<td>20 38</td>
<td>18 35</td>
<td>11 21</td>
</tr>
</tbody>
</table>

44
Table 8. Purchased Goods

<table>
<thead>
<tr>
<th>Items Purchased</th>
<th>Place of Purchase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Town (Mpika)</td>
</tr>
<tr>
<td></td>
<td>No.</td>
</tr>
<tr>
<td>Salt</td>
<td>15</td>
</tr>
<tr>
<td>Soaps</td>
<td>19</td>
</tr>
<tr>
<td>Sugar</td>
<td>8</td>
</tr>
<tr>
<td>Yeast</td>
<td>4</td>
</tr>
<tr>
<td>Cooking oil</td>
<td>8</td>
</tr>
<tr>
<td>Bread/buns</td>
<td>2</td>
</tr>
<tr>
<td>Meat</td>
<td>-</td>
</tr>
<tr>
<td>Chicken</td>
<td>-</td>
</tr>
<tr>
<td>Fish</td>
<td>2</td>
</tr>
<tr>
<td>Maize meal</td>
<td>1</td>
</tr>
<tr>
<td>Plates/pots</td>
<td>2</td>
</tr>
<tr>
<td>Blanket</td>
<td>3</td>
</tr>
<tr>
<td>Shoes</td>
<td>6</td>
</tr>
<tr>
<td>Clothes (female)</td>
<td>8</td>
</tr>
<tr>
<td>Clothes (male)</td>
<td>5</td>
</tr>
<tr>
<td>Other</td>
<td>13</td>
</tr>
<tr>
<td>Totals</td>
<td>96</td>
</tr>
</tbody>
</table>

Resource Flows

During the hungry period of February, March and April 1998 there were few if any exchanges, or barter transactions. Despite the need for additional food staple during the latter part of the hungry period the paucity of resources at peoples disposal is reflected in the small number of visible transactions. Later in the season, following the harvest period, it would be expected that there would be a large number of transactions to repay old debts, to acquire goods and food items erstwhile unobtainable.
due to lack of funds or commodities for barter. It was extremely difficult with so few respondents recording transactions to measure the extent to which key kinsmen and women were most frequently involved in various transactions. Nevertheless, the data does allow us to make a few preliminary observations.

Records of the stored grain available to those households sampled, indicated that approximately 60 per cent of household's stores would last until the end of April and the beginning of May. We would expected to find that there would be an increase in the number of resource flows at this point prior to the harvest. During March and April there were a small number of occasional exchanges and credits or food given freely. Of these, most involved redistributions between affinal and matrilineal kin at the intra household level. Despite the small sample, the range of relationships and social links that the survey reveals is indicative of the range of social links that exist more broadly. It also reflects the extent to which friendship relationships are prevalent. The response rate to questions concerned with exchanges based on the previous month clearly indicates that there was little activity in this area. Despite the statistically small number of transactions, interviews revealed some measure of the extent to which people valued particular relationships and would therefore, especially in times of stress meet the demands for assistance and reacquisition favours (sometimes debts), but otherwise with hungry months ahead and the likelihood that many people would need additional food people were being careful with their staple reserves and resources.

There was very little grain beer prepared, although the yeast and sugar wines (involo) were almost available daily. The frequency of the latter was no doubt promoted by the large number of civil service male employees who resided around the school and clinic and the proximity of scouts from the nearby camp. As some measure of the scarcity of grain, good quality traditional millet beer (cipumul) was prepared, but only in lieu of appeasing the ancestors (bwalawa bwankombo). Apart from the spiritual and personal reasons for such brews, dedicating beer in this way gave the brewer and her husband the legitimacy they needed to distribute the beer among a smaller and respected circle of older men. Nevertheless no visitor
was refused beer but the behaviour of drinkers remained cordial and respectful. With grain supplies dwindling, the redistribution of this key resource became more restricted. Only the core of family, especially 'mothers' (i.e. older maternally related women) could make uncontested claims on a grain store. Some informants commented that if an elderly maternal aunt was to come and beg grain it would be useless to refuse her, as she could legitimately go straight to the grain bin and help herself without reprimand!

In the context of a 'model of redistribution' resource flows that unite people at the intra household level are perhaps most significant. In many ways it makes best sense to accept at face value local peoples own criteria for delineating households. These criteria include concern for the contributions to production, sharing in consumption activities and a degree of involvement in resource acquisition and redistribution. Beyond the unities that exist at this level, people are committed to other households by virtue of their classificatory relationship to these others. It is appropriate to consider these two different arenas in terms of their mutual significance in meeting seasonal food and income needs. Adopting this perspective means that we can simultaneously accept that households are bounded according to localised criteria of inclusion and exclusion and that at certain times of the year and according to particular circumstances the range of individuals that one has responsibility for is extended beyond the immediate household. This undoubtedly has implications for peoples livelihoods.

Conclusions

This report covers a number of different issues that relate to the two key objectives of the research. In summary, liberalisation and policy reform in the agricultural sector has led to increased vulnerability and food insecurity for many. It has led to a prolonged hungry season (up to 7 months). The analysis of the impact of policy reforms have also led to the conclusion that maize has, during the 25 years or so of its promotion, became and remains an extremely important food crop. This latter point has implications for household organisation and the ways in which
analysts have conceptualised conjugal conflict and the nature of individual as against joint enterprises at the household level. A further finding of this research is that the outcome of policy reform has by no means reached the expectations of policy makers. This is largely because of the poorly developed marketing arrangements and the effective lack of an adequate private sector to take up the slack left when the government pulled out of supporting hybrid maize production. The livelihood strategies of many smaller farmers have included a renewed emphasis on the production of 'indigenous' staple and cash crops. This has led to the strengthening of small-scale private sector marketing - albeit to the advantage of private traders and marketers. The unequal terms of trade that exist between rural and urban areas have led to a number of disadvantages for small-scale producers. In addition in rural areas there has been a widening gap between resource poor and resource secure farmers.

The second objective of this research, to examine the efficacy of a model of redistribution has shed light on a number of issues. The first of which is that research and analysis based on redistribution requires a long period of research. Due to the short time frame of the present research and its predominantly quantitative focus it has only been possible to draw some preliminary conclusions. The redistribution model proposes that households are better conceptualised as political arenas and as constellations of particular actors who coalesce around specific resource redistribution practices than bounded units of production consumption and redistribution. The composition of households is, however, subject to a number of different influences that alter or modify in different ways who is included and excluded from households and the nature of the negotiations and conflicts that take place within such political arenas. Seasonal changes related to the agricultural cycle have an effect on household composition. Composition may also differ according to the amount of leisure time available. Furthermore, throughout Northern Province the different demands of various farming systems also have an impact on the composition of farm households. Despite these wider and more general issues, for actors themselves the issues of defining household composition was largely irrelevant, since for household members it was entirely clear
who qualified for inclusion and who did not. In terms of specific redistribution, local actors could invariably identify which other members of their social networks would be most likely to make legitimate claims on the resources of a household. We have seen that during the hungry period this is reduced to older maternal female relations, but by no means to the exclusion of all other members of one's networks. Despite this, it was also clear from the information provided by informants that gaining access to particular resources and successfully negotiating the terms of access did not necessarily entitle those who made claims to resources to household membership. In terms of settlement composition it is perhaps more accurate to think in terms of aggregates of social relations that are located within specific arenas, that will in times of stress or in response to various factors relocate, recompose, mutate or coalesce.

With a view to identifying a future research agenda what seems clear is that there is a need to develop a better theorisation of how livelihoods are impacted in different ways by different kinds of external and internal stresses and conflicts. Preliminary analysis has shown that the range of livelihood strategies available to small-scale producers in Northern Province follow a range of existing and modified ‘indigenous’ practices. Even a cursory review of material from the 1930’s and early 1940’s reveals that many of the responses to the impact of liberalisation do not stem from the development of entirely new productive arenas or spheres, but rather, they are based on a range of existing potentialities. In addition many of the problems faced because of declining soil fertility could have been circumvented if more emphasis was placed on indigenous agricultural techniques which had a degree of sophistication entirely suited to local agro-ecological conditions.

To conclude, understanding more fully the implications of different kinds of stresses (in this case liberalisation) it is necessary to develop an understanding of livelihoods based on a combination of specific empirical data (illustrating the changes that peoples livelihood strategies have undergone over time and the significance of specific social and material resources) and a good conceptualisation of the notion of livelihoods that embraces for each context specific variables. We suggest
that specific livelihoods should be predicated by an understanding of issues of practice and human agency within specific socio-economic and political contexts. A future research agenda should consider, in more detail, that livelihoods involve resource use decisions, and are related to the ways individuals and groups strive to make a living, attempt to meet their various consumption and production needs, cope with uncertainties, respond to new opportunities, and make choices within particular socio-economic, cultural and ecological environments. Livelihoods are also given meaning and shaped, however, by wider arenas of decision and action at both a global and national level. Global concerns with 'economic liberalization', 'democracy', 'development', 'market forces' or 'conservation', for example, may in different ways shape the outcome of local practice because of the presence of different external agents representing bodies concerned with promoting these discourses and practices among rural populations. An appropriate way to conceptualize livelihoods, drawn from an actor perspective, stresses the interplay and mutual determination of 'internal' and 'external' factors and relationships which shape peoples' lives and recognizes the central role played by human action and consciousness (Long 1990). This essentially involves recognizing that livelihood practices are not disembodied from determinate social relations between certain individuals and groups. Livelihoods must, then, also be seen as cultured ways of living and being in the world and hence the existence and survival of the human identities, values and perceptions, that frame and give meaning to peoples’ practical activities. In view of this, livelihoods constitute activities in which issues of individual and group identities are often brought to the fore and therefore involve far more than merely the satisfaction of wants, as is often assumed (Long 1998).
References Cited


**Official Publications (not cited)**


