

Understanding Household Economy in Rural Niger



Save the Children
UK

Understanding Household Economy in Rural Niger

We're the world's independent children's rights organisation. We're outraged that millions of children are still denied proper healthcare, food, education and protection and we're determined to change this.

Save the Children UK is a member of the International Save the Children Alliance, transforming children's lives in more than 100 countries.

Funding for this research was provided by the European Commission's Humanitarian Aid Office (ECHO). The European Commission is one of the largest humanitarian donors in the world. ECHO has supported coordinated relief operations in more than 100 countries outside of the European Union since its establishment in 1992. The Commission's humanitarian assistance goes directly to people in distress, irrespective of their nationality, religion, gender, ethnic origin, age or political affiliation.

Published by
Save the Children
1 St John's Lane
London EC1M 4AR
UK
+44 (0)20 7012 6400
savethechildren.org.uk

First published 2009

© The Save the Children Fund 2009

The Save the Children Fund is a charity registered in England and Wales (213890) and Scotland (SC039570). Registered Company No. 178159

This publication is copyright, but may be reproduced by any method without fee or prior permission for teaching purposes, but not for resale. For copying in any other circumstances, prior written permission must be obtained from the publisher, and a fee may be payable.

Cover photo: Roufai Ousmane, 11, from a village in the north of Tessaoua district, Maradi region, checks the family's millet just days before the harvest. (Photo: Hélène Berton)

Typeset by Grasshopper Design Company
Printed by Sterling



Contents

List of figures and tables	iv
Acknowledgements	vii
Abbreviations	viii
PART 1: Introduction	I
Understanding the 2005 food crisis	1
Save the Children in Niger	2
Getting the fullest picture possible: Household Economy Analysis (HEA)	3
Understanding livelihoods in Niger	3
PART 2: How rural livelihoods are changing	5
The five livelihood profiles: spanning the agriculture–livestock spectrum	5
The five livelihood profiles: methodology	7
Livelihood Profile 1: Djerma farmers, central agricultural zone, Dosso district	11
Livelihood Profile 2: South-central zone, Tessaoua district	25
Livelihood Profile 3: North settled zone, Tessaoua district	35
Livelihood Profile 4: Katsinawa agropastoralists, Dakoro district	50
Livelihood Profile 5: Bororo pastoralists, Dakoro district	64
PART 3: Conclusions and key findings	77
Inequality of income and wealth	77
Livestock: a pillar of the rural and national economies	80
Household economy management and food security in a pastoral context	82
Key determinants of food security in settled rural zones	87
The importance of purchasing power in determining food security	90
Household economy and child malnutrition	92
Using evidence rather than assumptions to inform policy and practice	96
Notes	98

List of figures and tables

Table 1:	From south to north – from predominantly agricultural livelihoods to more pastoral livelihoods	6
Figure 1:	Map of the livelihood zones of Niger, showing the five zones studied	7

Livelihood Profile 1: Djerma farmers, central agricultural zone, Dosso district

Figure 2:	Map of Dosso district central agricultural zone	12
Figure 3:	Key costs and terms of trade on Dosso market (from 2004 to 2007)	14
Figure 4:	Main markets used by villagers in Dosso study	14
Figure 5:	Seasonal calendar – Djerma farmers	15
Table 2:	Wealth ranking for Djerma farmers in the central agricultural zone of Dosso district	17
Figure 6:	Sources of basic food consumed by typical households	18
Figure 7:	Sources and amounts of cash income for typical households	20
Figure 8:	Percentage of cash income from various sources	20
Figure 9:	Typical annual cash expenditure	23
Figure 10:	Percentage of cash expenditure on different items	23
Table 3:	Villagers' response to hazards, 2003–08	24

Livelihood Profile 2: South-central zone, Tessaoua district

Figure 11:	Seasonal calendar – south-central livelihood zone	27
Table 4:	Wealth ranking for Hausa households in the south-central livelihood zone of Tessaoua district	28
Figure 12:	Production and use of cereals (millet, sorghum) and pulses (cowpea)	30
Figure 13:	Sources of basic food consumed by typical households	30
Figure 14:	Sources and amounts of cash income for typical households	31
Figure 15:	Percentage of cash income from various sources	32
Figure 16:	Percentage of cash expenditure on different items	33

Livelihood Profile 3: North settled zone, Tessaoua district

Figure 17: Seasonal calendar – north settled livelihood zone	38
Table 5: Wealth ranking for Hausa households in the north settled livelihood zone of Tessaoua district	39
Figure 18: Production and use of cereals (millet, sorghum) and pulses (cowpea), with a good harvest	42
Figure 19: Sources of basic food consumed by typical households, with a good harvest	42
Figure 20: Production and use of cereals (millet, sorghum) and pulses (cowpea), with a poor harvest	43
Figure 21: Sources of basic food consumed by typical households, with a poor harvest	43
Figure 22: Sources and amounts of cash income for typical households, with a good harvest	45
Figure 23: Percentage of cash income from various sources, with a good harvest	45
Figure 24: Percentage of cash income from various sources, with a poor harvest	46
Figure 25: Sources and amounts of cash income for typical households, with a poor harvest	46
Figure 26: Percentage of cash expenditure on different items, with a good harvest	47
Figure 27: Percentage of cash expenditure on different items, with a poor harvest	48

Livelihood Profile 4: Katsinawa agropastoralists, Dakoro district

Figure 28: Main markets and trade routes used by Katsinawa agropastoralists in the villages studied	53
Figure 29: Seasonal calendar – Katsinawa agropastoralists livelihood zone	54
Table 6: Wealth ranking for Katsinawa agropastoralists in Dakoro district	55
Figure 30: Sources of basic food consumed by typical households	56
Figure 31: Production and use of cereals (millet, sorghum) and pulses (cowpea)	57
Figure 32: Production and use of cereals (millet, sorghum) and pulses (cowpea) as percentage of household calorie needs	57
Figure 33: Production and use of milk	58
Figure 34: Percentage of cash income from various sources	59
Figure 35: Sources and amounts of cash income for typical households	59
Figure 36: Typical annual cash expenditure	61
Figure 37: Percentage of cash expenditure on different items	61
Table 7: Villagers' response to hazards, 2002–07	63

Livelihood Profile 5: Bororo pastoralists, Dakoro district

Figure 38: Main markets used by Bororo households in the villages studied	65
Figure 39: Seasonal calendar – Bororo pastoralists livelihood zone	67
Table 8: Wealth ranking for Bororo pastoralists in Dakoro district	69

Figure 40: Sources of basic food consumed by typical households	71
Figure 41: Production and use of milk, Dakoro Bororo pastoral zone, 2006–07	71
Figure 42: Sources and amounts of cash income for typical households	72
Figure 43: Percentage of cash income from various sources	73
Figure 44: Typical annual cash expenditure	74
Figure 45: Percentage of cash expenditure on different items	74
Table 9: Villagers' response to hazards, 2002–07	76

Conclusions and key findings

Figure 46: Sources and amounts of household cash income, Tessaoua district (south-central zone)	77
Table 10: Proportion of overall community assets in land and livestock owned by the total of households in different wealth groups, south-central livelihood zone	78
Table 11: Proportion of overall community assets in land and livestock owned by the total of households in different wealth groups, north settled livelihood zone	78
Figure 47: Sources of income across the five livelihood zones (better-off households only)	81
Table 12: Bororo livestock holdings at the beginning and end of the reference year 2006–07	84
Table 13: Katsinawa livestock holdings at the beginning and end of the reference year 2006–07	84
Table 14: Katsinawa agropastoralists' typical livestock holdings	85
Table 15: Bororo pastoralists' typical livestock holdings	85
Table 16: Animals loaned through <i>habbanayé</i> (Bororo households) 2006–07	87
Table 17: Animals loaned through <i>habbanayé</i> (Katsinawa households) 2006–07	87
Table 18: Rainfall and harvest performance since 2000 in the north and south of Tessaoua district	88
Figure 48: Cash sources in a good harvest, north settled zone, Tessaoua district	89
Figure 49: Cash sources in a poor harvest, north settled zone, Tessaoua district	89
Figure 50: Sources of food for households in Tessaoua central rainfed agriculture zone, 2006–07	91
Figure 51: Sources of food for households in Dakoro pastoralists zone, 2006–07	91
Figure 52: Levels of child malnutrition in Tessaoua (north settled zone) according to wealth group	93
Figure 53: Cost of nutritious diet (locally available) per person per year, compared with income per person per year (Tessaoua north settled zone)	95
Figure 54: Cost of nutritious diet (locally available) per person per year, compared with income per person per year (Tessaoua south-central zone)	95

Acknowledgements

This research report is the collective work of Save the Children UK staff in Niger, staff from the CC/SAP (Cellule de Coordination/Système d'Alerte Précoce) of the government of Niger, staff from the Ministry of Animal Husbandry in Dakoro district and Maradi region, members of the Regional and Sub-Regional committees for the Prevention and Management of Food Crisis (CR-CSR/PGCA) of Dosso district and Dosso region, staff from Oxfam GB, Action Contre la Faim (ACF-Spain), AREN (Association pour la Redynamisation de l'Elevage au Niger), and external translators and experts.

Very grateful thanks go to the following members of the training and research team in the three different districts:

In **Dosso**:

Trainers: Sonya Le Jeune, assisted by Abdou Malam Dodo, M. Kadaf Abdouharamane, Yacouba Maman Bachir.

Research team: Sonya Le Jeune, Abdou Malam Dodo, M. Kadaf Abdouharamane, Yacouba Maman Bachir, Jérôme Bernard, Seidou Bakari, Sigrid Kühlke, Thierno N'Diaye, Saidou Oua, Youssouf Garba, Nouhou Boureima, Assane Idrissa, Oumarou Ango, Ama Alassane, Moussa Touré, Salissou Mahamane Bawa, Mme Dijé Halidou, Hamadou Seibou, Mme Hadiara Aboubacar, Mlle Hadiara Hassane, Garba Tondi, Djibo Daouda, Almou Sita.

In **Tessaoua**:

Trainers: Julius Holt and Sonya Le Jeune.

Research team: Julius Holt, Sonya Le Jeune, Abdourahamane Ado, Ibrahim Mahamadou, Maman Sani Yahaya, Bizo Dan Kassoua, Abdou Malam Dodo,

Ibrahima Issa, M. Kadaf Abdourahamane, Hélène Berton, Margie Morard, Maman Noura Garba, Idrissa Dan Ina, Mamane Garba.

In **Dakoro**:

Trainers: Sonya Le Jeune, Claire Chastre and Julius Holt.

Research team: Sonya Le Jeune, Claire Chastre, Julius Holt, Abdou Malam Dodo, M. Kadaf Abdourahamane, Bizo Dan Kassoua, Yahaya M Sani, Hélène Berton, Bachir Moussa, Souleyman Malam Bako, Harouna Abarchi, Yacouba Maman Bachir, Mahamane Sani Idrissa, Garaba Faroukou, Soufiane Moctar T Diallo, Margie Morard, Soumaila M Amadou, Garba Noura, Idi Dan Inna, Issaka H Gazobi.

The report was written by Julius Holt, Sonya Le Jeune, Jérôme Bernard, Claire Chastre and Hélène Berton. It was edited by Kathryn O'Neill, with guidance and support from Ravi Wickremasinghe.

Save the Children UK were fortunate to receive substantial support in organising the administrative and logistic aspects of the field research from Radjabu Mashaka, Philip Horne and Jérôme Bernard.

We are also grateful to the Regional Office of the European Commission's Humanitarian Aid Office (ECHO) in Dakar, who have been very supportive of this research, particularly Jan Eijkenaar, without whose efforts the research programme would never have taken place. Special thanks also go to Olivier Lefay, from the Delegation of the European Commission in Niger.

Abbreviations

ACF	Action Contre La Faim
AREN	Association pour la Redynamisation de l'Élevage au Niger
CC/SAP	Cellule de Coordination/Système d'Alerte Précoce (National Early Warning System, Niger)
CR-CSR/PGCA	Comité Régional et Sous Régional de Prévention et de Gestion des Crises Alimentaires (Regional and Sub-Regional Committee for Prevention and Management of Food Crisis, Niger)
CTC	Community therapeutic care
ECHO	European Commission Humanitarian Aid Office
FEWS NET	Famine Early Warning Systems Network
HEA	Household Economy Analysis
HH	Household
TLU	Tropical livestock unit

PART I

Introduction

Located in the semi-arid zone of the West African Sahel, Niger has only limited natural resources on which some 78% of the rural population rely, with livelihoods based on subsistence (mainly rainfed) agriculture and herding.

In Niger, even in what's considered to be a 'normal' year, nearly one in every two children under five is chronically malnourished, and one child in ten is severely malnourished. The precariousness of people's livelihoods resulted in two tragic episodes of famine in recent decades, in 1973–74 and 1984–85, mainly due to severe droughts.

More recently, the 2005 food crisis made world headlines, plunging more than 3.6 million people into starvation. Children were badly affected: more than 300,000 children under five were treated for acute malnutrition at this time.

Understanding the 2005 food crisis

The 2005 crisis was more complex in its origins than the previous crises. First, it was not preceded by a major drought, although there was insufficient rainfall in some areas and locusts caused some

Niger at a glance

- One of the poorest countries in the world, Niger is ranked 174 out of 179 countries on the Human Development Index.* 66% of people live below the international poverty line (\$1.25 a day).**
- One in every five children dies before they reach their fifth birthday. Nearly half of the country's 14 million people are under 15 years of age.
- The country does not grow enough food to meet the needs of its rapidly expanding population. About one in five people face extreme food insecurity.
- In 2005, lack of rain, swarms of locusts and abnormal market trends caused severe food shortages. The price of staple foods rocketed, sparking a major food crisis. More than 3.6 million people needed food aid.

* UNDP Human Development Index 2008, <http://hdr.undp.org/en/statistics/>

** UNICEF The State of the World's Children 2009, www.unicef.org/sowc09/

damage to crops. While these were certainly contributing factors, they do not explain the severity of the crisis – food remained available on most markets across the country.

Second, malnutrition was worst in the southern band of the country, which usually benefits from fairly good rains and is considered to be the grain basket. So the key question was: why was there more malnutrition in areas where food was most abundant? Traditional childcare practices and cultural beliefs were put forward to explain children's desperate nutritional status, but these do not fully explain why the number of malnourished children continues to rise whenever the economic situation worsens.

Finally, a major characteristic of the 2005 food crisis was the exorbitant cost of millet, the staple food. The price of millet was more than double that during the lean season, reaching record levels and reflecting complex relationships between traders in Niger and Nigeria. The price of millet seems to have been the main driver of the 2005 crisis.

To better understand the causes of the 2005 crisis and the wider causes of malnutrition, and to prevent future food crises, we need a fuller picture of the livelihoods of rural people in Niger – in particular, we need to know how they earn their livelihoods and how they access food. To contribute to this understanding, Save the Children has carried out Household Economy Analysis (HEA) profiles in five different zones. The story revealed by these studies, and the livelihood profiles themselves, are presented in Part 2 of this report.

The profiles take an in-depth look at how different groups of people manage their livelihoods – what they buy and sell, what they earn and what they spend, what makes households better off or poor, and how they cope with bad years or lean seasons. Each livelihood profile provides background information and information on markets (including a map). There is also a seasonal calendar (covering crop and herding activities, employment, social events, main periods of illness, etc); a wealth ranking; information on main sources of food

and sources of cash; and a summary of the main hazards the communities face.

Part 3 of this report presents the key findings from the profiles and additional studies we have carried out on livelihoods in Niger. It provides more in-depth analysis and draws important conclusions that we hope will inform the wide range of actors – from government to other NGOs and international donors – whose discussions and decision-making on food security, early warning systems and poverty reduction strategies have the potential to make a big difference to people's livelihoods, and in particular, children's survival and future development.

Save the Children in Niger

Save the Children UK began working in Niger in September 2005 in response to the food crisis. We set up feeding programmes for malnourished children in the provinces of Maradi (Tessaoua and Aguié districts) and Zinder (Matameye and Magaria districts), using the community therapeutic care (CTC) model. This programme has reached about 40,000 children under five each year, and is now being handed over to the government, as part of its programme to integrate treatment of malnutrition into district health structures.

After the effects of the 2005 crisis began to diminish, Save the Children UK saw the need to work on other approaches that would help mitigate the situation and complement the work being done to treat malnourished children. In 2007, we began supporting the primary healthcare system in Tessaoua and Aguié districts. Through this programme, we're improving access to healthcare, and improving the quality of care for children under five and women of childbearing age.

We also recognised the need to adopt an integrated approach, and, since 2007, our work has included a food security and livelihoods dimension. This work has resulted in the five HEA livelihood profiles presented in Part 2, which together with another report, *The Cost of a Healthy Diet*, provide important insights to guide future interventions to tackle food insecurity and malnutrition in Niger.

Broadly, Save the Children's strategy in Niger is:

- to control and reduce acute malnutrition in the areas where we work through CTC programmes
- to build local capacity to prevent and treat malnutrition, especially through primary health services, and by researching innovative alternative methods of prevention and treatment
- to deepen national-level understanding of the root causes of malnutrition and to pilot poverty reduction projects that might suggest long-term solutions.

Getting the fullest picture possible: Household Economy Analysis (HEA)

HEA offers a clear picture of the scope, constraints and internal differentials of rural poverty. HEA is a form of livelihoods analysis that takes access to sufficient food as a basic reference point. As such, it has commonly been used in relation to food security issues. But HEA actually offers a more complete analysis of household economy, because its analytical framework is built on three key pieces of information:

- where and how households obtain their food
- the sources and amounts of household cash income
- the proportion of household expenditure on different items.

The information gained through HEA is therefore relevant to issues beyond food security; indeed, the fact that most people in this region now need cash simply to buy enough food means that there can be little difference between food security analysis and overall livelihoods security analysis.

HEA provides a good, general resource for Save the Children UK's advocacy role for poor children, in that it describes the household economy that is the basis of children's survival and the major determinant of their future. But much of the interest in the story revealed by an HEA survey lies in the *detail* – uncovering the many different coping strategies that poorer people use just to survive. The nearer people are to the fine line between making ends meet and going under, the more complicated the picture gets.

Understanding livelihoods in Niger

Save the Children UK carried out HEA surveys in three districts of Niger, with various partners, from September 2007 to March 2009:

- **Tessaoua district:** in September/October 2007, we carried out two surveys in Tessaoua district (north settled zone and south-central zone) with staff from Oxfam GB West Africa regional office, and a consultant working for Novib.
- **Dakoro district:** in February/March 2008, we carried out two surveys in Dakoro district (Bororo pastoralists and Katsinawa agropastoralists), with the cooperation of staff from the local government animal husbandry services (Maradi region and Dakoro district), and with Oxfam GB, ACF and the local non-government organisation AREN (Association pour la Redynamisation de l'Élevage au Niger).
- **Dosso district:** in February/March 2009, we carried out one survey in Dosso district, in collaboration with the CC/SAP (Cellule de Coordination du Système d'Alerte Précoce), the regional staff of the CR/PGCA (Comité Régional de Prévention et de Gestion des Crises Alimentaires), and the CSR/PGCA (Comité Sous Régional de Prévention et de Gestion des Crises Alimentaires).

We set out the following objectives for the HEA surveys:

To obtain detailed information on the household economy of the selected zones, in order to:

- get baseline information on food security, and to understand the key elements of risk for different population groups as a contribution to early warning systems
- contribute to the development of a poverty reduction strategy in the three districts, and to inform the policy debate at national level, in particular to:
 - explore local opportunities and constraints, notably for the most vulnerable households
 - analyse the essential needs of vulnerable households, including the risks they are exposed to
- build capacity in assessment methodology and in HEA.

Understanding the relationship between poorer and wealthier households

The profiles did not just look at the livelihoods of poorer households in the different zones. Much effort has gone into understanding the livelihoods of wealthier households too (those classed as ‘middle-income’ or ‘better-off’), because it is impossible to understand what makes poor households poor without understanding what makes wealthier households wealthy.

As in any society, there are strong economic and social relationships between poorer and wealthier households. Moreover, all village children share the same physical environment and are vulnerable to ‘shocks’, and share a limited access to services such as schools and healthcare. The relationship between poorer and wealthier households in the livelihood zones we studied can be described in a nutshell: the poorer you are, the more you depend on employment and patronage by the rich; the richer you are, the more you depend economically on the labour of the poor; and the more your social status depends on the extent of your patronage of poorer kin and neighbours, often including substantial charitable support.

Understanding the reasons for such differences in wealth is essential to any poverty analysis upon

which development initiatives might be based. But it also has a direct bearing on people’s survival in the short term. Poorer households are much more vulnerable to seasonal variations in food prices, income, etc, than are better-off households. Government, NGOs and other actors need reliable information to help them judge how a shock such as harvest failure is likely to affect a given population. The HEA livelihood profiles that follow help us answer some very immediate questions. How will shocks affect poorer and wealthier households, and how well will they be able to respond to or withstand such shocks? How many households are there in each wealth group, and how many people may need assistance?

The HEA approach also offers a window into the medium- or even longer-term effects of a shock. It would be foolish to claim that any one survey or any one approach can tackle all poverty questions, whether short, medium or long term; but HEA, as a ‘systems’ view of how different types of household operate their economy, does offer a solid platform for considering some answers, and these are discussed further in Part 3. The next section presents the profiles, and through these tells the story of how people’s livelihoods in this vast and challenging region are constantly evolving.

PART 2

How rural livelihoods are changing

Niger is a vast country of more than a million square kilometres – five times the size of the UK. The country includes territories with a varied geography, from the arid zones of the Sahara desert in the north, to the so-called ‘sudanese’ zones that benefit from fairly good annual rainfall (about 800mm) in the south. Between these two zones is the semi-arid sahelian zone – where most of the population live.

The sahelian zone itself covers a vast area, and supports various livelihoods, from pastoralism in the north, to farming systems dominated by subsistence agriculture in the south. Between these two typical livelihoods systems, or two points on the spectrum, there are a range of livelihoods, often described as agropastoralism, where households combine farming and livestock-rearing to different degrees. Other factors, such as the presence of a water source and markets, and the local traditions and culture, affect people’s livelihood options.

The five livelihood profiles: spanning the agriculture–livestock spectrum

This section gives a current picture of how different rural populations in the sahelian zone of Niger arrange their livelihoods, through profiles of five communities in five different ethnic and livelihoods zones, that cover the full livelihoods spectrum – from those households that mostly engage in agriculture (in the south), to those for whom livestock-rearing is the dominant activity (in the north). This section also tells a story about the dynamic of livelihoods in a particularly

challenging environment, where population growth is still strong and people are still heavily reliant on natural resources to survive.

The first profile is a study of the Djerma population in the rainfed central agricultural zone of Dosso district, which benefits from fairly good rainfall. This zone is relatively close to the capital city of Niamey, and to neighbouring Benin and Nigeria, so there are strong and plentiful trade links. It is considered as one of the areas most favourable to agricultural production.

The second profile looks at the south-central zone of Tessaoua district, in the east (Maradi region). Rainfed agriculture is also dominant here, but there is less rainfall than in Dosso, and there is heavy land pressure and soil erosion due to decades of monoculture. The population are predominantly Hausa, who maintain close links with the Hausa populations in neighbouring Nigeria. This zone has high levels of child malnutrition, despite being one of the country’s grain baskets.

The third profile is a study of the livelihoods of the settled Hausa populations in the north of Tessaoua district. They moved progressively northwards to conquer new cultivable land up until the middle of the 20th century, encroaching areas previously dedicated to animal herding only. They have actually diversified their livelihoods by practising extensive or semi-extensive herding – an appropriate way of living in this region of erratic and low rainfall, where the savannah offers grazing opportunities. For this reason, they are considered to be agropastoralists.

Table 1: From south to north – from predominantly agricultural livelihoods to more pastoral livelihoods

Livelihood zone		District	Ethnic group	Characteristics
1		Dosso	Djerma	Rainfed agriculture with good productive potential. Semi-intensive livestock production.
2		Tessaoua	Hausa	Rainfed agriculture with more limited productive potential due to soil erosion. Semi-intensive livestock production. Zone is close to Nigeria, with strong economic links (trade, labour migration).
3		Tessaoua	Hausa	Rainfed agriculture and semi-extensive livestock production. Good integration between crop and livestock production that enables fairly good agricultural production. But high risk of drought.
4		Dakoro	Fulani Katsinawa	Agropastoral zone where extensive livestock production and rainfed crop production are almost equally important. High risk of drought.
5		Dakoro	Fulani Bororo	'Pure' pastoralism, where livestock are the pillar of the economy. Huge changes in recent decades due to climatic and economic conditions. Increasing dependency on income from seasonal work migration.

Still moving further north, the fourth profile is a study of the livelihoods of Katsinawa (Peule) agropastoralists, who occupy the central zone of Dakoro district (Maradi region). Although they are considered to have similar livelihoods as their Hausa counterparts in the north of Tessaoua, their livelihoods are actually different in many ways. The Katsinawa are pastoralists originally, although cultivation has become equally important as herding to ensure their survival.

The last profile is a study of the livelihoods of a 'purely' pastoralist community, the Bororo Peule, who live in the northern grazing land of Dakoro district. Although their livelihoods appear to be similar to those of their ancestors, the study reveals that their livelihoods have changed significantly in recent years – in particular, how they have adapted to a market economy, and the strategies they are employing to deal with recurrent climate shocks.

As you read these profiles, it is important to bear in mind that people's livelihoods are constantly and

rapidly changing. The profiles reveal many surprises, and some findings contradict common assumptions. For instance, agricultural potential was found to be higher in some agropastoral areas than in purely agricultural areas; the level of income was higher overall in the northern arid zone of Maradi region than in the 'green zones'; and livestock sales represented the main wealth of agriculturists in the south.

The household economy in all profiles is also mostly cash-based, which reflects important changes compared to previous decades. But all these 'surprise' findings do make sense. They reflect people's capacity to adapt and respond to opportunities and constraints, usually much quicker than outside actors such as aid agencies are able to. Similar studies carried out 20 or 30 years from now would probably give a very different picture – one that would most likely include a large group of the landless poor, for instance, or new sources of income according to new opportunities that might arise.

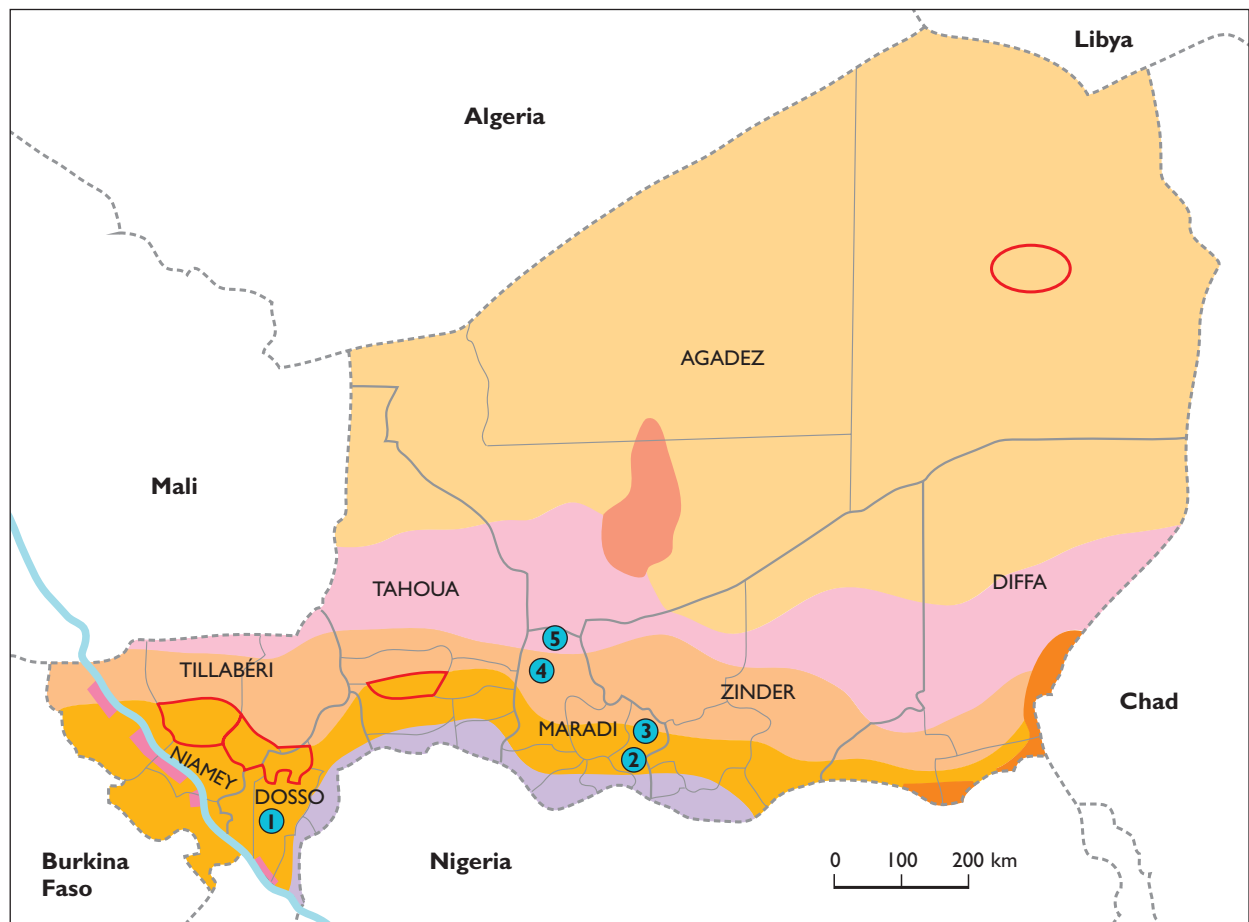
The five livelihood profiles: methodology

HEA begins by defining livelihood zones that make up a country or region. For each of the studies, the area in question was a single district (Tessaoua, Dakoro or Dosso).

The selection of villages

Once the livelihood zones had been identified, HEA baseline information was collected through fieldwork in sample villages, selected by purposive sampling.¹ With the help of key informants, the teams identified villages of various sizes, which they

Figure 1: Map of the livelihood zones of Niger, showing the five zones studied



Key

Livelihood zones

- Desert
- Bilma oases sub-zone: dates – caravan trade
- Air mountains cultivation
- Pastoral
- Agropastoral
- Rainfed agriculture
- Sub-zones with high work-outmigration
- Southern irrigated cash-cropping
- Kamadougou – Lake Chad irrigated and flood retreat cultivation
- Niger river irrigated rice

Livelihood zones studied in this research

- 1 Dosso central agriculture zone (Djerma)
- 2 Tessaoua south-central zone (Hausa)
- 3 Tessaoua north settled zone (Hausa)
- 4 Dakoro agropastoral zone (Katsinawa)
- 5 Dakoro pastoral zone (Bororo)

---- International border

— Regional border

— District border

— Niger river

Source: FEWS NET

considered to be representative of the livelihood zone as a whole. They selected a mix of large and small villages, avoiding any that had unusual features (such as a major groundwater resource) or where another agency was implementing a development project. Ten villages were initially selected from within each zone, with the aim of ultimately concentrating on eight villages – the usual number sampled in an HEA survey.

In Dakoro, there is a clear distinction between Fulani agropastoralists and those who are purely pastoralists – in this case, the Bororo (or Wodaabe) herders, who form the majority resident population in localities that lie north of the limits of crop cultivation. But among the agropastoralists there is also a continuum, from those whose livelihoods are more or less equally based on cultivation and livestock-rearing, at the centre of the continuum, to those who are geared either more or less to pastoralism. In order to achieve the best comparison with the pure form of pastoralism characteristic of the Bororo, the research teams decided to focus on those villages where agriculture and livestock were considered to be of equal importance. In the main, these were found among the Katsinawa group, although one village of Farfarou was included.

In Tessaoua, there is no clear line to separate the so-called agricultural and agropastoralist zones. Therefore, the study focused on villages that best characterised these two zones, by taking the south of the central zone and the northern part of the north zone. Villages in between the two zones were excluded from the study.

Defining a reference year

HEA analysis requires a reference year for reporting, covering the harvest and consumption cycle up to the beginning of the next harvest. The aim is to find the most recent year judged to be ‘normal’. But such are the ordinary annual variations in semi-arid areas like the Sahel, that ‘normal’ has to be interpreted generously – that

is, the reference year should neither be one of crisis nor of super-abundance.

It is always hoped that the last full year will suffice, since that is obviously what villagers can remember best. In this case, the year just ending with the start of the 2007 harvest was, by all accounts, a generally middling to satisfactory year, with no extremes in terms of grazing conditions, harvest performance, or market price trends. Therefore, October 2006 to September 2007 was chosen as the reference year for Dakoro and Tessaoua, and October 2007 to September 2008 was chosen as the reference year for Dosso.

In sahelian ecologies, there are nearly always pockets of differing rainfall and crop performance in the same year, even in localities in close proximity. In the north settled zone of Tessaoua, while the survey was being carried out, a different pattern emerged in the household economy, due to very different rainfall levels in the eastern and western parts of the zone. On either side of a rough central line, villages on the west had a good to very good harvest in 2006, while in the east, villages had a poor to very poor harvest.

Given the ordinary patterns of rainfall variation, this was not remarkable enough to have caused general comment. But it did pose a problem: mixing together two such different performances would give a theoretical average, but a rather artificial picture. The real picture would be quite different. The question arose as to whether the problem could be turned into an opportunity to tell two different stories for the same area: one with a good harvest, one with a bad harvest. Both these stories were typical, and did not at all equate to the extremes of abundance and drought. We decided to extend the survey and include a further two villages, so that the final sample was of ten villages – five that had a good harvest, and five that had a poor harvest. The analysis was separated accordingly, and the two stories are presented in Livelihood Profile 3, the Tessaoua north settled zone.

The village-level fieldwork

Overview of the village

The first step was to interview key informants – people who can provide an overview of the village (these included the chief, elders and other community leaders). The interviews covered livestock holdings, typical units of measurement for land and crops (where appropriate), seasonality, commodity prices, and risks to livelihoods for the reference year. The box below gives some idea of the complexity of the process, and the skills needed by the research team to be able to ask probing questions and cross-check the information given.

Ranking wealth within the community

The second step was to rank households by wealth, using local criteria to define wealth groups and estimate the number of households in each. The teams asked the villagers to divide households into four wealth groups, to avoid the large grouping of 60%–70% or even more ‘poorest’ or ‘very vulnerable’ that are seen in surveys limited to three wealth groups. In this case, it is important

to be able to differentiate between ‘poor’ and ‘very poor’, for which there are local terms, as there are for ‘middle income’ and ‘better off’.

A proportional piling exercise was carried out to estimate the relative proportion of households within each wealth group. Then, using the group characteristics as described to the team, community leaders were asked to identify people from representative households from each wealth group, to form four focus groups of six people (three men and three women).² The team then conducted the focus group discussions within each village – one per wealth group.

Collecting household economy information

The focus group discussions formed the third and final stage of data gathering: collecting information on typical food and cash budgets for households within each wealth group. These ‘wealth group interviews’ also served to confirm or clarify the characteristics of wealth as discussed with the village leaders, itemising the main productive assets owned (land, livestock and equipment).

Measuring land

It was important for the research teams to estimate the land area cultivated by households in the agropastoral zone, in order to compare crop production and cross-check yields. However, villagers did not have standard measures for land, even though the word ‘acre’ was often used. The teams estimated the actual areas referred

to using whatever local measures the villagers reported. Typically, they described the number of large steps they took in each direction, and also the quantity of millet seed they sowed. The Agricultural Service provided information on typical seeding rates per hectare for different crops, so the teams were able to work backwards from that.

Herd composition of a typical middle-income pastoral household

The household members between them own 23 cattle and have received three cows under *habbanayé* (a traditional ‘solidarity’ system among the Fulani whereby better-off households lend animals to poorer households, who can keep some of the offspring when they return the mother). Three of their own cows have been lent to other households under *habbanayé*. Thus, they started the reference year with 20 cattle in total, of which ten are females of reproductive age. Five of these gave

birth and were milked during the year, in addition to a sixth cow that had given birth just before the start of the year. Four cattle were sold in October, to buy food for the household when grain prices were low and livestock prices high. A fifth animal was sold in April. Although this did not fetch such a high price, the household needed the income to buy food (cereals and sugar) for those members about to leave on transhumance with the livestock.

The focus group discussions generally lasted more than two and a half hours. The interviewer explored, in a systematic manner, all the household’s sources of food and cash income, putting the answers in a questionnaire. At the start, interviewees were asked to describe a typical household for their wealth group, in terms of family size and composition, land and livestock holdings, and how these are used.

Getting a full picture by cross-checking information

It is a feature of HEA fieldwork that the interviewer always seeks to cross-check the information so that it ‘adds up’, by making a series of quick calculations. This is a major part of the training and requires probing ‘beyond the obvious’ – for example, understanding the household dynamics of livestock ownership and use (see the box above).

The key reference points were:

- the basic food requirements of the typical household (based on an average family size) over the year
- sufficiency of income to cover reported food purchases and other household costs
- matching patterns of expenditure.

Thus, food sources were quantified and compared with the household’s annual calorie requirement (2,100 Kcals per person per day over the year), while income was compared with expenditure. Questions were phrased so as to obtain information about typical households within a particular wealth group, rather than about individual circumstances.

Data entry and analysis

The data collected were entered into the pre-designed HEA baseline spreadsheet. This took five person-days per zone to enter, including checking the coherence of the information and following up where necessary. The results were then analysed to obtain the typical household budget for each wealth group. This analysis included triangulation between wealth groups and zones, cross-checking the interviews, and comparing secondary sources, in order to develop a consistent and rational picture.

Livelihood Profile I

Djerma farmers

Central agricultural zone

Dosso district

Fieldwork for this profile took place in March 2009. The information presented is for the reference year October 2007 to September 2008 – a relatively average farming year by local standards. Provided there are no rapid and fundamental changes in the economy, the information within this profile will remain valid for approximately four years (until 2013).

Who lives in this zone and how do they earn their livelihoods?

The Djerma people are the largest ethnic group in Dosso district,³ and rely mostly on agriculture for their livelihood. They have been settled in this area for many centuries. The district also includes many minority populations, such as the Peule and Hausa. The Peule people have lived in the central agricultural zone since ancient times; although they are a settled population, they practice transhumance, moving their livestock seasonally to different grazing pastures not far from their homes. They live in hamlets close to Djerma villages and manage cattle herds that include some animals belonging to Djerma farmers.

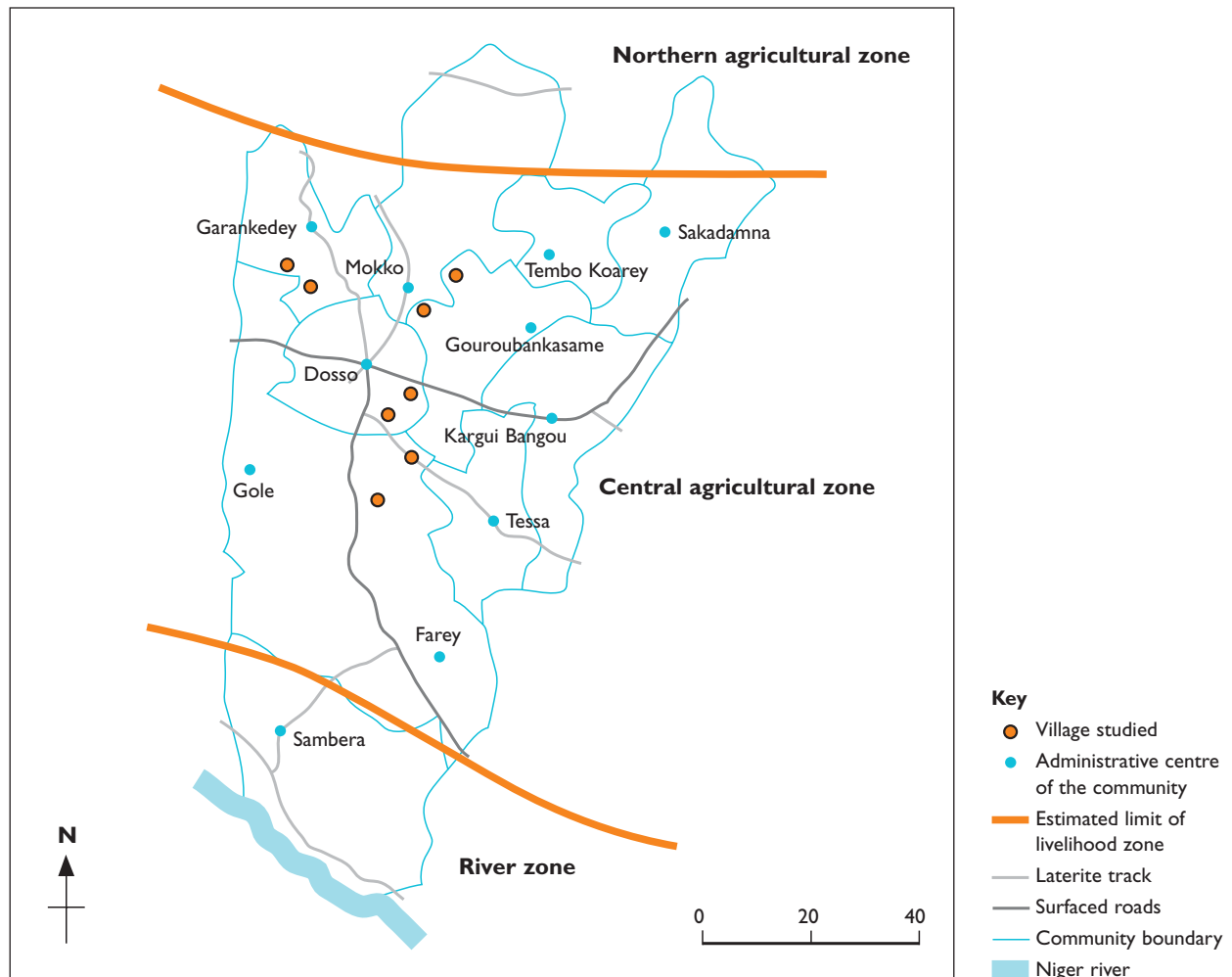
As Figure 2 (page 12) shows, there are three distinct livelihood zones within Dosso district. The band situated to the extreme north, referred to here as the northern agricultural zone, is in fact a sub-zone of the central agricultural zone. But it has less fertile soil, less favourable conditions for cultivation of cash crops, and fewer pools and valleys, so people have limited access to water. Average annual rainfall in the northern zone is between 350mm and 500mm.

As a result, farming opportunities are limited, and the grazing land available only allows for a reduced herd. Most households in this zone are, therefore, extremely dependent on income they generate outside of the zone – in particular, through seasonal migration, often travelling beyond Niger's borders.⁴

The southern band, described as the River zone, has much higher rainfall (up to 900mm in an average year), and the presence of the river allows irrigation. But areas dependent on rainfed agriculture are still vulnerable to climatic hazards. The transition between this zone and the central agricultural zone is gradual – new crops appear (fonio, sorghum, rice and other cash crops) and vegetation changes. Certain bush trees become more common, and allow those living in the area to collect fruit for consumption or sale. People in this area earn a substantial part of their income through cross-border trade.

The central agricultural zone – the subject of this profile – is the largest of the three, and lies between the northern and southern zones. Average annual rainfall is between 500mm and 600mm, which is sufficient for rainfed agriculture, despite significant variations from year to year and between localities. Most people grow millet (early and late varieties), usually with cowpea too. Sorghum and maize are not so common. The main cash crops are groundnuts (*Arachis hypogaea*) and bambara groundnuts (*Vigna subterranean*). Sufficient quantities of agricultural land still seem to be available, and most households own land, except for some instances of isolated loans.

Figure 2: Map of Dosso district central agricultural zone



(Source: FEWS NET 2005 & LUX-DEVELOPMENT 2009)

Key historical events

The first Djerma people settled in this area several centuries ago (as long ago as the 14th century). They were looking for land for farming and watering places, but sometimes they were fleeing tribal conflicts or trying to escape the slave trade, mainly as a result of Hausa incursions from the south. The Djerma people gradually made their way into the central agricultural zone.

During the 20th century, the population of the central agricultural zone was forced to take part in slave labour introduced by French colonisation. This era coincided with the start of temporary work migration during the 1940s and 1950s. At that time, people discovered work opportunities in

neighbouring countries (mostly Côte d'Ivoire and Ghana) and started to make this a fully-fledged part of their livelihood.

For the past 60 years, there have been frequent food crises in this area of Niger. But the central agricultural zone of Dosso district has been relatively untouched, compared with those zones further north. People did not have to flee during these crises; rather, they were able to welcome families coming from the north, who all left during the food crises between 1950 and 1984 (the most severe occurring in 1951, 1954, 1966 and 1973). However, these difficult years significantly reduced the village herds, which have never recovered to their pre-1973 levels.

How do people in this zone earn their livelihood?

The transhumance undertaken by the Peule is distinct from the farming practice of the Djerma people, which is more intensive. They have many animals for fattening, working animals (cattle and donkeys) and relatively small cattle herds, even among the wealthiest households (a better-off Djerma household rarely owns more than 25 adult cattle). The livelihoods of the Djerma and Peule peoples are linked by animal loan practices and access to milk, among other things (see 'Sources of food' on page 17).

This profile looks at the livelihoods of Djerma farmers; a separate study of Peule households would be needed to provide a fuller picture of livelihoods across the central agricultural zone. Compared with the other four livelihood profiles, the livelihood systems of Djerma farmers in Dosso district are closer to those of the Hausa of Tessaoua district than the Katsinawa agropastoralists of Dakoro – in particular, regarding the size and composition of their herds.

Our study of Djerma farmers shows a real evolution in crop systems, including a significant reduction in the time that land is left fallow (from more than ten years before 1970 to a maximum of four years today), less fertile soil, and the ever-limited use of chemical fertiliser. Their dependence on agriculture (staple and cash crops in particular) has become less important over the past three or four decades, whereas before it was crucial. The Djerma people are investing more in a rapidly lucrative livestock farming system, turning towards sheep and cattle fattening.

This livelihood profile is based on a sample of eight representative villages from the study zone.⁵ Key informants verified that they were characteristic of the zone, and so give an overall view of the situation. Plan Niger and CARE Niger work in most of the villages in the study zone, running projects to provide access to education and water, and improved food security (cereal stores, and some distribution of provisions and animals for

fattening). The presence of development projects does not compromise the data, as projects are found in almost all of the villages and are being run by a limited number of agencies.

Markets

Apart from at harvest time, the sale of cereals is weak, and most trading involves the purchase of local cereals (millet and sorghum) and imported cereals (maize and rice). The buying and selling of goats, sheep and cattle is important all year round.

What do people buy and sell?

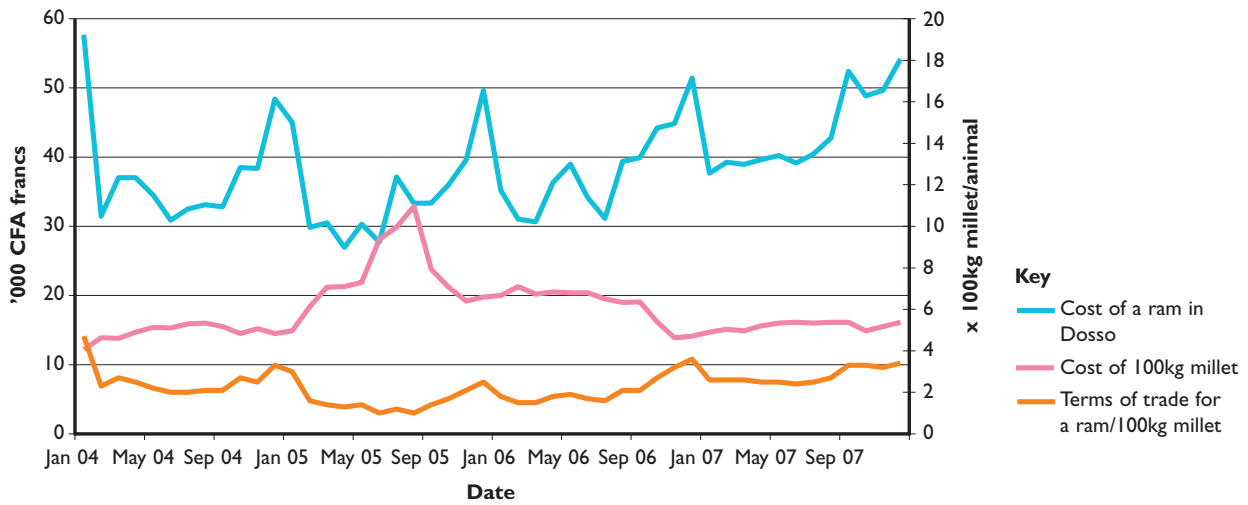
Demand for livestock from other parts of Niger as well as Nigeria and Benin drives a large part of the market in Dosso. Figure 3 on page 14 shows how terms of trade varied between 2004 and 2007. During this time, one animal (ram) could buy anything from 100kg to almost 400kg of millet, depending on the year and season. Since 2007, the terms of trade have favoured livestock farmers. Each year, prices peak in December because of sales for the *Tabaski* festival (Eid al-Adha/festival of sacrifice).

The main products available are millet (a staple), maize, rice and cowpea. Sorghum is less common. Millet, maize and rice are readily available throughout the year, as are livestock (goats, sheep and cattle). Prices of all products (cereal and animal) vary significantly throughout the year. On average, and for the reference year, a 100kg bag of millet sold for between 10,000 and 22,500 CFA francs, and a ram cost between 30,000 and 60,000 CFA francs.

Where do they buy and sell?

The trade network within the central agricultural zone is made up of rural and semi-rural markets, strongly influenced by markets on the borders with Nigeria and Benin. (Figure 4 on page 14 shows the location of key markets and the direction of trade for cereals, tubers and livestock.) The Maradi market provides the zone with cereals and legumes (millet and cowpea), in particular from the market in Mokko. Within the zone, the markets in Mokko and Bella are the most important for livestock. Livestock

Figure 3: Key costs and terms of trade on Dosso market (from 2004 to 2007)



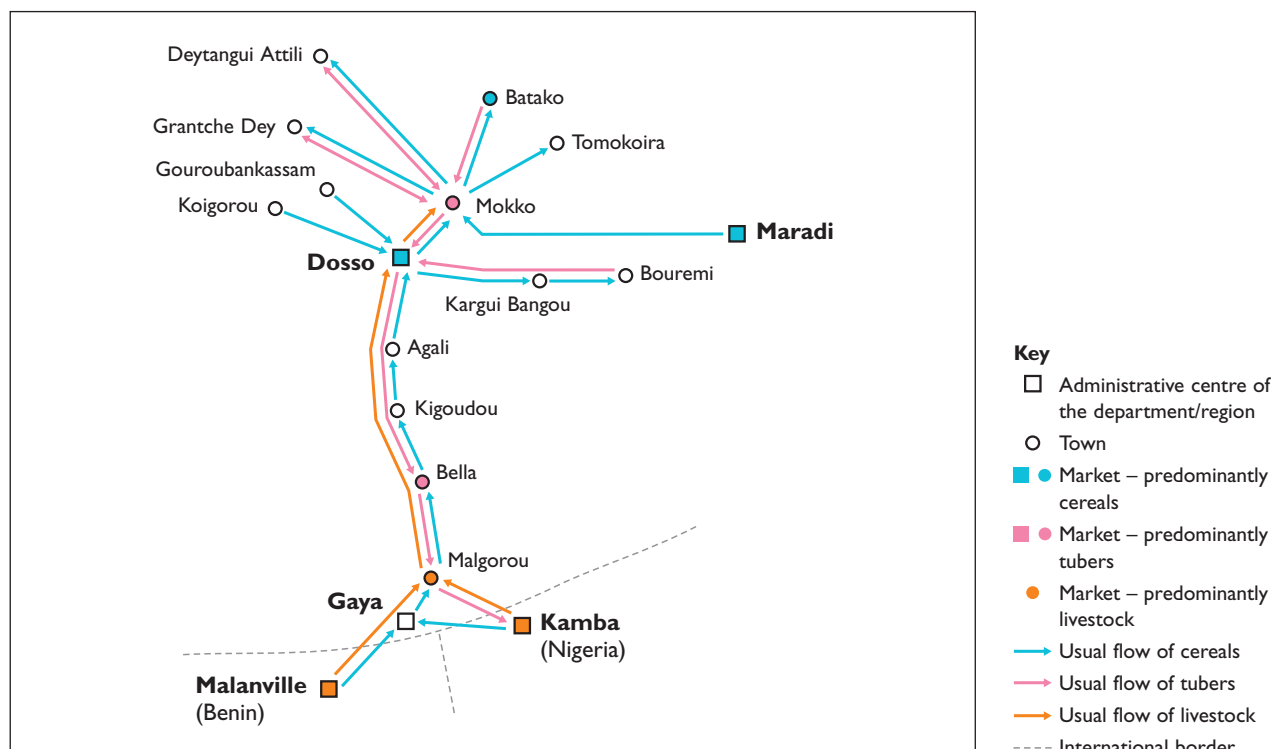
Source: SIM-A and SIM-B Niamey, 2008⁶

purchased by a trader in Mokko may be sold on in Bella, closer to Nigeria, for a better price. From Bella, livestock is transported to Nigeria via Kamba, situated on the border.

The markets of Batako and Dosso offer the largest proportion of cereals and legumes within the zone;

other markets are mostly intermediate. Border markets – very important for livestock – also offer tubers (cassava root, sweet potato, etc) and maize, in particular in Malanville (Benin) and Kamba (Nigeria), passing through the Nigerien market of Malgorou.

Figure 4: Main markets used by villagers in Dosso study



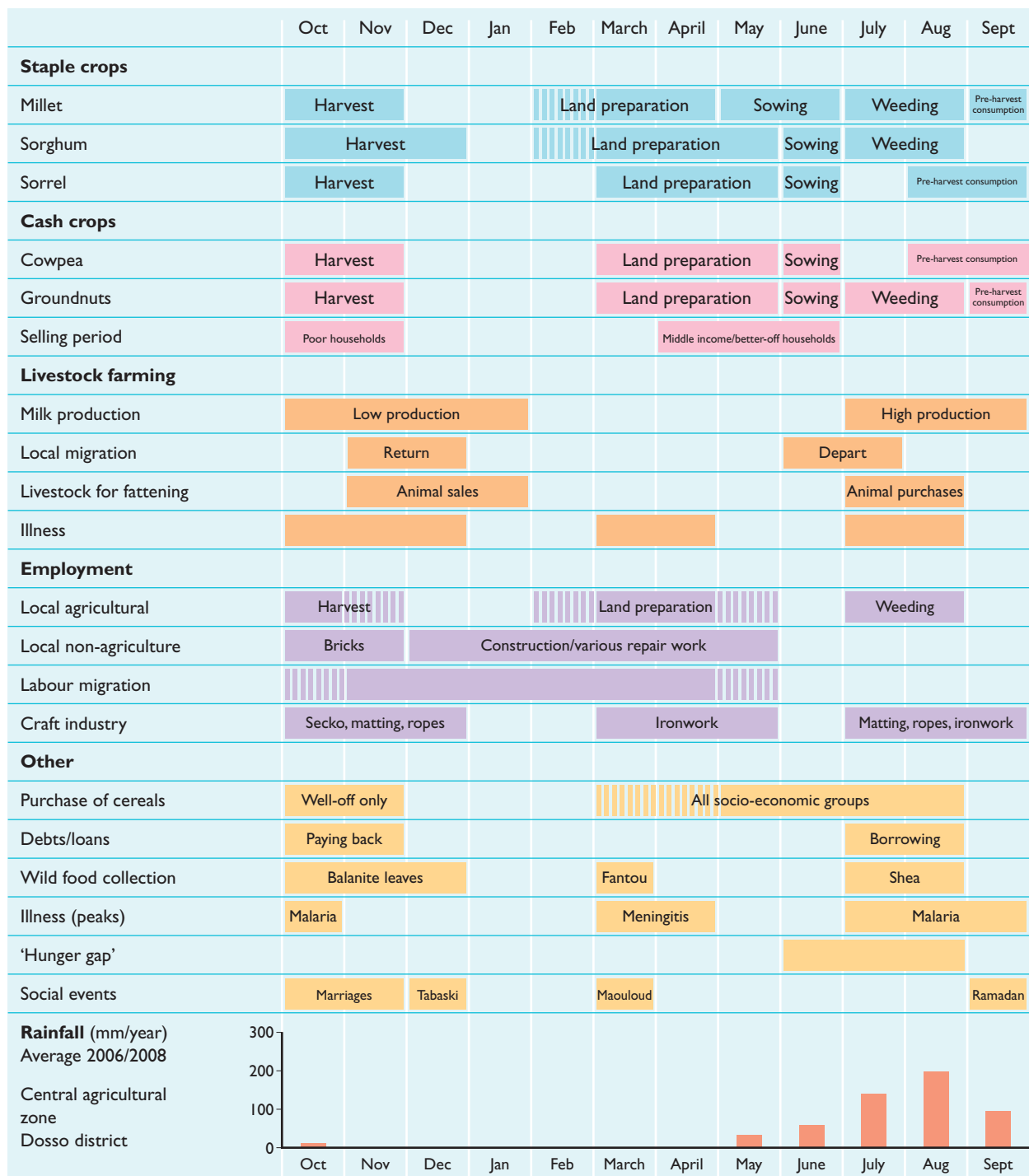
Seasonal calendar

The seasonal calendar (Figure 5 below) shows the main household activities for the reference year, from the 2007 harvest to the hunger gap in 2008. It includes agricultural and livestock farming activities, and other significant activities and events.

The three seasons

There are three main seasons: the first, from June to September, is the most difficult period. It is the rainy season, and the time when most households are intensively working their fields. It is also the hunger gap: reserves from the previous harvest have been exhausted, the price of cereals in the

Figure 5: Seasonal calendar – Djerma farmers



markets has peaked, and the animals slowly gain weight again as pastureland is revived.

However, this period also corresponds with the peak of cattle milk production over winter, which allows a distinct improvement in nutritional intake. Crucially, only those with the means to buy milk, those who own at least one milk-producing cow, or those who are able to obtain milk in exchange for millet, are able to benefit from this. During this period, however, the poorest households must also borrow millet or money to buy cereals from the markets, which, at this time, are at their highest price of the year.

The harvest takes place from October to December, but the consumption of millet, cowpea and groundnut begins between August and September, before they have ripened. During this period, the cost of animals increases but cereals are cheaper, and loans can be repaid.

For several years, the harvest season, which is traditionally the season of festivals and ceremonies (marriages, baptisms, etc), has coincided with the religious festival of *Tabaski* and the end of Ramadan. Once the harvest is gathered in, able-bodied men tend to migrate temporarily, for three to six months, to look for work in Dosso or Niamey, but more often abroad (Nigeria, Benin, Ghana, Côte d'Ivoire and Togo). Most households, including the better-off, have members who migrate to find work.

The sale of animals is important throughout the year, but the peak (during the *Tabaski* festival) encourages those households fattening animals to sell them at this point. Typically, young animals (aged one or two years) were bought during the 2007 rainy season and then resold after having been intensively fed and farmed for three to six months. Between June and December, herds belonging to Peule households, including some animals belonging to Djerma farmers, move around nearby in search of less cultivated zones and better pastureland. The availability of milk in the zone is still good during this period, as several animals stay with the Djerma farmers.

Between January and May, income-generating activities are limited to craftwork, gathering

wild food, and collecting and selling wood and straw. The crop year starts again between March and April, with the clearing and clean-up of parcels of land. Sowing in May and June, then weeding in July and August, are the two main activities creating employment during this season.

Wealth breakdown

There are considerable wealth differences between Djerma households in the villages studied, largely determined by their composition and the goods they own. The HEA analysis therefore relies on a wealth breakdown according to local criteria. Within the study zone, the three main factors determining wealth ranking were: the possession of livestock, the area cultivated, and the size of the household. Table 2 on page 17 shows the four main wealth groups. A typical household profile is described for each group.





Generally, poor households have fewer members than better-off households. However, there are also some very poor households with many members. The head of the family is almost always a man. In poor and very poor households, the male head of household is likely to have one wife; in middle-income and better-off households, the male head is likely to have two or three wives.

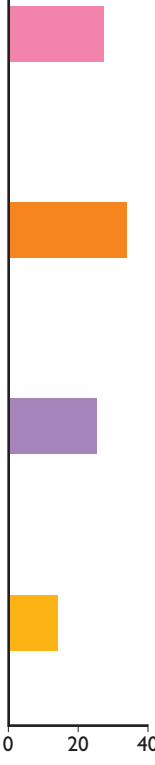
Households' productive assets

The area cultivated is often larger when financial and human resources allow. Households have their own land, in most cases inherited from their parents, and availability of land does not seem to be a limiting factor for production. Because of a lack of reliable units for measuring the size of fields, the calculation of areas is relatively imprecise, especially when it comes to estimating how much of the area has been sown, weeded and harvested.

One of the main constraints in agricultural areas is availability of labour. Poor and very poor households have fewer people available to work the land than better-off households, and are less able to generate significant income from temporary migration.

Table 2: Wealth ranking for Djerma farmers in the central agricultural zone of Dosso district

Wealth group	Percentage of households	Number in household	Land cultivated (ha)	Herd	Livestock for fattening	Other productive assets
Very poor		7	2–4	0 cattle; 1 to 2 shoats on loan ^{***}	0 to 1 cattle (<i>kourkoura</i> ^{**})	–
Poor		9	4–6	0 cattle; 2 goats owned and 1 to 2 shoats on loan ^{***}	1 cattle (<i>kourkoura</i> ^{**}) and 0 to 1 sheep on loan ^{***}	–
Middle income		15	10–15	3 cattle; 7 goats and 4 sheep (all owned)	0 to 1 cattle and 2 sheep owned (<i>kouray</i> [*]) or entrusted (<i>kourkoura</i> ^{**})	1 donkey-drawn cart
Better off		20	> 15	14 cattle; 13 goats and 7 sheep (owned) not including those on loan	3 cattle and 2 sheep owned (<i>kouray</i> [*]) or entrusted (<i>kourkoura</i> ^{**})	1 donkey-drawn cart and 1 cattle-drawn cart



* *Kouray*: means 'own livestock farming' in Djerma.

** *Kourkoura*: means 'livestock farming by others' in Djerma and relates to animals for fattening (for large ruminants).

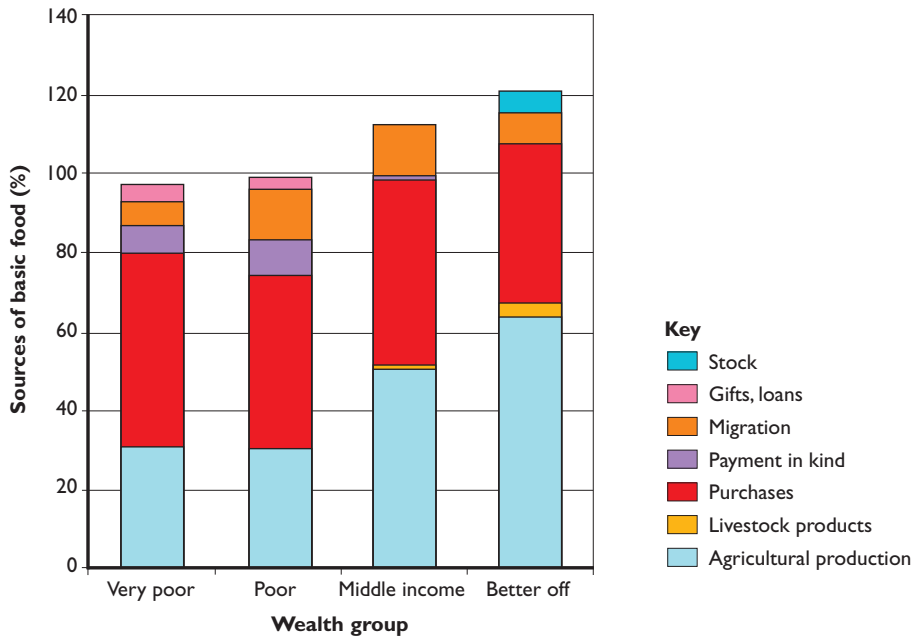
*** Loan of animals (*habbanayé*): relates to a traditional 'solidarity' or loan system, ideally allowing the poorest households or those without animals to build up a herd again.

The extent to which households practice cattle or sheep fattening is also a key distinguishing factor and a good indicator of wealth group, as a significant amount of capital is necessary to buy animals. Only middle-income and better-off households own cattle; they also loan some of their animals to poor households (the practice of *kourkoura*). Receiving an animal loaned through *kourkoura* allows most poor households and some very poor households to receive 50% of the profit when the animal is sold at a later stage. Middle-income and better-off households also own one or two donkey- or cattle-drawn carts, which enable them to transport their produce to market.

Sources of food

All households from the different wealth groups were able to meet almost all their minimum energy requirements during the reference year (October 2007 to September 2008). In the villages studied, despite being designated 'agricultural', only better-off households produced more than 50% of their minimum food needs, in what was considered an average year. All households get at least 40% of their food requirements through purchases. Poor and very poor households only manage to grow 30% of their annual food requirement (mainly millet and cowpea).

Figure 6: Sources of basic food consumed by typical households



In this graph, food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2,100 Kcals per person per day.

Relatively small amounts of staple produce and cash crop harvests are sold; a large proportion are used in other ways. The proportion of agricultural production used to meet the household’s annual food requirement must take into account the quantities needed for sale and for other uses.

At harvest time, poor and very poor households pay the *zakat*⁷ (10% of the harvest) and repay any loans they took out during the hunger gap (in the form of millet and groundnuts). In middle-income and better-off households, some produce is used to pay the *zakat*, some is used to buy gifts, and some is used to pay farm labourers in kind. There is some local trade with Peule livestock farmers, the Djerma exchanging millet for milk.

Milling is sometimes paid for in kind but most households grind the millet using a mortar, and windmills are used more to grind harder grains (maize).

Groundnut production is mostly undertaken by women on small parcels of land. Almost all the harvest is sold, but during the reference year production was quite poor. Groundnuts are also eaten before they are ripe, and several *tias* (bowls) can be kept until May for their seeds. Seed sorrel

production is significant in terms of contribution to total energy requirements. It is eaten ground and fermented in the form of *soumbala* or traditional bouillon cubes, and is used in the preparation of almost every meal.

In general, agricultural production seems to be more intensive and attended to more carefully by middle-income households than better-off households. The study suggests that better-off households tend to neglect agricultural production in favour of animal fattening and commercial (trading) activities.

The agricultural labour force

Payment in kind (cereals) made to agricultural labourers by middle-income and better-off households is an important source of food for poor and very poor households. The workforce is also paid directly in cash. Labourers work on the fields, sowing (May and June), weeding (July and August) and harvesting (October and November). Poor households are able to earn more than very poor households, as they typically have one or two more able-bodied members who can work for others or migrate temporarily to find work. They also have more time in which to put their own fields to better use.

Middle-income or better-off households tend to employ people from poor households in the same village, and provide food for them while they are working, as well as paying them (in kind or in cash).

At the end of the hunger gap, consumption of *souna* (small ears of unripened millet) is critical for households, in particular the very poor. Unripe cowpea are also very popular at this time and household consumption can exceed two *tias* per day. Even though this consumption never meets more than 2% of annual food requirements, it provides vital nutrition for households when the cost of cereals in the markets is very high.

Work migration

Temporary work migration enables households to top up their total energy requirements – from about 5% of requirements in very poor households, to almost 15% in poor households. In Figure 6 energy requirements met by temporary work migration corresponds to food eaten by migrants during their absence, but also includes the amounts they send home or bring back with them on their return. Either way, temporary work migration is critical for poor and very poor households.

Livestock

‘Livestock products’ refers to the contribution of milk and meat to meeting annual energy requirements. It is not surprising to note that, because they do not have any animals, very poor households consume very few animal products, which suggests a poorer-quality diet. Their meat consumption may be limited to just once a year, during the *Tabaski* festival.

Middle-income and better-off households eat meat more regularly, at least every week, either from their own fattened animals or meat purchased in the villages (*garama*) and from the markets. Milk consumption differs greatly between groups, in terms of how much they have and how often. Better-off households consume the most milk; the poorest households only have milk during winter when production is abundant. This partly explains why there are fewer cases of

malnutrition in children from middle-income and better-off households than in children from the poorest households.

Purchases

‘Purchases’ mainly include local cereals or those imported for household consumption. Market supply for households depends on their wealth group; middle-income and better-off households can afford to buy cereals at harvest time, when they are cheaper. This food may be used to pay farm labourers in kind, but may also be stored speculatively. For all wealth groups, the return of migrants between March and May allows households to acquire several sacks of food, thanks to the money the migrants bring back. Sugar, oil and rice are mainly purchased for festivals, and only middle-income and better-off households can afford to buy these throughout the year. Households make their diet more varied by occasionally buying tubers, nutritional pastes and green leaves; but very poor households cannot afford these things, and their diets remain unvaried.

Poor and very poor households receive gifts of food and food on credit, to be repaid at harvest time. Better-off households manage to preserve a store from one year to another, with cereals they have either produced or bought.

Sources of cash

Most middle-income and better-off households gain a large proportion of their income from temporary work migration, livestock farming, and cattle and sheep fattening. Income from the sale of agricultural produce is almost negligible for poorer households, but significant for middle-income and better-off households, who are able to invest more in farming (in terms of hired labour and resources).

Agricultural production

Income from agricultural production mainly comes from the sale of groundnuts, as well as from small quantities of cowpea, sorrel and *wandzou*.

Figure 7: Sources and amounts of cash income for typical households

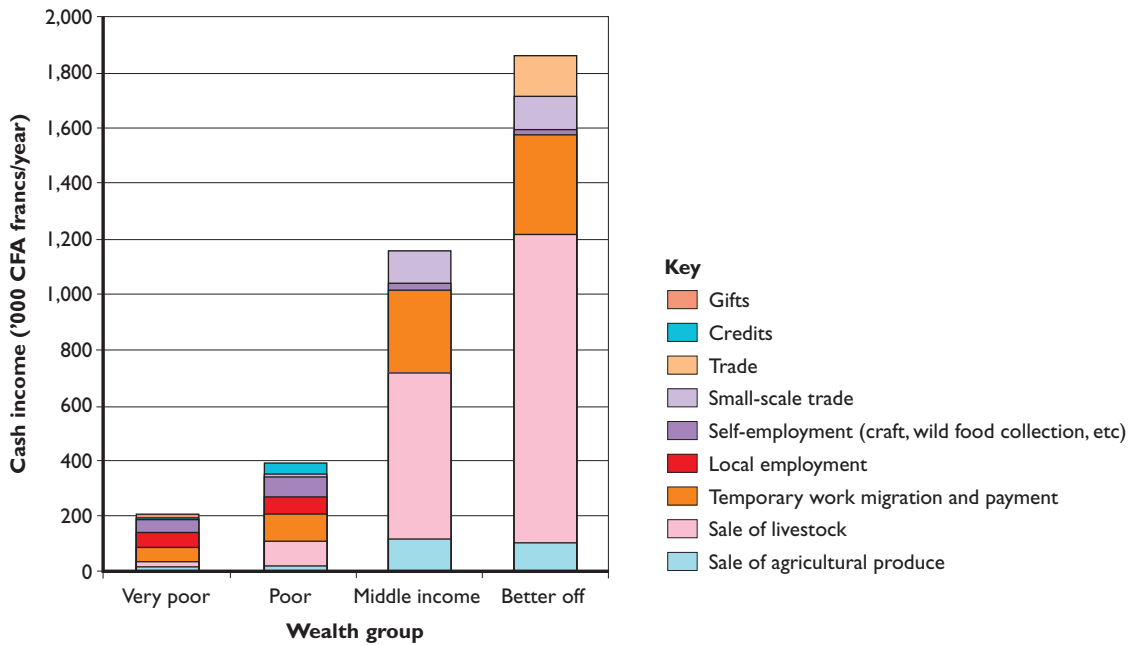
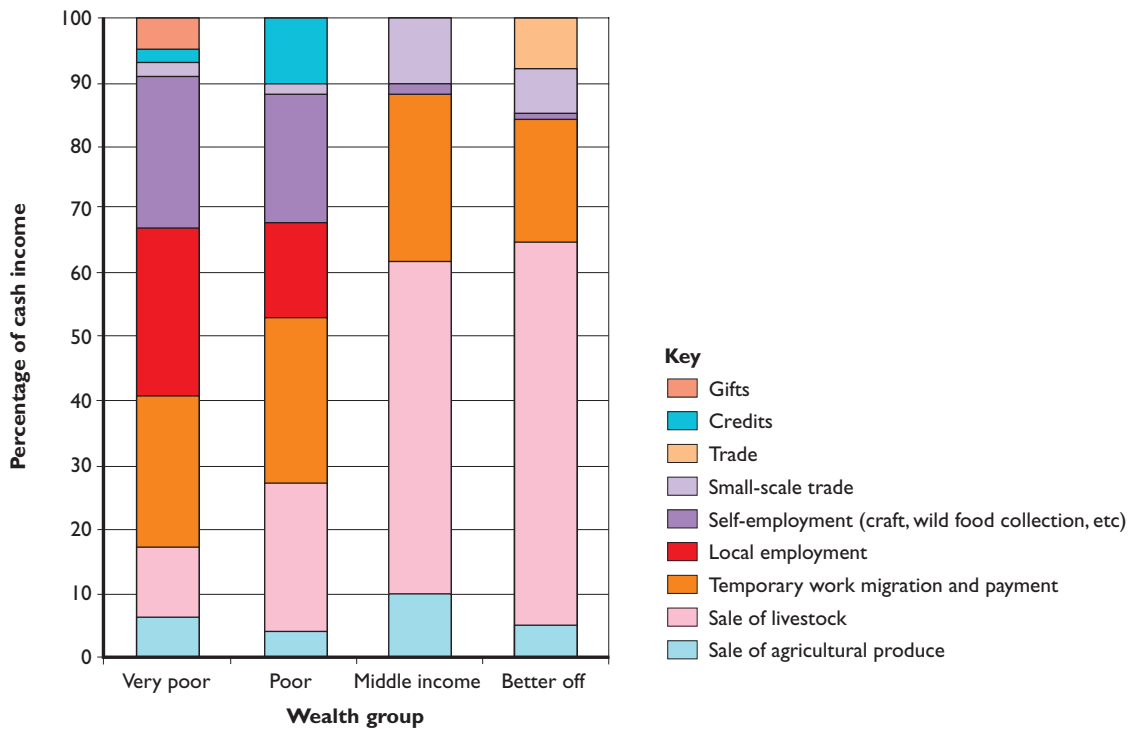


Figure 8: Percentage of cash income from various sources



While sources of food for poor and very poor households are fairly similar, their sources of income and total income are very different.

There is a great disparity in the annual income for households in the different wealth groups. Annual income for a 'typical' better-off household

is almost ten times that of a 'typical' very poor household. And a poor household's income is double that of a very poor household.

These values are nonetheless valid for households according to the sizes identified within the wealth breakdown (see Table 2 on page 17) – seven

members, on average, in very poor households, and 20 in better-off households. Total income per person per year amounts to the following:

- 29,500 CFA francs for very poor households
- 43,000 CFA francs for poor households
- 77,000 CFA francs for middle-income households
- 93,000 CFA francs for better-off households.

Because better-off households are larger in size, between categories the difference in income per person within the household is less, but it is still significant.

Poor and very poor households get their income from very different sources. This makes them very dependent on external factors over which they have little control, such as the wage rate of the workforce, the willingness of better-off households to loan their animals, and the level of income from temporary work migration and crafts.

The better off a household is, the more they earn from the sale of livestock, and so their income from trade and temporary work migration is greater. On the contrary, income from self-employment (collecting and selling wild foods, craftwork, sale of straw, wood, etc), use of paid local employment and availability of credit diminishes with the level of wealth. During the reference year, poor and very poor households generated approximately 60% of their annual income through employment, self-employment and temporary work migration. They depend greatly on the available workforce within their household.

Poor households are generally considered to be solvent by the communities in which they live. This is critical for them, as it allows them to have regular access to credit, often in the form of advances from middle-income and better-off households, which must be repaid at harvest time or when the migrants return home.

Loan of animals

Better-off and middle-income households typically loan one cow to poorer households for fattening (although poor households have more livestock

than very poor households). The receiving household keeps and feeds the loaned cow for fattening and, when the animal is sold, usually receives 50% of the profit. This money is a very important source of income for poor households and allows them to purchase several sacks of food during the lean season.

Local employment

Poor and very poor households both earn a significant proportion of their income from local employment. They are mostly employed as farm labourers.

The middle-income and better-off households that employ them can comfortably afford their labour. Demand for paid work from better-off households was generally less than the supply available from poor and very poor households during the reference year.

All households from all categories undertake small-scale trade – selling small items (spices, etc). However, only better-off households are involved in commercial activity on a larger scale. They buy and sell on cereals (during favourable periods) and animals (on stronger markets). Income from trade can vary significantly between the better-off households.

Work migration

Every year, all households undertake temporary work migration to increase their income. This ultimately points towards a very mobile population during the dry season, when harvesting activities have been completed and there are fewer income-generating activities within home villages. Some even leave as soon as weeding has been completed, but these people cannot truly be considered residents as they spend more than six months of the year abroad.

In middle-income and better-off households, there are more people available for migrant work. They often go further afield and find better activities because of their well-established network of contacts. Migrant members of very

poor households are often limited to one period of temporary work migration to Dosso, Niamey or the large towns on the borders with Benin and Nigeria.

Expenditure patterns

Household items of expenditure are comparatively few, but their relative importance for the different wealth groups varies greatly. The most striking element relates to the wide differentiation between groups according to the proportion of total income used to buy food.

Food

Very poor households spend more than three-quarters of their total income on food. Poor households spend slightly less than half their income on food, and middle-income and better-off households spend approximately a quarter of their income or less on food.

After paying for food, very poor households are only left with a small amount of income (20%–25%) to pay for all other essentials, including household equipment (stimulants including kola nuts, utensils, paraffin, batteries, etc), hygiene and social services. All other items of expenditure are already severely reduced within this group.

‘Other foods’ includes spices, oil, vegetables, tubers and meat. These foods, even if only consumed in small quantities, contribute to meeting micro-nutrient requirements, and improve the overall quality of diet.

Other expenditure

The amount of money used to invest in livestock farming (‘production inputs’) is also a differentiating factor. Investment takes the form of buying young animals or animals for fattening – cattle and sheep – and buying food supplements for livestock (millet and wheat bran, cowpea and groundnut residues, straw, etc).

Production inputs are virtually non-existent in very poor households, minimal in poor households, but extremely important for middle-income and

better-off households. Investment in animal produce for a typical middle-income household is equivalent to one and a half times the total annual income of a typical very poor household.

Hazards

The main hazards facing households in the central agricultural zone are:

Crop cultivation	<p>Poor distribution of rains, short periods of drought during the crop cycle or during flowering/maturing of grains (millet), premature end to the season</p> <p>Insufficient rainfall</p> <p>Pests (mainly insects)</p> <p>Decline in soil fertility and less time for fallowing</p> <p>Lack of access to fertiliser</p>
Livestock farming	<p>Decline in the sale price of animals on the markets</p> <p>Epidemics and parasites</p> <p>Price of food supplements for reared livestock</p> <p>Limited watering places</p>
Temporary work migration	<p>Decline in the economic and security situation within temporary migration zones</p>
Purchasing power	<p>Increased prices of cereals for those households highly dependent on the markets for their food</p> <p>Decline in income from local employment</p> <p>Reduction in the number of economically active members within very poor households (illness, death)</p>

People respond to these hazards in a number of ways. A poor distribution of rains often results in farmers undertaking several periods of sowing, but this is constrained by their limited ability to access seeds.

When the crop year is middling-to-poor, the poorest households tend to escalate their self-employment activities and rely more heavily

Figure 9: Typical annual cash expenditure

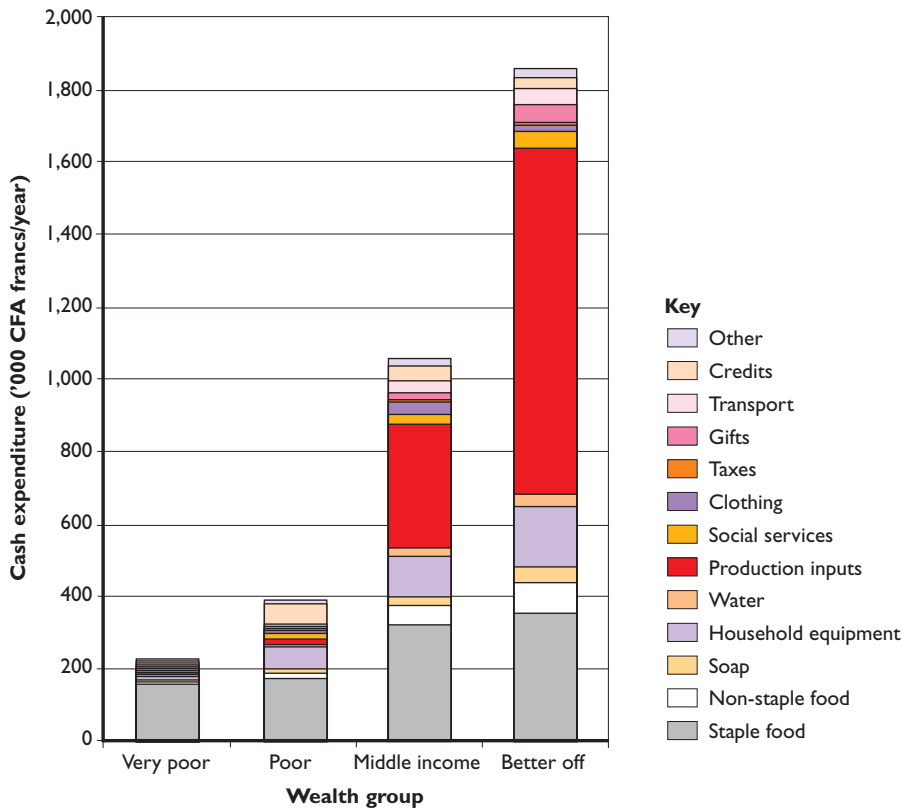
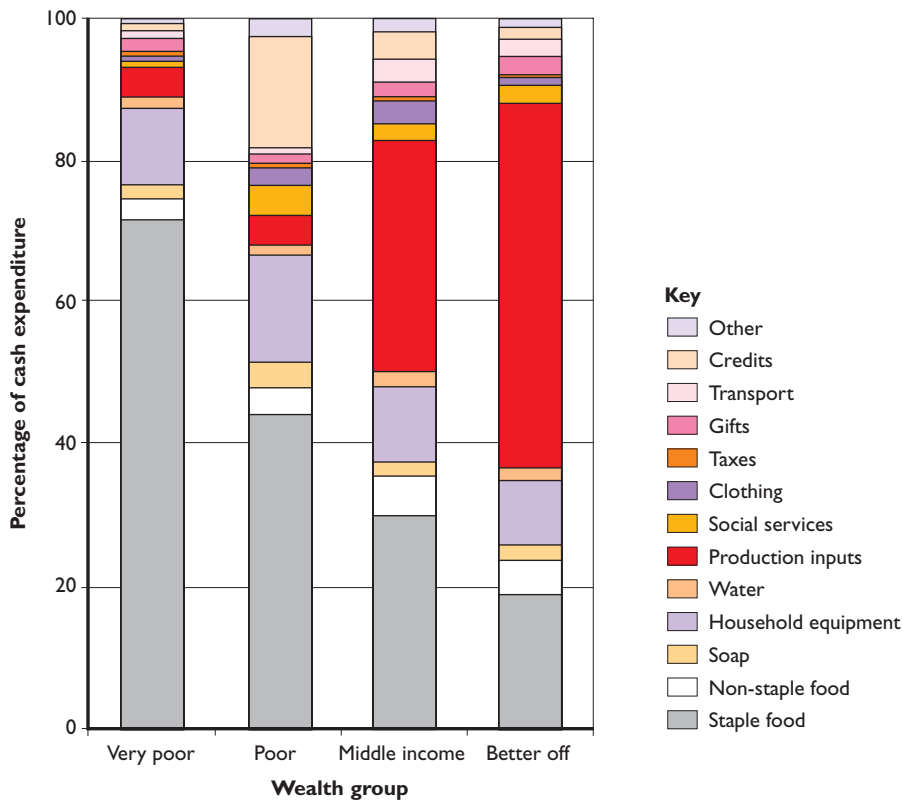


Figure 10: Percentage of cash expenditure on different items



on income from temporary work migration. It is very important to note that the main hazard faced by most households in Dosso is a decline in the sale price of animals, and a worsening in the terms of trade (fattened animals in exchange for millet). This confirms their high dependence on this source of income. Table 3 below shows the seasonal performance and key events over the last five years within the central agricultural zone of Dosso.

Seasonal performance over the five years has remained fairly similar. Respondents cited 2004–05 as the most recent crisis year (although comparisons were not made with 1984). There were also considerable discrepancies between the localities in the same year.

Table 3: Villagers' response to hazards, 2003–08

Year	Seasonal performance*	Event	Response
2007–08	3–4	Parasite attacks (crops)	–
2006–07	3	–	–
2005–06	2–3	Several periods of sowing and re-sowing	Food aid from the state Increased temporary work migration
2004–05	1	Insufficient rains Pest pressure Greatly increased price of cereals	Increased temporary work migration/paid local employment Increase in self-employment High livestock sales Food collection
2003–04	3	Late sowing – heavy rains	–

* 1 = very poor year; 2 = middling year; 3 = average year; 4 = good year; 5 = excellent year

Livelihood Profile 2

South-central zone

Tessaoua district

Fieldwork for this profile was undertaken in September 2007. The information presented refers to October 2006 to September 2007 – a generally good year by local standards. Provided there are no fundamental and rapid shifts in the economy, the information in this profile is expected to remain valid for approximately three years (ie, until 2012).

The Tessaoua local government agricultural service divides this district into three agro-ecological zones: the south, centre, and north. The villages we selected for this Household Economy Analysis (HEA) survey were in the south of the central zone, but not too near the border with the south zone.⁸

Who lives in this zone and how do they earn their livelihoods?

With a population of about 200,000, this zone is more densely populated than the north settled zone (the third profile in this series). This means there is less extensive grazing available. Households owning sizeable herds need to own a lot of land from which crop residues can be used for fodder (which means they also have to engage in substantial crop cultivation). Animal husbandry requires herds (mostly but not exclusively cattle) to be taken away to far northern grazing during the main cultivation season, usually by a collective arrangement between owners and a herder from the village, or with Fulani (Peule) herders from the area. Grazing constraints are one big feature distinguishing the agricultural zone from the agropastoral zone further north; another is the smaller land holdings per capita in the agricultural zone, with smaller yields per capita.

Most of the villages in the zone are within 50km of the country's main west-east road. After the main rains, from late September, villages have reasonably good access via local markets and traders to the main trading routes for grain and livestock. Many villages in this zone are also within easy reach of the Nigerian border, which provides another market for livestock, as well as a destination for migrant workers.

Staple foods

The dominant crop in this zone is the staple millet, which is also the main traded product by volume. Millet outweighs the only other significant cereal, sorghum, by about five to one according to our study. The other staple crop is cowpea (*niébé*), which is often sold, together with groundnuts, the cash crop proper. Far smaller amounts of sesame and hibiscus seed are also produced, often by women on their own land, both for use in sauces and for sale. The cereals and cowpea are usually relatively evenly intercropped; groundnuts either tend to be grown on separate patches, especially if the soil is subject to ploughing, or intercropped with a small amount of millet. People grow some vegetables in the wet season, but there are very limited ground-water resources, and so swamp-based or irrigated gardening in the dry season is rare compared with that in the south zone.

Rainfall and crop performance

As is typical in the Sahel, rainfall – and therefore crop performance – varies widely from year to year, even in localities that are near to each other. There are no statistics for traded commodities

by zone, but Tessaoua district is usually described as self-sufficient in a satisfactory year, rather than a net exporter of grain. Depending on the year, better-off farmers in the southern zone may put more cereal on the market than in other years, but in general the area is not a net exporter. Some households might export grain for some months of the year, but this does not mean that there is surplus production in the area; many households sell early in the year only to buy back later. The north zone tends to have better productive potential than the south-central zone when there is good rain, but still appears to be only just self-sufficient in a good year.

Livestock

Livestock are Niger's major export, and the massive demand for meat across the border in Nigeria dominates the price of cattle and smallstock. Official livestock numbers are not available by zone. For the district as a whole, the national livestock survey of 2004 found, on average, four head of cattle, eight goats and five sheep per household. Given that there are some 3.3 smallstock to one head of cattle in the district, and cattle on average cost about eight times the price of smallstock, cattle are by far the most valuable livestock asset. But the two wealthier groups (better-off and middle-income households) own virtually 100% of the cattle, and more than 90% of the smallstock. The few poor households that own a cow or ox are quite untypical; the poor and very poor usually own a few smallstock only. Oxen are occasionally used for ploughing, but their main value is in the income their owners derive from hiring them out to pull carts; also, oxen are often lent to poorer households as part of the traditional *kijo* loan system (see section on 'Wealth breakdown' (page 28) for more on this).

Markets

In deficit years, most households sell grain out of the district in the months after harvest (to repay debts or meet other expenses), only to buy it in again from other areas in greater quantities and at higher prices later in the year.

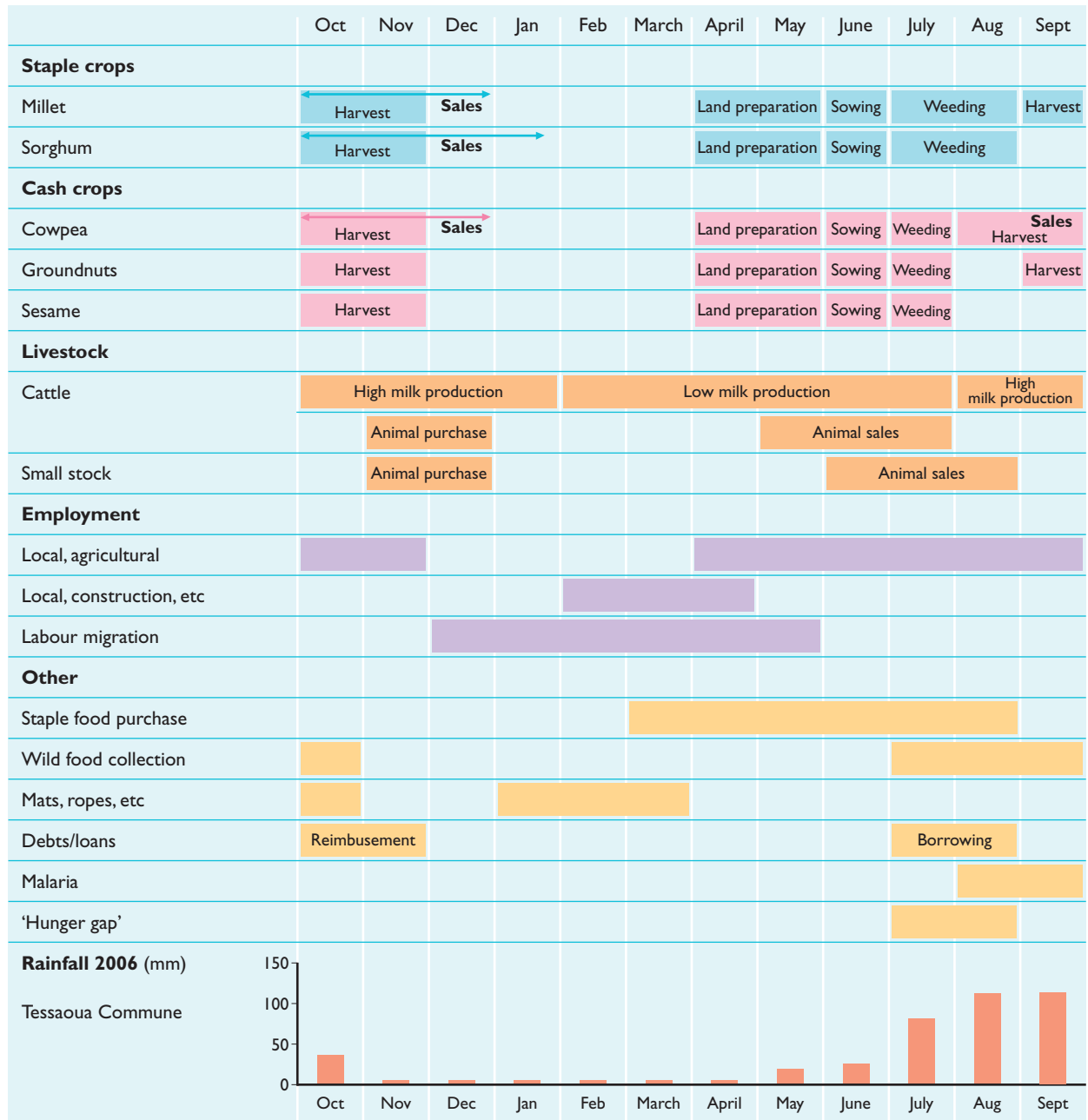
In Niger today, the market mediates not only a highly monetised local rural economy, but the movement of goods and people into Nigeria and beyond. People use money earned from local casual work or other activities, as well as from migrant work or the sale of livestock, to buy grain on the local market. So crucial is this transaction for most people that in the crisis year of 2005, with generally poor but by no means disastrous production in the Tessaoua district, it is arguable that the record prices of millet and sorghum created a food crisis for reasons largely external to the local economy.

Where do people buy and sell?

Crops and livestock are mostly bought and sold through the local markets such as Toki, where they are traded on to bigger markets including Koono, Maijirgui, Madobi, Gazaoua and Baoudeta. From there, the produce goes to Tessaoua, and is eventually destined for markets in the north (Arlit or Agadez) or west (Niamey). Kondoumawa is an important livestock market for households in this zone, as well as those in the wider region, including Zinder. From there, most livestock will eventually end up in May'Adua just across the border in Nigeria, for onward sale to markets in the south.

The main period of supply for the local markets depends on the commodity being sold. For cereals and cash crops, this is from the end of September up to December, just after the harvest, when prices dropped as low as 200–250 francs per *tia*⁹ of millet in 2006. Prices are at their peak during the outflow period, between May and September, from the time of planting, when farmers need to buy seed, until just before the next harvest. In 2007, millet prices rose to 300–400 CFA francs per *tia* at this time. For livestock, the main inflow months are May and June, while the outflow months are October to November, when people traditionally sell or buy animals. In 2006, the Muslim festival of *Tabaski* fell in December, so the price of shoats increased during this month. For example, a fattened sheep for slaughtering cost around 30,000–50,000 CFA francs in December 2006, compared with 15,000–25,000 CFA francs for a sheep in May 2007.

Figure 11: Seasonal calendar – south-central livelihood zone



Agricultural work

Agricultural activities occupy much of the year, although some months (June to September) are busier than others. For poorer households, this gives them the opportunity to earn cash and sometimes food in return for working on the fields of wealthier landowners. However, it also limits their ability to cultivate their own fields, however small they may be, and so their yields are generally low.

The harvest of millet is spread out over two to three months (September to November), starting with 'petit mil' (mature but incomplete grains that have developed more quickly and will not grow any more). This smaller grain is available two to three weeks before the main harvest and serves the valuable function of ending the hunger gap (July and August). Sales of the main crops start almost immediately after the harvest, due to the need to repay loans and buy other essentials. Harvest time

is also when people who can afford it think about buying livestock, which may have to be sold during the next hunger gap to buy food.

Migration

Temporary work migration, especially in the agricultural off-season, is an important income-earning strategy for many households. Almost as soon as the harvest is stocked in the granaries, one or two men from each poorer household head off to Nigeria in search of work, for between three and five months, usually returning in time to prepare land for the next season. Men from wealthier households may also migrate temporarily, but they are not trying to make ends meet, nor do they have to return in time for the start of the agricultural season. In their case, the main purpose of migration may be for commercial activity (including purchase

of clothing and other goods they bring back home to sell).

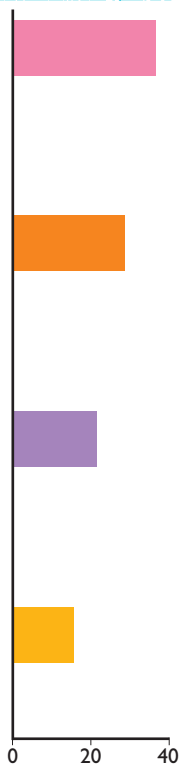
Local employment in the village or in neighbouring villages and big towns such as Maradi, Konni, Niamey or Agadez, includes both agricultural labour (mostly for onion growers) and construction work (mainly brick-making).

Wealth breakdown

Land and livestock

Key informants defined wealth mainly on the basis of land holdings cultivated and livestock herds (Table 4 below). Villagers noted that the increasing rural population is putting greater pressure on available land. However, it is clear that livestock play

Table 4: Wealth ranking for Hausa households in the south-central livelihood zone of Tessaoua district

Wealth group	Percentage of households	Number in household	Land cultivated (ha)	Livestock holding	Work animals and cart ownership
Very poor		7	0.8	0–1 shoats through <i>kijo</i> . 2 hens*	–
Poor		7	1.5	2 shoats plus 1 through <i>kijo</i> , 3 hens	0–1 ox ‘on loan’
Middle income		10	4	3 cattle (1–2 reproductive cows), 11 shoats, 9 hens	0–1 ox, 1 cart
Better off		15	7	10 cattle (5 reproductive cows), 25 shoats, 15 hens	1–2 bulls, 1 donkey, 1–2 carts, 0–1 horse

* Including chickens and guinea fowl

an important role in the wealth of the middle and better-off households. As well as earning income through sale of animals, or improving the quality of diet (mostly through milk), these households benefit from better yields thanks to their oxen-pulled ploughs and easier access to manure. Ownership of a cart and an animal to pull it provides opportunities to earn cash from transporting other people's goods.

Livestock loan systems

Key informants from poor and very poor households explained the '*kijo*' system, whereby wealthier households loan them a shoat. The system seems to vary from village to village but, essentially, the poorer household takes care of the female animal (usually but not always a goat) and in return gets to keep one in three or four of its offspring. The recipient does not have any control over when the female is sold, but they do receive a share of the proceeds. For poorer households, *kijo* means they can acquire an animal they would not be able to afford otherwise, while the wealthier owner has someone taking care of their livestock free of charge. Outright ownership of at least a couple of sheep or goats often distinguishes poor households from the very poor, as well as the fact that they cultivate almost twice as much land per person. So while their productive potential is greater, discussions with key informants revealed that unfavourable debt repayment limits their cash flow.

Many poorer households either rent their land to better-off households or use it as collateral to secure a loan. This clearly shows how their pressing need for cash obliges them to reduce their productive capabilities. On the other hand, where the poorest households had to sell off too much of their land, better-off landowners would 'freely' lend them fields to cultivate for a season. However, further investigation revealed that this 'loan' was not without cost: the fields involved were often either infertile or very overgrown. So the recipient of this 'free loan' would have to put in extra labour to clear the land before planting. At the end of the season, the owner would reclaim the more productive field and offer another 'difficult' one the following year.

Figures 12–16, in the following sections, show that the bulk of wealthier households' income comes from livestock sales and commercial activities. These wealthier households need to have enough to pay labourers (in cash or in kind) to work on their land, to build for them, and to transport their goods to and from the fields and for the market.

Sources of food

Figure 12 on page 30 shows how far the staples produced by typical households in each wealth group meet their basic food requirements. It also shows what each wealth group does with the crops they produce. The better-off produce more than enough to feed themselves, and, apart from sales, they use a considerable part of it for 'other' purposes, including feeding children from very poor families, paying labourers in kind, and *zakat*¹⁰ contributions. Figure 13 (page 30) shows that they also buy grain to make up the balance of household requirements and/or to make payments in kind to workers.

By contrast, the very poor only produce 17% of their basic food needs. Even so, they must sell some food to repay debts and meet other obligations (a contribution to a baptism or other celebration, for instance). They get just over 60% of the food they eat from the market, and through payments in kind for their labour.

The poor show a similar pattern, but produce more than twice as much food as the very poor; they also depend much more on buying food than receiving payment in kind for their labour. The middle households produce 56% of their own food needs, and buy most of the rest.

Migration for work, largely to Nigeria, contributes significantly to the food intake of the two poorer groups, not only in the sacks of grain that migrants bring back, but in the meals 'saved' during their absence (which accounts for 9% of the food budget of very poor households). Since they often fall well short of meeting their overall food needs, this 9% 'saving' is of crucial importance. It reflects both their extreme poverty and their extreme vulnerability to

Figure 12: Production and use of cereals (millet, sorghum) and pulses (cowpea)

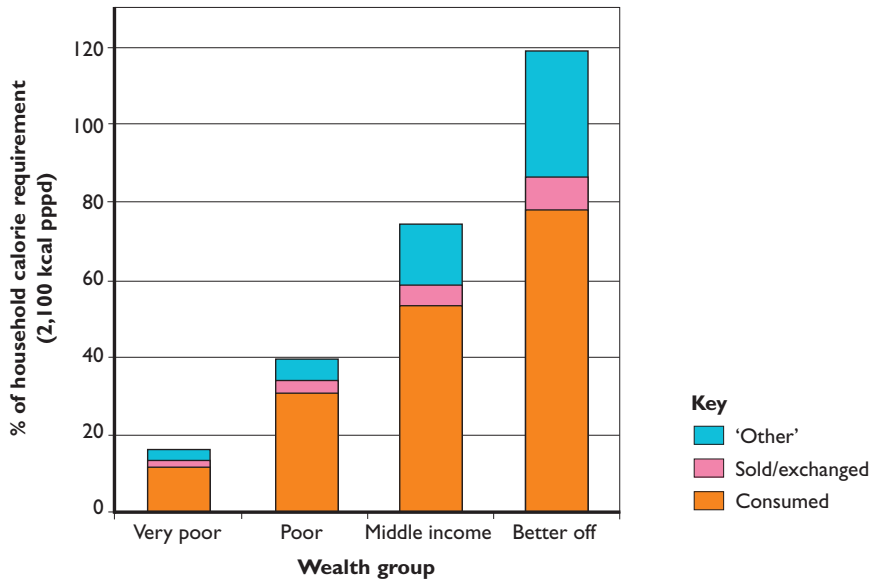
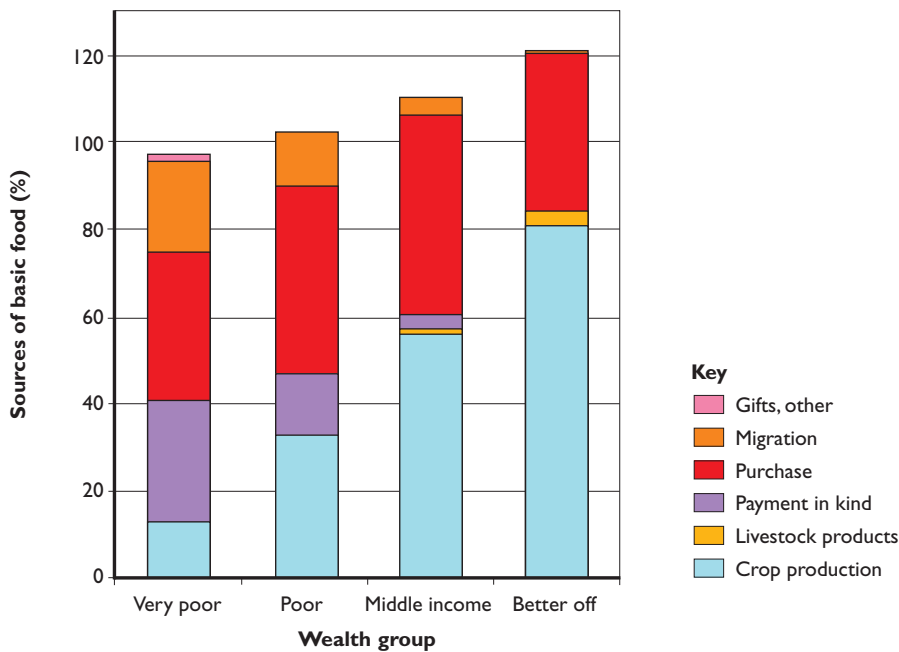


Figure 13: Sources of basic food consumed by typical households



In this graph, food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2,100 Kcals per person per day.

any shock that might further reduce their access to food, from any source. Even middle-income households are vulnerable to major hikes in the price of staples, and the 2005 crisis made them considerably poorer.

Finally, wealthier households' consumption of animal products – mostly milk – is modest, but significant in terms of variety and quality of diet, not least for babies being weaned. Poorer households have to buy milk if they want it (as wealthier people also do

sometimes to supplement their own sources). But buying milk can actually represent a saving for poorer households, because when added in small quantities to the millet-based porridge, it goes further.

Sources of cash

The most striking finding here is the skewed nature of the picture: the cash income of the two wealthier groups is between seven and ten times higher than that of the two poorer groups.

Another striking finding is the balance of cash income received from agriculture and livestock. In a zone characterised by agriculture, livestock is by far the biggest source of cash, and together with trade it eclipses earnings from crop sales. This is because of the huge demand for livestock in neighbouring Nigeria, reflected in market prices for livestock. The grain market is, if anything, affected by net importation from Nigeria.

Groundnut sales account for most of the crop income: 75% for the better-off, 71% for the middle, 67% for the poor, but only 25% for the very poor, who can hardly afford to buy the seed, let alone find the extra labour needed to cultivate it. Groundnut production has also been affected in recent years by disease and inadequate rainfall, and this has in turn affected the proportion of incomes derived from all crops.

However, this is not to diminish the importance of the agricultural sector in people's livelihoods: as seen in the previous section, for better-off and middle-income households, their own harvest provides the greater part of their food needs. They also use grain to pay for labour. Payment for their labour (in cash or in kind) forms a big part of poor and very poor households' livelihoods.

There is obviously a direct correlation between the fact that the two wealthier groups have more land and livestock, and have a much greater cash income.

Figure 14: Sources and amounts of cash income for typical households

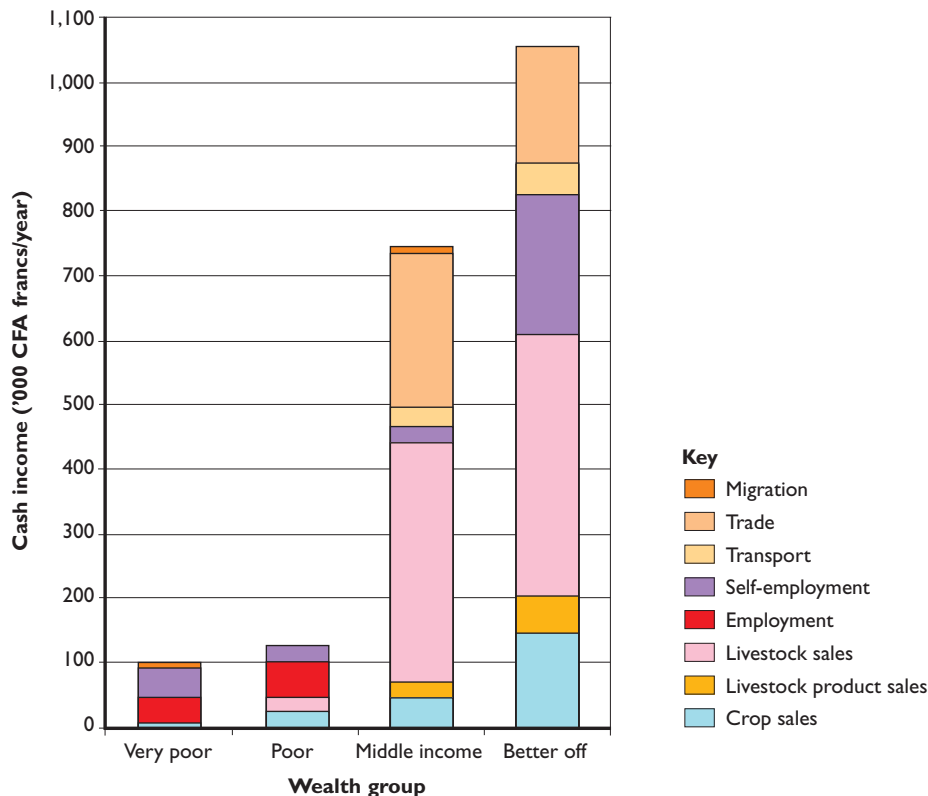
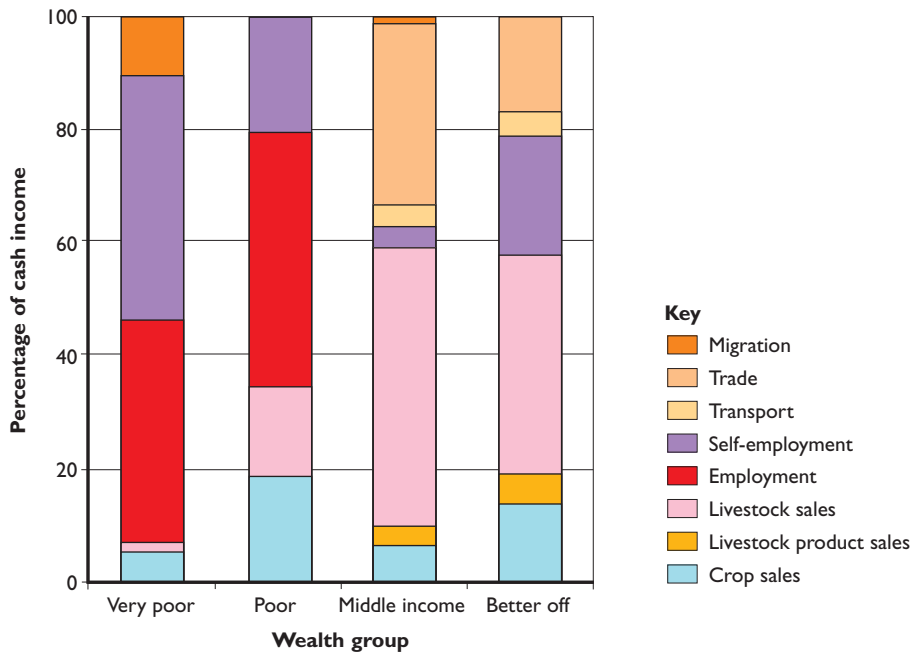


Figure 15: Percentage of cash income from various sources



There is also a direct relationship between livestock ownership and land holdings, as the traditional, communal grazing areas disappear under pressure from cultivation. The amount of crop residues available plays an important part in determining how many livestock a household can feed, since buying fodder is expensive, even for the wealthy. Gathering grass to stall-feed livestock is time-consuming, something that partly lies behind the *kijo* system described above. Whatever money the poor and very poor make from livestock is linked to the convenience of the *kijo* system for wealthier households, as it is another way of them engaging poor people’s labour.

Although this zone is near the border with Nigeria, cash earnings from migration are not a big feature. Migrants tend to spend their earnings buying cheap grain (often sorghum) in Nigeria to bring home (reflected in Figures 12 and 13 in the ‘Sources of food’ section above).

It is noteworthy that even though poor households’ income is very low compared with wealthier households, they do get a significant proportion of their earnings from both crops and livestock. This differentiates them from the very poor in an important way: the poor still have a major stake in

working their own fields and rearing their own herds, however modest they may be. The very poor are essentially rural workers – they own little land themselves, and what they do have is often of poor quality, including land they ‘borrow’ from better-off families.

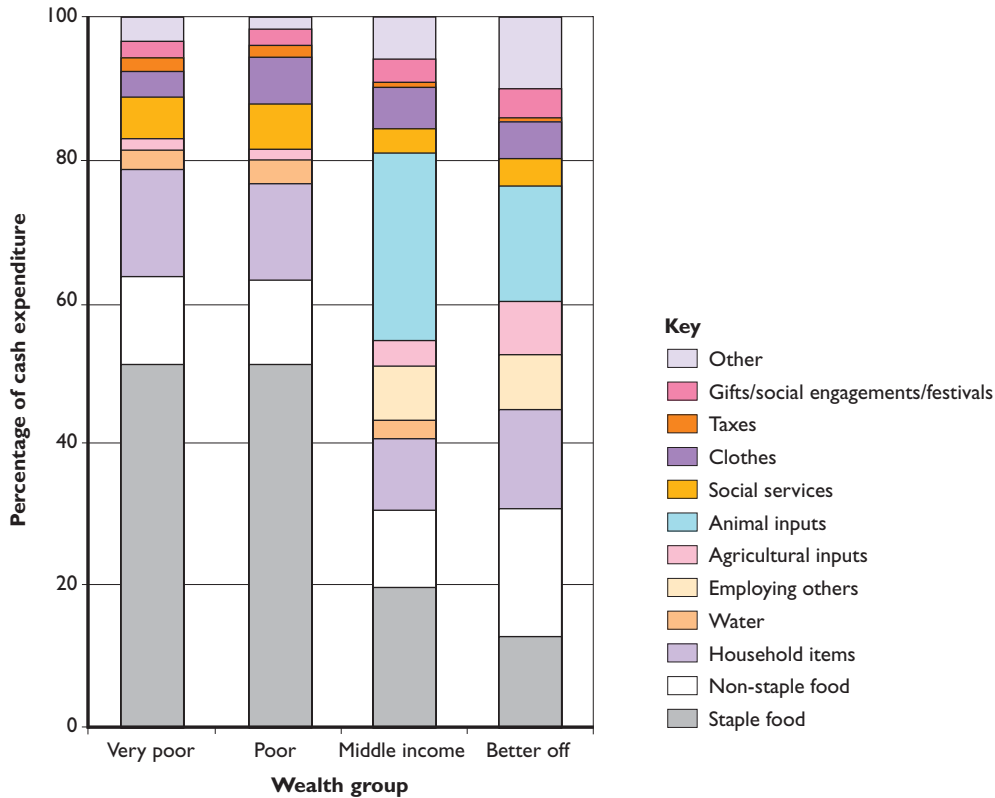
This means that development projects need to address the different needs and livelihoods of the poor and the very poor. It follows that without some form of major intensification of land use, the increase in the rural population will mean that the proportion of very poor to poor families will rise; or the local definitions will shift, so that ‘very poor’ will mean landless, and ‘poor’ will be closer to today’s ‘very poor’ households.

Expenditure patterns

Food

It is not surprising that both the very poor and the poor spend half of their income on food. But this masks an important difference: the poor get more of their food from their own harvest, while the very poor get more from payments in kind for their labour. Nevertheless, both groups are highly affected by prices, as they tend to buy grain month

Figure 16: Percentage of cash expenditure on different items



by month from as early as January, when prices are already rising.

The middle-income group also need to buy basic food, but this only represents one-fifth of their income (unless there are major price hikes, as in 2005). As we have seen in the ‘Sources of food’ section, better-off households could easily meet their consumption needs without needing to buy any food, but they follow their own strategy of storage, sales and purchases, including payments in kind to labourers. Both the better-off and middle households spend money on imported/processed staples – rice and pasta or couscous – to add variety to their diet.

Expenditure on non-staple foods and household items is similar across all groups. But it should be noted that these are proportions of expenditure – the absolute amounts are very different. Wealthier households predictably have a more varied and better quality diet than poorer households, regularly buying milk, meat, vegetables and condiments, as well as stimulants (tea, kola nuts).

Production inputs

There is a notable difference in households’ ability to invest in production (animal and agricultural inputs). The two poorer groups spend only a little on agricultural inputs (including seed when they have not been able to save any), and nothing on livestock inputs – not surprising, given their very small holdings (they would struggle to buy even a goat; any they have are likely to have been obtained through the *kiyo* system). The two wealthier groups spend a good proportion of their cash on production, especially on livestock (‘animal inputs’), which includes the cost of veterinary checks and fodder, and of buying new animals. The level of expenditure by middle-income households in particular appears to indicate they are investing in rebuilding herds after their losses in 2005.

Agricultural expenditure by better-off households does not often include fertilisers, the price of which has become uneconomic (at least for grain production). But it does include paying for use of land (usually through a rental/mortgage type of

arrangement, or far more rarely, buying outright) from poorer owners, and this may account for up to 5% of their total annual expenditure – a sign of the critical population pressure on land and of its increasing concentration in the hands of wealthy owners.

Healthcare and education

Expenditure on social services combines education and healthcare costs. As a rule, the poor and very poor spend about twice as much on education as on health. This is usually just to cover food, pens, exercise books, etc, so that their children can attend the local primary school. But it amounts to 4%–5% of the total annual income of the poor and very poor: a sign that people – even those living on extremely low budgets – recognise the importance of sending their children (girls as well as boys, increasingly) to school.

Middle and better-off households spend less, as a proportion of their total income, on education (around 2%), but in absolute terms it represents about four times the amount spent by the two poorer groups. Part of this expenditure is simply providing better food for their children to eat at school, which gives them an advantage in being able to concentrate more. But sometimes it includes the cost of sending children away to secondary school, if there is no local one. This usually means providing both food and rent in some form, and is an expense most poorer households cannot afford. The result is that poorer children tend to be excluded from secondary education, which is the real passport

out of the village and into the wider economy. Even when village children do get to attend secondary school, they often fail and drop out because of the poor quality of teaching in their primary school.

Hazards

The main hazards facing farmers in this zone are, for crops: late, inadequate or uneven rains, or false starts to the main ‘planting rains’ (which means farmers have to re-seed a number of times), and insects; and for livestock: insufficient grazing and fodder (or poor quality fodder), disease, and not enough water points.

People respond to these hazards in a number of ways, depending on their capacity, the problem and the timing. For example, if the planting rains are inadequate or are followed by a lengthy dry spell, farmers re-seed their fields. Those from poorer households are more likely to migrate in search of work earlier than they would normally, before waiting for the harvest.

If the available fodder is not of good quality, then those households that can afford it buy grass and supplement for their animals earlier, and in greater quantities, than they would normally. Poorer households, without animals, can often benefit from selling off their crop residue or collecting grass to sell. As there is competition with the Fulani herders to feed their animals, the price of fodder rises during such times, thus increasing the potential income from this source.

Livelihood Profile 3

North settled zone

Tessaoua district

Fieldwork for this profile was undertaken in September 2007. The information presented is for the reference year October 2006 to September 2007 – a good year by local standards. Provided there are no fundamental and rapid shifts in the economy, the information in this profile is expected to remain valid for approximately three years (ie, until 2012).

The Tessaoua local government agricultural service divides this agro-ecological area into three zones: the south, centre and north. The north settled zone is the area of settled agriculture and livestock rearing lying between the central zone (to the south) and the purely pastoral zone in the far north of Tessaoua district. We took a sample of ten villages for this Household Economy Analysis (HEA) survey from a wide band of the north settled zone, from east to west, but avoiding the southern and northern fringes.¹¹

Who lives in this zone and how do they make their livelihoods?

The north settled zone covers some 40% of Tessaoua district, but has a distinctly lower population (around 100,000) than the central and south zones (around 310,000).¹² Most people in the north settled zone are Hausa cultivators who greatly outnumber other ethnic groups. Although they produce substantial quantities of grain, the true wealth is in livestock – especially cattle.

The other main group in this zone are the Fulani (Peule), a settled population whose livelihoods are more geared towards livestock herding. They practice transhumance (annual movement of herds

to far grazing, taken by some men while the rest of the household remain at home). The Touareg pastoralists tend to have more mobile livelihoods, moving regularly in search of grazing; they are far fewer than the Fulani.

Historically, this area was a rangeland occupied seasonally by both Fulani and Touareg pastoralists, and some groups still come down from the north to use pastures here. But from around 150 years ago, and accelerating during the last century, Hausa settlers set up pioneering villages in the north of the district as offshoots of villages further south, which in turn were founded by settlers from what is now Nigerian territory. The north settled zone hosts the last push north of the Hausa population, unless in the future some major scheme were to materialise that brought enough water to compensate for average rainfall levels below the tolerance even of the quick-cycle millet species, which are favoured at the current northern limits of settlement.

The lower population density here is not simply for historical reasons, but for reasons of ecology and economy. One limit to settlement is the availability of water for both human and animal consumption. There are also wider fluctuations in annual rainfall and, therefore, in crop performance here than further south; poor harvests frequently need to be compensated for by assets in livestock. This in turn means that the continued practice of extensive grazing is highly advantageous, if not indispensable.

A more positive way to put this is that not only the Fulani, but the Hausa population take advantage of the pastures in this area, which as yet is not overcrowded by fields. However, even if northward

movement of Hausa settlers has more or less ceased, the natural increase of the population has begun to impose strains on available assets. This is resulting in increased tensions between Fulani herders and Hausa cultivators over encroachment of fields on pastureland, encroachment of herds on planted fields, and over-burdening of water points. In some villages it was said that, given worsening relations, Hausa cattle owners preferred to send their own men to take cattle to far grazing, rather than entrust them to Fulani herders in the traditional way. In other villages it was reported that in recent years poor Hausa households have sold land to Fulani settlers. This may herald increased cultivation by Fulani, or it may be part of a strategy to claim land for cultivation, while actually intending to protect pastures; although protection of pastoral 'commons' is enshrined in Niger's laws, this is not much enforced.

Staple foods

Although land holdings are greater in the north settled zone than in the south (see 'Wealth breakdown' section), and crop performance here varies more from year to year, the agricultural system is similar in terms of cropping patterns. Intercropping of millet, sorghum, cowpea (*niébé*) and groundnuts is the norm. Millet is by far the biggest staple, but most people grow some sorghum too (there are a few localities where the soil favours sorghum to the extent that it rivals millet, and in a good year it can far out-do millet in terms of yield). Less sesame is grown than in the south, and considerably fewer groundnuts on average, although they are still a profitable cash crop in a good year, and may rival cowpea as a money-earner.

For wealthier farmers, a good harvest brings a substantial surplus of cereals. Some of it is marketed (although rarely sorghum), but much of it may be stored (better-off households here try to keep at least one year's supply in store, a habit now less evident in the south). It makes sense for people in the north zone to keep a substantial stock if they can, because in the frequent poor harvest years grain becomes expensive, and they need it to eat, and to pay workers in kind to prepare their fields for the next harvest.

Markets

It seems that the north settled zone is a substantial net exporter of grain only in exceptionally good periods. For the most part, post-harvest exports are somewhat less than later imports on the market. However, both groundnuts and cowpea are sold in any year, good or bad; cowpea, in particular, supplies a great demand in Nigeria.

What do people buy and sell?

Even in a good year, wealthier households in this zone, who are able to produce much more than they need for their own consumption, tend not to sell much of their cereal crop. It seems that the bulk of the cereal that enters local markets comes from poorer households. This surprising finding is explained by the fact that although poorer households sell only small amounts of cereal at a time, they make up the majority of the population – thus, the cumulative amount they sell becomes significant. This in turn suggests that high volumes of cereal on the market after harvest do not necessarily mean that it is a year of surplus production.

The wider northern or agropastoral zone covering Maradi and Zinder regions may put impressive amounts of grain on the market in exceptional years, and there may be some areas that are usually more productive than the north zone. North of Tessaoua is traditionally regarded as a substantial surplus producer of cereal on the basis of its availability on the markets. From our survey, this does not seem to be the case; but the villages we studied form only a small part of a much wider market chain, including Tanout in the north and Mayayi in the west, both of which are reported to be more productive areas.

Where do people buy and sell?

Crops produced in this zone are mostly traded through the main markets of Ourafan and Gararé, from where they are sold on to Tessaoua, eventually reaching markets in the north (Agadez and Arlit) or west (Niamey). However, traders specialising in the Nigerian market may ask farmers specifically for cowpea.

Prices

In the months just after the harvest, from the end of September until December, cereal prices are at their lowest, reaching 200–300 CFA francs per *tia*¹³ of millet at the end of 2006. Cereal prices reached a peak of 350–400 CFA francs per *tia* of millet from June 2007 (planting time), until the harvest started at the end of September 2007.

Livestock prices vary according to the age and sex of the animal, its condition, and the season. The main collection markets for livestock traded by households in this zone are Gararé, Tankari and Kondoumawa, and they are usually sold on to Nigeria. Around the time of the Muslim festival of Tabaski (in December 2006), the price of male sheep increased to 50,000 CFA francs for a large male, compared with 15,000–25,000 CFA francs for a typical sheep purchased between May and July 2007.

Seasonal calendar

The seasonal calendar (Figure 17 on page 38) represents the typical picture for households in the north settled livelihood zone.

Harvest time

The harvest of millet is spread out over two months, starting with '*petit mil*' (mature but incomplete grains that have developed more quickly and will not grow any more). This slightly bitter, smaller grain is available two to three weeks before the main millet harvest, and serves the valuable function of ending the hunger gap (August and September). Wealthier families often invite poorer farmers to take this grain from their fields for free.

Compared with the south central zone, the sowing and harvest periods are shorter but people spend more time preparing land. Sales of the main crops start almost immediately after the harvest, as people need to repay loans and buy other household essentials. Harvest time is also when people can think about buying livestock if they can afford it; for poorer people, it is the time when they are

expected to pay back debts to local creditors. This is what brings their grain onto the market early at relatively low prices, even in a poor harvest year when they will have to take on more debts.

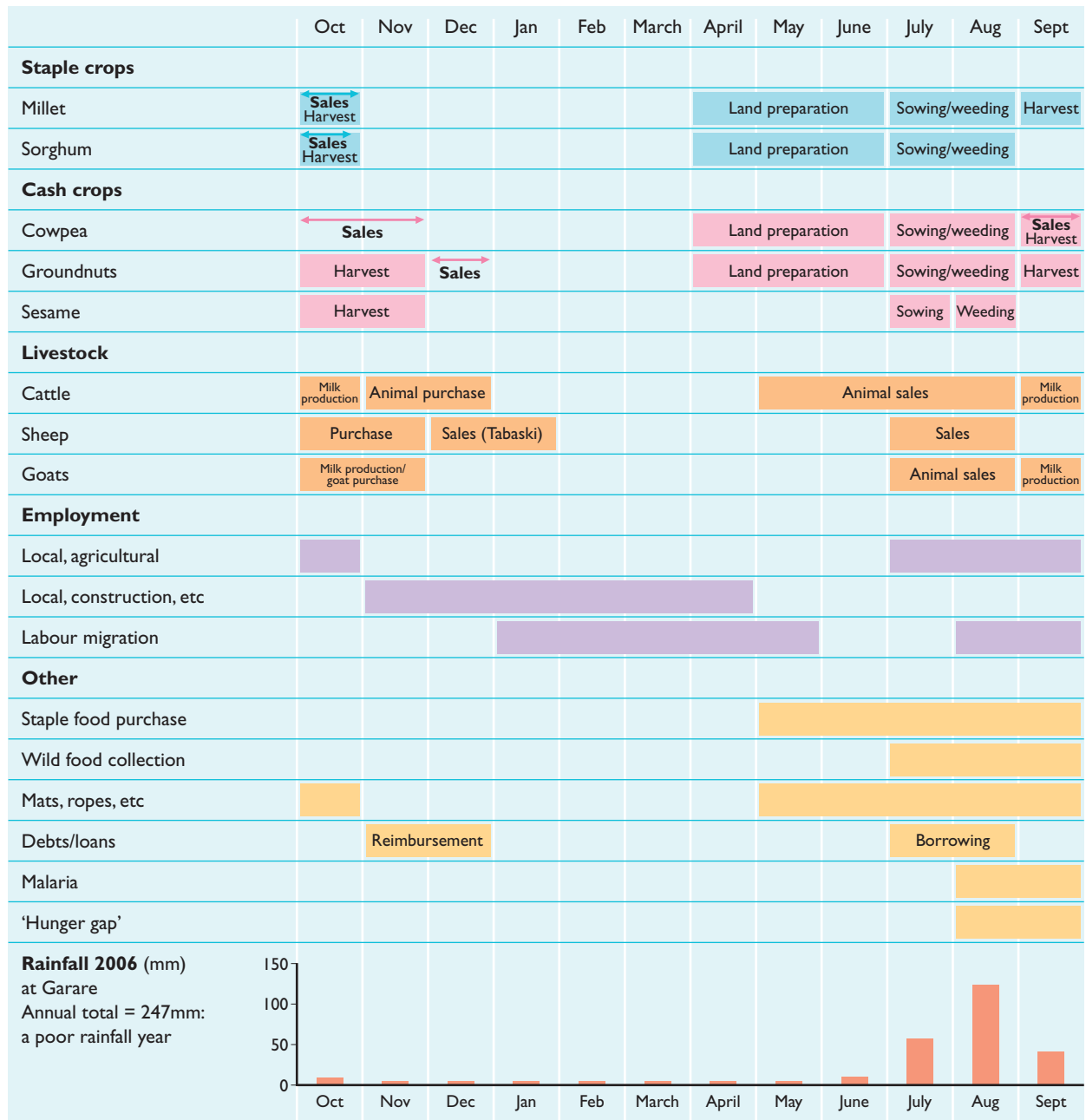
Agricultural activities occupy much of the year. In a bad year, when people spend less time on harvesting, they still have to invest considerable time in preparing their fields for the next season, just in case the rains are good. For poorer households, this gives them the opportunity to earn cash, and sometimes food, in return for working on the fields of wealthier landowners. But it also means they have less time to work on their own fields, however small they may be, so their yields are generally low.

Interestingly, information from key informants in our survey showed that the rate of pay for daily agricultural labour in villages where the previous harvest had failed was slightly lower than in villages where the previous harvest was good. Villagers explained this using the law of supply and demand. Where the previous harvest had failed, poorer households were even more desperately in need of work to make ends meet, and some people will be on the labour market who are not normally there (people from middle-income households, for instance). On the other hand, in villages where the previous harvest was good, poorer households would have been more able to spend time on their own land, and their wealthier employers would have had to increase the daily rate of pay to ensure that they got sufficient labour.

Migration

Temporary migration to find work is an important source of income for many households in this zone. Most people (usually men) look for work in Nigeria, and some travel as far as Libya. Others work within Niger itself, including at Agadez (as labour for onion growers or cattle herding), or as day labour on construction sites, making bricks, in kitchen gardens, or in small-scale trade, in the bigger villages of Gazaoua and Giga.

Figure 17: Seasonal calendar – north settled livelihood zone



Wealth breakdown

Land

People in this zone have access to more land than people in the south (very poor and poor households in the north zone cultivate 2 to 2.5 times more land than their counterparts in the south). But this does not mean they cultivate all of it. As one farmer from a very poor household

said: “We have endless bush we can clear, but we don’t have the means to use more land than we already do.” Poor and very poor households cannot afford to hire labour, and given the ever-present risk of a poor harvest, they seek safety in working on other people’s fields, rather than maximising labour on their own fields.

Among wealthier farmers there are a few who may invest in as many as 20 hectares, but most own

about 10 hectares and cultivate even less. They may put 2 hectares into fallow, where valuable grass can be harvested. But decisions on how much land to cultivate turn on risk and profit, in terms of the value of the harvest versus the cost of hired labour. The 'Good harvest versus poor harvest' section below shows just how acute the risks are even in a relatively normal year, without considering much rarer crisis years (such as 2004/05). Households with a middle level of income are constrained in terms of how much labour they can hire. This limits both the amount of land they can work and the yields they can obtain.

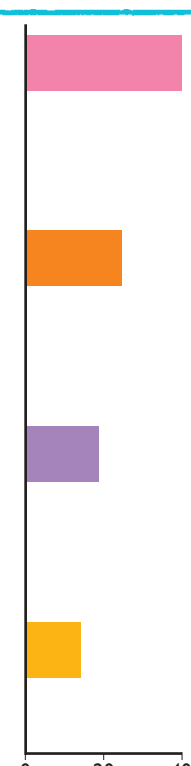
Livestock

Livestock ownership is more important here than in the south. This is more than simply a matter of

having more space to graze animals; because there is a greater risk of poor rains, it is essential to have something to fall back on. Very poor households in this zone have access to smallstock, usually through the traditional solidarity system of 'kiyo'. They look after one or two animals for a better-off household and in return keep one in three of the young, although pressing financial demands mean they may have to sell these before they have been able to generate further stock.

But the big difference in the north zone is in ownership of cattle – for milk, transport and fattening. Unlike in the south, it seems rare in the north zone for poor households to be lent an ox. This could well be because the better-off are not so pressed to find someone to take care of their animals; there are far more grazing commons in

Table 5: Wealth ranking for Hausa households in the north settled livelihood zone of Tessaoua district

Wealth group	Percentage of households	Number in household	Land cultivated (ha)	Livestock holding	Work animals and cart ownership
Very poor		7	1–2	0–2 goats plus 1–2 through <i>kiyo</i> , 3–5 hens*	–
Poor		7–8	2–3	4 shoats plus 0–2 goats through <i>kiyo</i> , 6–8 hens	–
Middle income		10	4–5	4–6 cattle (3–4 reproductive cows), 17 shoats, 16 hens	1 ox and 1 cart
Better off		14–15	7–8	14 cattle (9–10 reproductive cows), 35 shoats, 20 hens	2 oxen and 1–2 carts, 0–1 horse

* Including chickens and guinea fowl

the north than in the south (and many better-off households reported keeping fields fallow for grazing). Also, many better-off households maintained good relations with the Fulani, who take their herd to far grazing for up to six months of the year.

Good harvest versus poor harvest

It is well known that in the Sahel, rainfall and crop performance in the same season can vary significantly, even between localities very near to each other. But by chance, for the reference year of our survey (October 2006 to September 2007), we found a distinct geographical split between villages in the west (which had experienced a good to very good harvest), and villages in the east (which had experienced a bad to very bad harvest).

We decided that rather than mix the two together to give a 'mean' picture, we would take advantage of this different experience, and with a little extra fieldwork present two sets of findings, both typical of the northern Sahel: how do people fare in a good harvest year, and how do they cope in a poor year? The information below relates to both scenarios. However, it should be stressed that this is not a proxy for a 'very good year' versus 'crisis year'. In particular, market prices for both staples and for livestock did not show unusual peaks or troughs; they reflected overall supply and demand and were influenced by a wider economy than the two samples of villages in a limited zone. Our findings cover two different aspects of a 'normal' year in the northern Sahel.

Sources of food

The figures on pages 42 and 43 show how households use the staples they produce (Figures 18 and 20), and where they get the food they actually eat from (Figures 19 and 21). This allows a comparison of the effects of a good harvest and a bad harvest. The most important point is that, regardless of their wealth status, people do not eat all the food they produce, even when their

yield is very low; everybody uses the market to buy and sell food, depending on their needs and coping strategies.

Own consumption

Figures 18 and 20 show how marked the differences are between a good and a bad harvest, even though the poor harvest in this instance did not lead to a local food crisis. The good rains allow middle households to meet 100% of their own consumption needs from what they produce, and give better-off households a surplus equal to just over another year's consumption requirement (with good rains, their yields are high because they are able to afford substantial inputs of manure and labour at key times). But in a poor harvest, even the better-off produce less than half of their consumption needs (the crop yields on their fields are 25% or less than in a good harvest). Poor rains mean their production inputs have little effect, so their production per hectare is similar to that of households who are less well-off.

The risk of such losses limits the amount of land that better-off farmers are willing to cultivate. Poor and very poor households are both able to produce somewhat more than half of their consumption needs in a good harvest, but, like the middle group, their production decreases by 50% or more with poor rains. The fact that the poor and very poor always have limited inputs (fertiliser and labour) means that the difference between a good and bad harvest for them is less marked than for better-off households. The poor do better than the very poor in a bad year, and this is likely to be because they are still able to devote some labour to their fields, while the very poor generally cannot, since they have to find work elsewhere, including through migration. But poor rains are very different from drought, which can leave all households, regardless of their wealth ranking, with just handfuls of grain or none at all.

'Other' uses

Still looking at Figures 18 and 20, the 'other' uses of grain include setting aside selected seed, paying

the *zakat*,¹⁴ and contributing to baptism or other celebrations – social obligations that all wealth groups have. For better-off households, a substantial part of the ‘other’ represents payment in kind for workers employed in their fields, although in a poor harvest year most of this must come from their previous stocks or from purchases. At the same time, their own cereal consumption is far above their minimum need; not simply because they eat better than other people, but because this category includes food they give to children from very poor households who regularly join in meals, and gifts of grain to other poor neighbours (although not formally as *zakat*). These common practices reinforce the high social status of better-off households (as well as Fulani households who also give gifts and loans to the poor). It also serves to strengthen their ties with kin and neighbours who work for them and who sell grain to them to take to market.

Buying and selling crops

Better-off households sold virtually none of what they produced in a poor harvest (just a few groundnuts and cowpea amounting to less than 1% of their total income for the year). But even with a good harvest, their crop sales were relatively modest (9% of their total income). The reason given was that they were still building up their stocks after the 2005 crisis; provided the next harvest was a good one, they would probably sell more of their surplus in 2007–08.

The other wealth groups are not able to store grain from year to year, and must sell some of their harvest in order to repay debts and buy essential goods. The middle group are usually able to delay some of their sales in order to benefit from rising prices beyond the harvest season; poorer households usually have to sell immediately, when prices are lowest. They must then begin to buy grain a few months or even weeks later, at higher prices.

Figures 19 and 21 show that poor and very poor households have to buy a substantial amount of their food, even with a good harvest. They never produce enough grain to meet their own annual consumption needs. And while they have to buy

more in a bad year, they also receive more grain as payment in kind than in a good year (although it is not clear whether this is their preference or that of their employers). Middle-income households also deploy some labour working in the fields of better-off households, and some of this is paid in kind. Middle-income and better-off households also buy substantial quantities of food for domestic consumption in a poor harvest, but as explained above, their ‘excess’ consumption includes providing food for poorer children and paying labourers in kind. So even with a good harvest, better-off households buy up a certain amount of grain. But it is likely that when they are more comfortable with their stock levels from their harvests, they will purchase less and use more of their own grain for the various purposes.

Migration

The ‘migration’ category (mostly in relation to very poor and poor households) represents the meals ‘saved’ by the household when one or more men are away. With a poor harvest, there is greater pressure to migrate to find work, and the food ‘saving’ can amount to between 5% and 8% of the household’s annual food needs – a major contribution when access to food is so limited. Even with a good harvest, work migration contributes 3%–4% in household calorie ‘savings’.

Consumption of animal products

Milk and meat consumption from own livestock is negligible among the two poorer groups, but among the better-off and middle-income groups it provides 4%–5% of calories (mostly from milk), whatever the harvest. This is modest by the standards of the neighbouring pastoralists, but it contributes significantly to the quality of the diet. These households, with sufficient milking cows at their disposal for a good part of the year, tend not to buy milk. But very poor and poor households do: the 10–15 litres they buy in an entire year is negligible in calorie terms, but the small ladle-measures they buy each time go some way to making the millet or sorghum-based porridge palatable.

Sources of food – with a good harvest

Figure 18: Production and use of cereals (millet, sorghum) and pulses (cowpea)

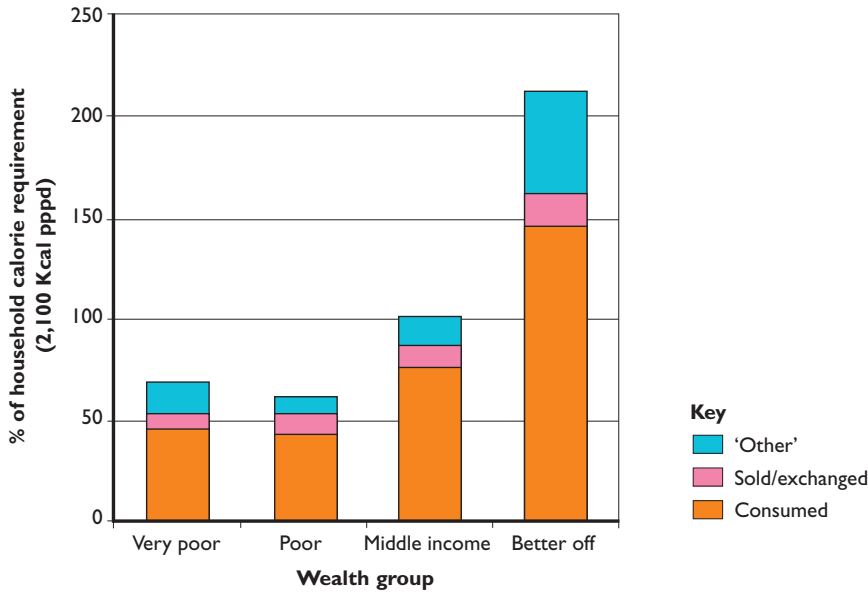
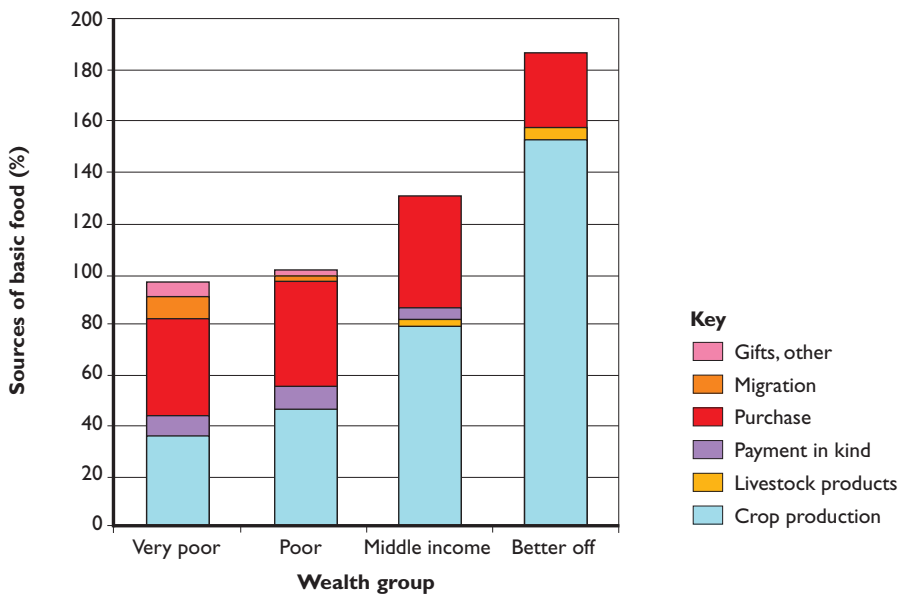


Figure 19: Sources of basic food consumed by typical households



In Figures 18 and 19, food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2,100 Kcals per person per day.

Sources of food – with a poor harvest

Figure 20: Production and use of cereals (millet, sorghum) and pulses (cowpea)

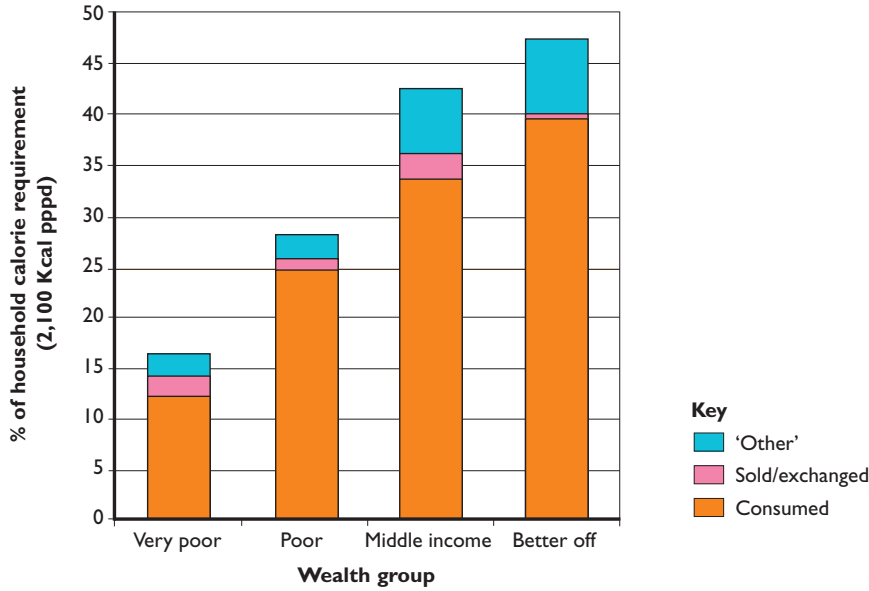
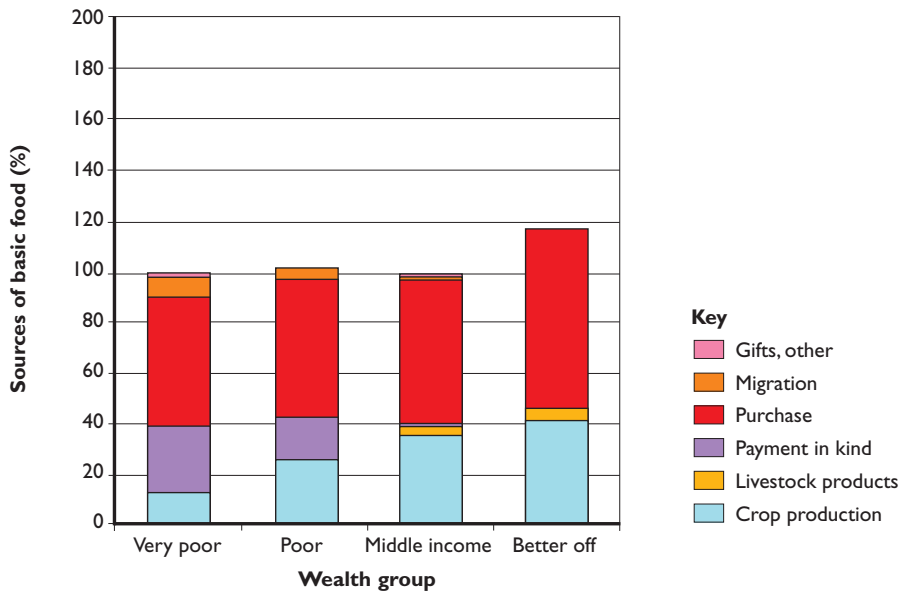


Figure 21: Sources of basic food consumed by typical households



In Figures 20 and 21, food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2,100 Kcals per person per day.

Sources of income

Figures 22–25 on pages 45 and 46 show why the villages with a poor harvest did not suffer a food crisis, however hard the year was in terms of their overall income. The big question for the very poor and poor households is how did they afford to buy more food at such a bad time? It is clear that the contribution of own crops to incomes collapsed across the board. But it is actually more important to look for what did not change so drastically – and here, two things are striking. First, although all wealth groups had a lesser income with a poor harvest, there was not a collapse of incomes for any wealth group. The middle group show the biggest change, with 27% less income in a poor harvest; poor households had 22% less income, and for better-off households, income fell by 14%. For very poor households, the drop in income was only 2%.

Coping strategies

While the exact reasons for these differences are not clear, there can be little doubt about the reason why a poor harvest makes little difference to the annual income of very poor households. They are at the margin of survival in any year, since they produce little for their own consumption. At that margin, there is an irreducible minimum income they must earn. With a bad harvest, local employment opportunities may be reduced (other people's tighter budgets mean they are less likely to employ people for fetching and carrying services, etc). Very poor households sometimes respond by increasing work migration; another coping strategy is to

borrow more money than usual, although there is a limit to how much they can borrow, as their creditors consider their ability to repay, either directly or by providing labour, or even by mortgaging land. But even with all this, it seems there is an important traditional safety net or element of charity: in a bad year, a greater proportion of poor households' employment is paid in cash rather than in kind, compared with the good-harvest scenario, on top of the increase of payments in kind (as noted in the previous section).

Livestock sales

What is equally striking is the role of livestock sales. This is the backbone of the income of middle and better-off households, and does not change markedly whether the harvest is good or poor. And that suggests the difference between a poor harvest year and a crisis year: a crisis occurs when the livestock sector is under attack, whether through a critical lack of pasture or, as in 2005, through a combination of harvest failure, unprecedented food prices and inadequate grazing conditions, which together forced high sales of livestock at very low prices. It is true that in 2006–07 the poor depended more significantly on livestock sales (even of only one extra goat) in the poor harvest, than in the good harvest. But if this made a difference it was because livestock prices did not collapse: this was not a crisis. For better-off households, the poor harvest not only reduces earnings from crop sales and forces them to buy more grain, it affects their transport and trade earnings (with less grain produced there is less to sell locally, and less need for ox-cart transport between markets).

Sources of income – with a good harvest

Figure 22: Sources and amounts of cash income for typical households

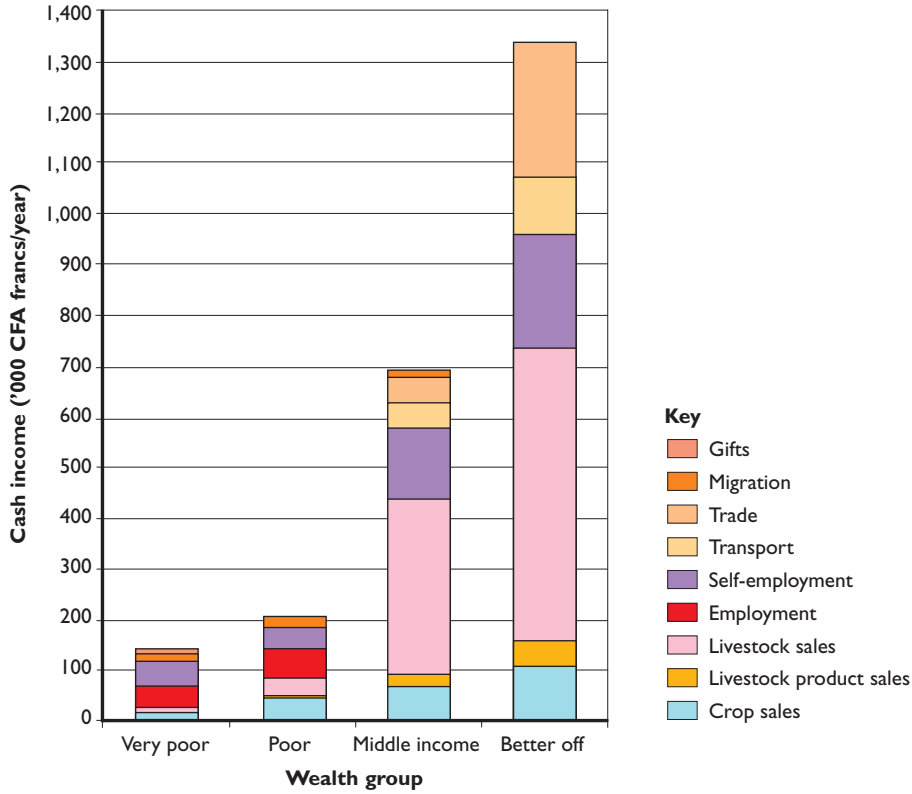
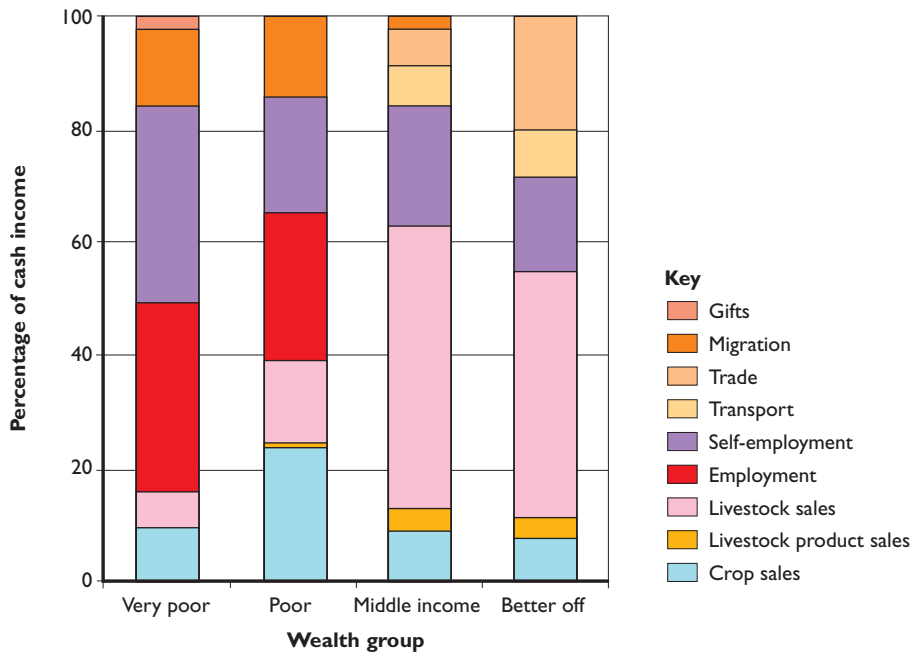


Figure 23: Percentage of cash income from various sources



Sources of income – with a poor harvest

Figure 24: Percentage of cash income from various sources

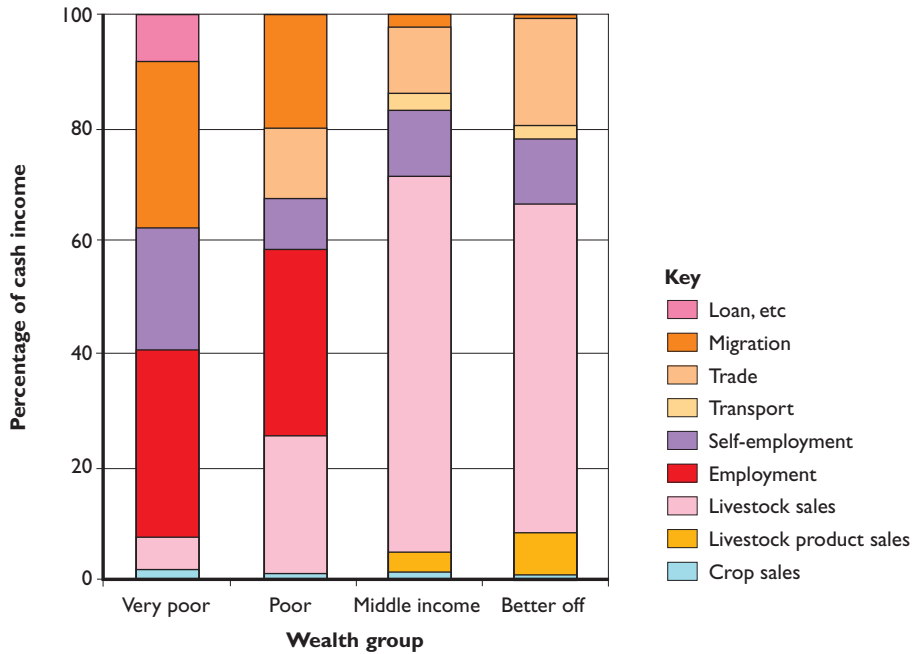
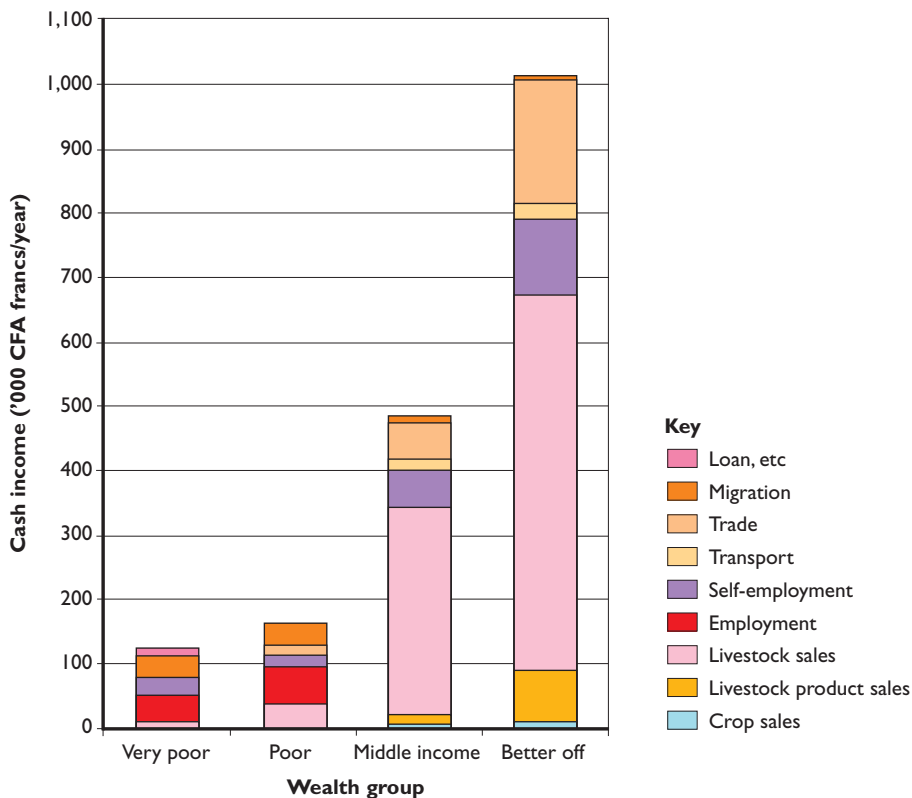


Figure 25: Sources and amounts of cash income for typical households



Expenditure patterns – with a good harvest

Food

There are notable differences between the wealth groups in the proportion of expenditure on basic foods in a good harvest (Figure 26, below). This is not the case in the south zone, where the difference between the two poorer groups and the two better-off groups was minimal.

In absolute terms, however, the poor and very poor purchased a similar percentage of their annual household basic food needs, and spent similar amounts of money (75,800 CFA francs for the very poor compared with 90,800 CFA francs for the poor).

Unlike the poorer households, the middle-income and better-off groups spent more on non-staple foods for ‘sauce’ (to go with millet) than on staple foods, and of course spent much more in absolute terms than poorer households, indicating a much better diet.

Expenditure patterns – with a poor harvest

Food

There is an increase across the board in the proportion of expenditure on basic foods (Figure 27, page 48). However, differences are less marked between the middle-income and better-off households, and between the poor and very poor. Expenditure on non-staple foods, and therefore the diversity and quality of diet, is also significantly reduced.

The middle-income and better-off households spent more on staple foods than on ‘sauce’, but spend more per person on non-staple foods than the very poor or poor, even with a good harvest: just under 5,000 CFA francs per person per year (middle-income), and just over 6,000 CFA francs per person per year (better-off) after a poor harvest, compared with 2,700 CFA francs and 3,500 CFA francs respectively for the very poor and poor, after a good harvest.

Figure 26: Percentage of cash expenditure on different items, with a good harvest

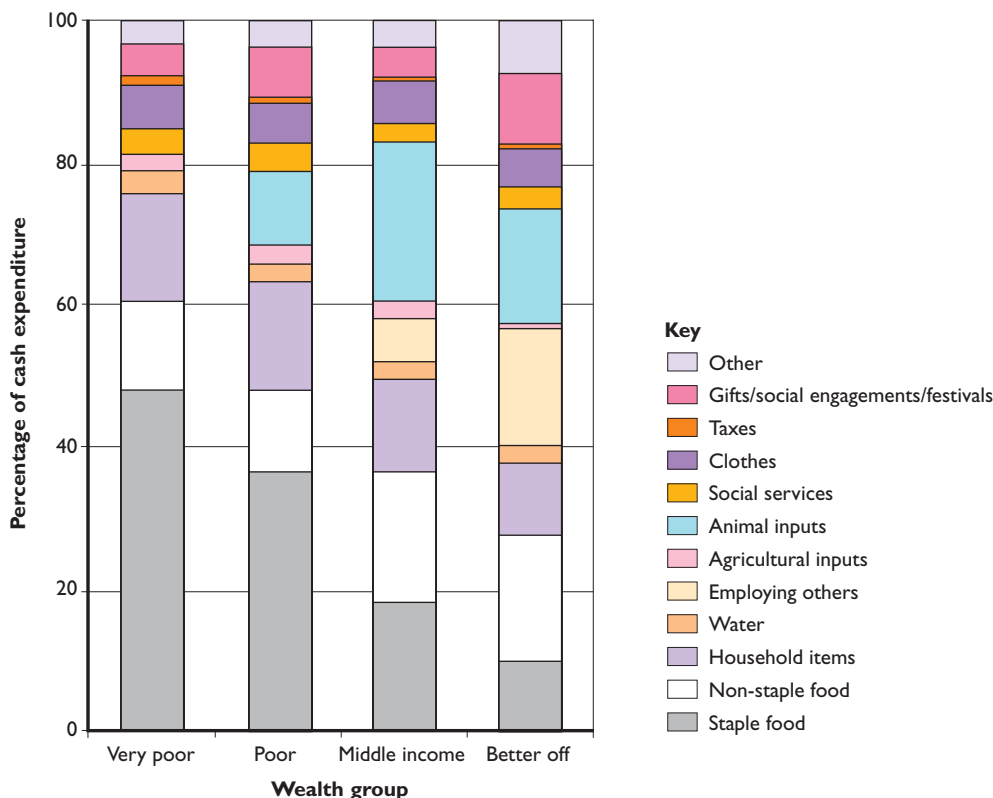
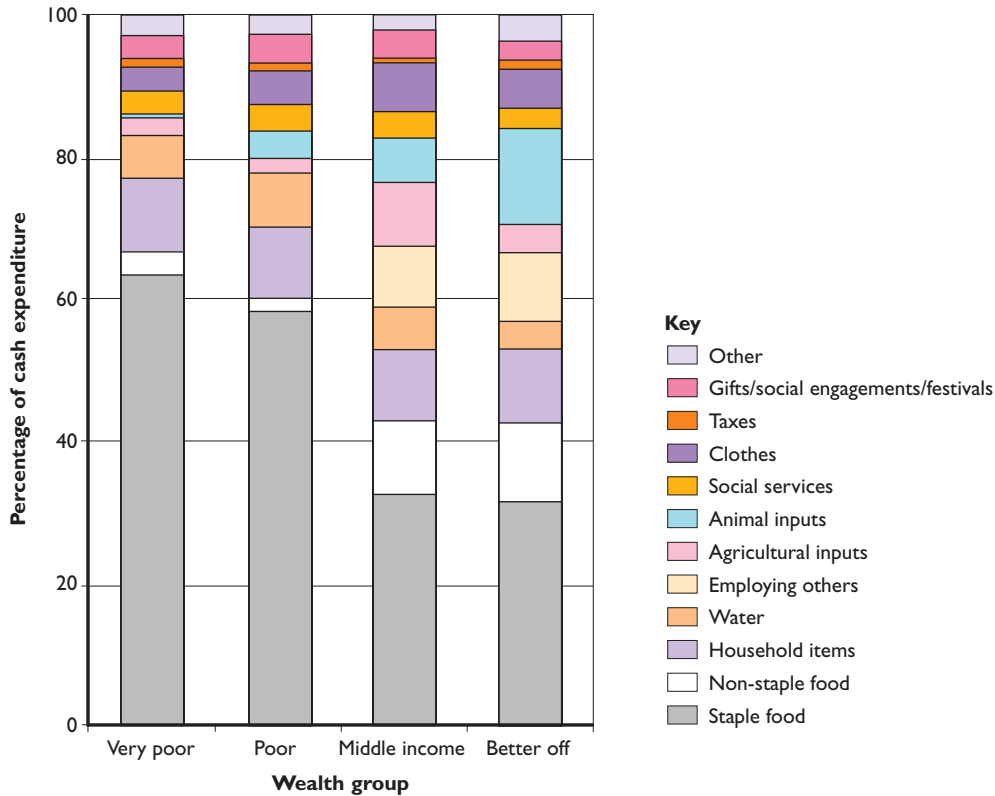


Figure 27: Percentage of cash expenditure on different items, with a poor harvest



As is to be expected with a poor harvest, all wealth groups purchased a larger percentage of their basic food needs, and spent a larger proportion of their annual income on food. As pointed out in the section ‘Sources of food’, this did not make much difference to the very poor in terms of calorie requirements, as even in a good harvest they only produce a very small amount of their annual consumption needs.

Effects on local employment

The middle wealth group spent much the same in absolute terms on employing others to work in their fields, regardless of the harvest outcome. Better-off households, on the other hand, spent roughly twice as much on labour in the year following a good harvest. This is probably in part due to having to pay workers more to get enough labour, at a time when many poor and very poor households would prefer (and could just about

afford) to work on their own land. It is also likely that more payments are made in cash, rather than in kind (food), after a good harvest.

Expenses

All households incur other expenses on agricultural inputs. These include seeds, tools, chemicals and rental of land (not as common in this zone as in the south). Poor and very poor households can only afford small quantities of seeds, and spend only a little on repairing their tools. In absolute terms, after a poor harvest, all households except the better off spend more on agricultural inputs in the north than they do in the south, which is a reflection of their larger land holdings.

Expenditure on animal inputs includes the cost of purchasing livestock, fodder, and veterinary checks. Following a good harvest, middle households spend surplus cash on restocking, no doubt in an effort to

build up their herds after the losses from 2005. In absolute terms, all wealth groups spend more on animal inputs following a good harvest (except for the very poor, who spend a negligible amount).

Expenditure on social services combines healthcare and education. It represents 4%–5% of total annual income for very poor and poor households, and a slightly lesser proportion for middle and better-off households. In absolute terms, this is around 6,000–10,000 CFA francs a year for the very poor and poor, 15,000–17,000 CFA francs for middle, and 25,000–35,000 CFA francs for the better off. For all wealth groups except the better off, this expenditure is roughly evenly divided between health and education. Better-off households' spending on education was 1.5 to 2.5 times more than expenditure on health.

Hazards

The main hazards facing households in the north settled zone are, for crops: late rains, uneven rains, or not enough rains, birds, insects and crop

diseases; and for livestock: insufficient land for grazing, not enough fodder, livestock diseases, and not enough water points.

People respond to these hazards in a number of ways, depending on their capacity, the problem and the timing. For example, if the planting rains are inadequate or are followed by a lengthy dry spell, farmers re-seed their fields. Men from poorer households are more likely to migrate in search of work earlier than they would do normally, before waiting for the harvest.

If the available fodder is not good quality, then households that can afford it buy grass and supplement for their animals earlier, and in greater quantities, than they would do normally. Poorer households, without animals, can often benefit from selling off their crop residue or from collecting grass to sell. As there is competition with the Fulani herders to feed their animals, the price of fodder is reported to rise during such times, thus increasing the potential income from this source.

Livelihood Profile 4

Katsinawa agropastoralists

Dakoro district

Fieldwork for this profile was undertaken in February 2008. The information presented is for the reference year October 2006 to September 2007 – a generally good year by local standards. Provided there are no fundamental and rapid shifts in the economy, the information in this profile is expected to remain valid for approximately four years (ie, until 2013).

The reason for selecting the Katsinawa for this livelihood profile, among all the various subgroups of Fulani to study, was that they represent a particular point along the continuum between pure pastoral and settled (sedentary) livelihoods. The Fulani, the world's largest group of nomadic herders, practice a mixture of agriculture and animal husbandry, to varying degrees. But for the Katsinawa, the two activities are equally important. The Bororo (discussed in Livelihood Profile 5) represent the pastoral end of the continuum.

Introduction

The Katsinawa agropastoralists are a Fulani group whose ancestors migrated into Niger about 100 years ago, from an area in what is now Katsina state in northern Nigeria. Villagers said their ancestors left Nigeria because of population pressure on the land, for cultivation as well as grazing. Some said their ancestors were pure pastoralists; others said they had always practised both herding and cultivation with equal importance. When they settled in their current villages in

Dakoro district, around 80 years ago, the area was largely uninhabited, and there were many wild animals. Although the Katsinawa are in the majority in this area, there are some households in the villages from other groups, especially Farfarou, Fulani, and a few Touareg.

In this northern sahelian region, some agropastoralists practice cultivation regularly alongside herding, and depend on their harvest for perhaps 50% of their livelihood. Others practice cultivation opportunistically, depending on the quality of the rains and their exact circumstances.

Where do they live and how do they earn their livelihood?

The Katsinawa occupy a central band of Dakoro district where there is sufficient rainfall to support millet-based agriculture, but where there are still extensive pastures for grazing. They share this territory with Hausa farmers who are, on the whole, far more dependent on cultivation than on livestock. What the Fulani here all share in common, and what differentiates them from the Hausa, is that they take their livestock to seasonal grazing away from the home area, especially in crop-growing season. Only some members of the household go with the livestock, while the rest remain on their land, where they still mainly live in the wood and mat shelters suitable for herders on the move. The seasonal movement of herds –

'transhumance' – allows the Fulani to keep considerably more animals than the Hausa, who rarely move with their livestock unless pushed by drought. (In fact, they often contract Fulani to take their cattle to far grazing.) It is transhumance that underpins agropastoralism.

Among the Fulani, the Katsinawa identify themselves as people who are permanently settled into agriculture, even though they may consider themselves primarily as herders by heritage or vocation. As one interviewee said: "Even if one of us possesses a hundred or more cattle, he will never leave off agriculture to become a pastoralist." In this they are different from other, local agropastoral Fulani, including the Farfarou. This group were probably pastoralists originally, practising little or no cultivation, but circumstances (notably competition for pastures and the ravages of periodic drought) have forced them to depend more heavily on agriculture. Many Farfarou express the intention – perhaps never actually to be realised – of building up big enough herds to take on a purely pastoral life, or at least a life where the 'agro' is much less important than the 'pastoral'.

It is important to remember that although one may characterise different groups in this way, it is a generalisation. There are, no doubt, some Katsinawa households who lean towards pure pastoralism, and some Farfarou or others who are actually successful cultivators and intend to remain as such. And probably all agropastoral villages contain households that were pure pastoralists, but were knocked permanently out of the pastoral system by misfortune.

The long and severe droughts peaking in 1972–73 and 1983–84 were the greatest general misfortunes in the last generation, and 1984 is still what people refer to if asked when the last real catastrophe was. The most recent crisis year was 2004–05, when the effects of drought were compounded by unprecedented cereal-price hikes. Many people lost or were forced to sell large numbers of livestock.

Staple foods

The main cereal here is millet, usually intercropped with cowpea, including the '*petit mil*' ('little millet'), which accounts for some 5%–7% of the crop (these are the stunted plants that were not weeded out, and which produce heads with smaller but still edible seeds). Sorghum is grown in favourable places, amounting to 10%–15% of overall cereal production. Cowpea, a valuable food as well as a very small-scale cash crop, amounts to 8%–12% of the total volume of crop production. Cultivation is almost all done by hand-tilling, and plough-oxen are rare.

Livestock assets

The main livestock consist of cattle, sheep and goats. Cattle, of course, are the high-value animals: poorer households own 5–8 smallstock per head of cattle, whereas wealthier households own 2 or 2.5 smallstock per head of cattle. Cows' milk is consumed fresh or soured at home, but some is converted into cheese – a less perishable product that can be sold in the weekly market and even sold on to more distant customers.

Butter is produced almost exclusively for home consumption, either for cooking, or on hair and skin. There is considerable gifting of milk: perhaps one-third of a wealthier household's milk will go to a poor neighbour, and milk is also sometimes given to poor Hausa households.

At least a couple of donkeys are essential for any household, even among the very poor, for drawing and carrying water from wells, as well as for field crops and other loads. Only better-off households own a camel, which is sometimes used for riding as well as for carrying.

As the information in the following sections shows, among Katsinawa agropastoralists the poor and very poor households are particularly vulnerable to increases in the price of staple foods (mainly millet).

Markets

Households sell very little of the grain they produce, so they are mostly dependent on selling livestock and livestock products. As all households need to buy substantial extra grain every year, the market for grain is equally vital, and the terms of trade of grain for livestock have the greatest influence upon household budgets.

Where do people buy and sell?

The overall direction of the principal livestock trade is southwards, to the regional capital Maradi, and then mainly on into Nigeria via the border market at Jibia, although some stock is traded locally for slaughter or raising (see Figure 28 on page 53 showing the key market networks). Within Dakoro district, animals are traded at the main weekly markets at Gandou and Sakabal (a particularly important livestock market, like Sabon Machi further south), and in towns on the main road south: Dakoro Town, Aje Koria and Kornaka. Some livestock are transported south by vehicle from Maradi, but many animals reach Maradi on the hoof: droving is an occupation for some village men. Some herders sell animals during the southward grazing migration.

What do they buy and sell?

The grain market serves not just local agropastoralists and farmers but the whole district, so that Dakoro market, for instance, provides a staging post for traders who take the grain on to meet the high demand from Bermo – a pastoralists' market. Some cereals and cowpea are sold out of the district to northern pastoralists, or southwards on to the wider regional market. Any groundnuts that are sold seem to be consumed locally.

Grain prices

Grain prices are heavily influenced by local production, even though the district must be a net importer in any year (even if it exports a little at harvest time). Grain comes in from the south of Maradi region, and even from Nigeria (which is

the source of yams and cassava flour). At the time of this survey (February 2008) there was a strong feeling among both villagers and traders that grain prices would soon increase well above 2007 prices, and perhaps beyond what most people could reasonably afford (500–550 CFA francs per measure, or *tia*, a bowl that holds some 2.5kg of millet). But even traders seemed to have only a vague knowledge of inflationary factors beyond at least Maradi region – eg, the northern Nigerian harvest shortage, or the wider international market pressure due to the wheat shortage.

Seasonal calendar

The seasonal calendar (Figure 29 on page 54) represents both the agricultural and animal husbandry activities that make up the agropastoral year. It is split into three main periods.

The hunger gap

June to September is a hard time of year, even though the rains bring some relief from the fierce heat of April and May. Poorer people are under food stress because any harvest stocks have run out, grain prices are peaking, and animals are in a relatively poor state, so fetch low prices (at this time they are still recovering from the lack of pasture during the dry season). August and September are also the peak months for malaria and other illnesses. But at least milk production begins to increase, as some animals will have stayed behind while others migrate north. June to September is when the poorer households typically have to borrow food or cash – and it is a peak time for grain purchase. The other peak time for purchase – at more favourable prices – is January, when some cereal and sugar, at least, has to be bought for the people taking animals on the southward, dry season grazing migration. Herders usually sell a few smallstock during this transhumance to buy supplies.

Harvest season

From October to January, the crops are harvested (from late September households consume some millet straight from the fields without waiting to stock it); the livestock are in relatively good

Figure 28: Main markets and trade routes used by Katsinawa agropastoralists in the villages studied



condition, and are back from migration, and there is peak milk consumption. People are able to get better prices for their animals, and poorer households can begin repaying the debts they had to take on as a coping strategy to get through the hunger gap.

Migration

From January to May, there are relatively few agricultural activities, leaving people free for community events and ceremonies such as weddings. But some (especially members of very poor households) now leave the village in search of temporary work in nearby towns, or in Nigeria;

some find work closer to home looking after livestock for wealthier households, including Hausa farmers. People also fill these months by making mats and ropes for their own use and for sale.

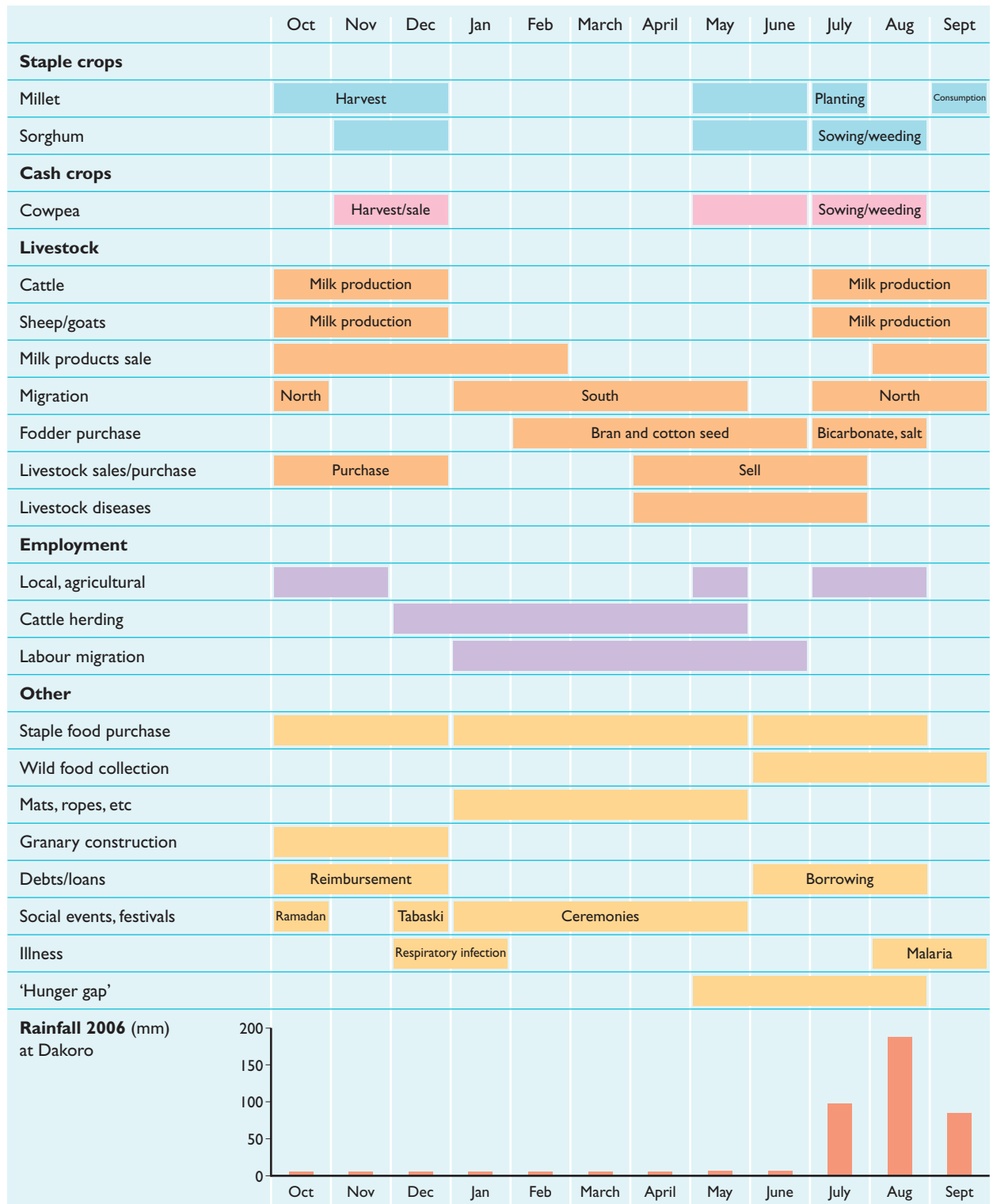
Transhumance

When the harvest is in, the livestock are allowed to feed on the remaining stalks, and this helps to maintain milk production. Households tend to purchase fodder for selected animals among their herd from February, until there is sufficient grass again. In January, part of the household migrates south (in a bad year, as far as Nigeria), with all but a few animals in search of pasture. This journey can

take up to a month; the herd rests for two to three months before heading back north to the home area. Migration has to be carefully managed during the rains because herders are taking their livestock through the agricultural zone in order to keep them

away from growing crops, and by the same token there is a growing risk of conflicts on the way between herders and the settled (mainly Hausa) farmers, especially when customary migration ‘corridors’ have been taken over by cultivation.

Figure 29: Seasonal calendar – Katsinawa agropastoralists livelihood zone



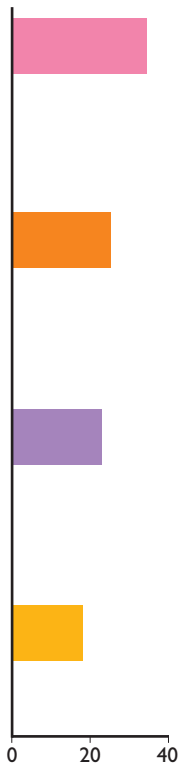
Wealth breakdown

The first thing to say is that both the livestock holdings and the land holdings per household are substantial, given the wealth status of each group: if we compare the very poor Katsinawa households with the same category among north Sahel Hausa farmers in Tessaoua district, for instance, we find that their land holdings are roughly similar, but the latter own no cattle at all, and fewer than five smallstock, including any they might have on loan. By comparison, the very poor Katsinawa have far greater assets in terms of livestock – and to own any cattle at all represents significant security.

Both these factors are reflected in the wealth ranking. But at the top end it is a little less marked: better-off Hausa households (with average size of 14–15) own some 14 cattle and 35 shoats, compared with better-off Katsinawa (10 household members on average), who own around 20 cattle and 40 shoats. The better-off Hausa come near to a true ‘agropastoral’ livelihood, except that they do not usually practice transhumance and, as mentioned above, often employ Fulani to take their livestock to far grazing pastures.

On average, among the Katsinawa, poorer households tend to have fewer members than

Table 6: Wealth ranking for Katsinawa agropastoralists in Dakoro district

Wealth group	Percentage of households	Number in household	Livestock owned (per 10 household members)	Additional livestock (<i>Habbanayé</i> * received)/ household	Land owned and cultivated (ha) per household
Very poor		6–8	1–2 cattle, 10–15 sheep/goats, 2–3 donkeys, 3–5 poultry	0–1 cow, 1 goat, 0–1 ewe	1.5–2.5 ha cultivated of 2–3 ha owned
Poor		6–9	4–5 cattle, 20–25 sheep/goats, 3–4 donkeys, 6–7 poultry	1–2 cows, 1 goat, 1 ewe	2–2.5 ha cultivated of 3–4 ha owned
Middle income		8–12	13–17 cattle, 35–40 sheep/goats, 4 donkeys, 0–1 camels, 10 poultry	0–1 cows, 1–2 ewes	3.5–4 ha cultivated of 4–5 ha owned
Better off		12–16	15–25 cattle, 40–45 sheep/goats, 3–4 donkeys, 1 camel, 10 poultry	0–1 cows, 0–1 ewes	6–7 ha cultivated of 8–9 ha owned

*‘*Habbanayé*’ is a traditional ‘solidarity’ system whereby better-off households lend animals to poorer households. Usually the recipient household borrows a young female and keeps it until it has produced at least one calf or kid or lamb, which the household then owns. *Habbanayé* loans can last up to three years; the returned animal may then be loaned to another household. This ‘solidarity’ between rich and poor is one of the main ways that poor people build up a flock or herd, or even remain in the pastoral system after losses incurred through drought. There is also some loan of animals between wealthier households.

wealthier households (although this is only a tendency: there are also some very poor households that are much larger). Taking this into consideration, there is still a marked distinction between wealthier and poorer households in terms of livestock holdings, but much less so in terms of land holdings and areas cultivated. On this basis, the Katsinawa are properly described as ‘agropastoralist’ in that they are equally dependent on both aspects of agropastoral life; but it seems that the poorer households’ livelihoods are more ‘agro’ than ‘pastoral’, whatever they may identify with in terms of their heritage or aspirations.

But again, it is not just land area cultivated that matters, but access to labour and the capacity to cultivate at critical times in the crop life cycle. The poorest households are usually paid to work on land owned by their better-off neighbours, at a time when they should be planting their own fields in order to maximise their own production. Instead, they often plant relatively late in the season, which has a negative effect on their harvest, compromising their food security.

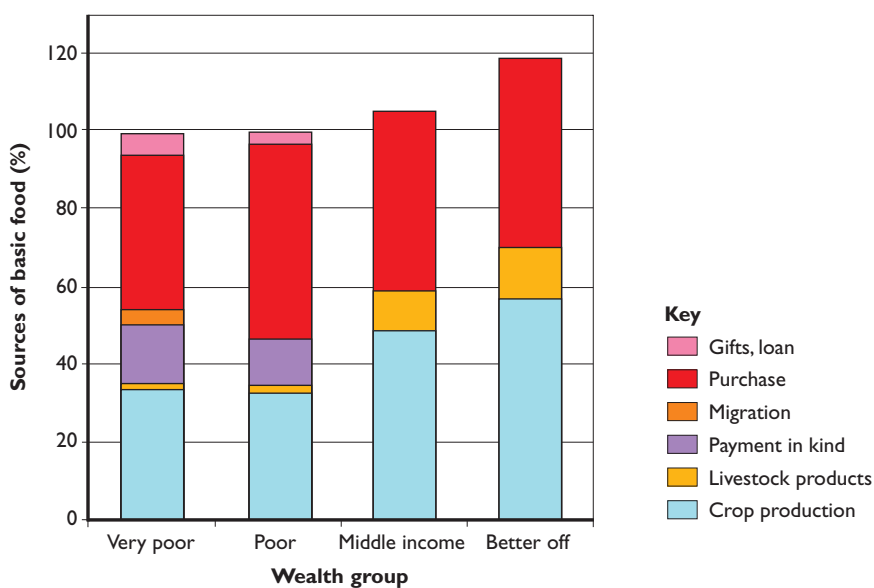
Sources of food

Own production

As noted in the previous section, wealthier households do not use much more land *per capita* than poorer households. This is reflected in the fact that the differential between them in terms of dependence on consuming their own staple crops is not considerable: poorer households produce 33% of their food needs (in calories), whereas wealthier households produce around 50% (among Hausa farmers the difference is far greater).

Given that wealthier households can afford to employ labour, it would not be surprising if their yields were somewhat greater. But in fact the difference is not substantial. In the reference year (a reasonably satisfactory crop year for some villages but a disappointing year for others – a typical situation in the Sahel), poorer households produced some 270kg per hectare (on average) for grain and cowpea together, whereas wealthier households produced around 315kg per hectare. The most important difference is the land area cultivated, and being able to maximise labour at key times.

Figure 30: Sources of basic food consumed by typical households



In the graph above, food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2,100 Kcals per person per day.

Figure 31: Production and use of cereals (millet, sorghum) and pulses (cowpea)

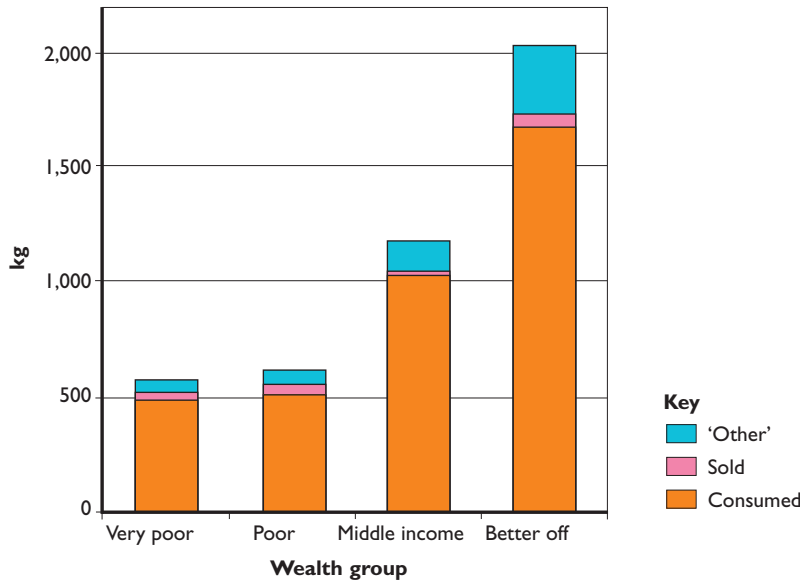
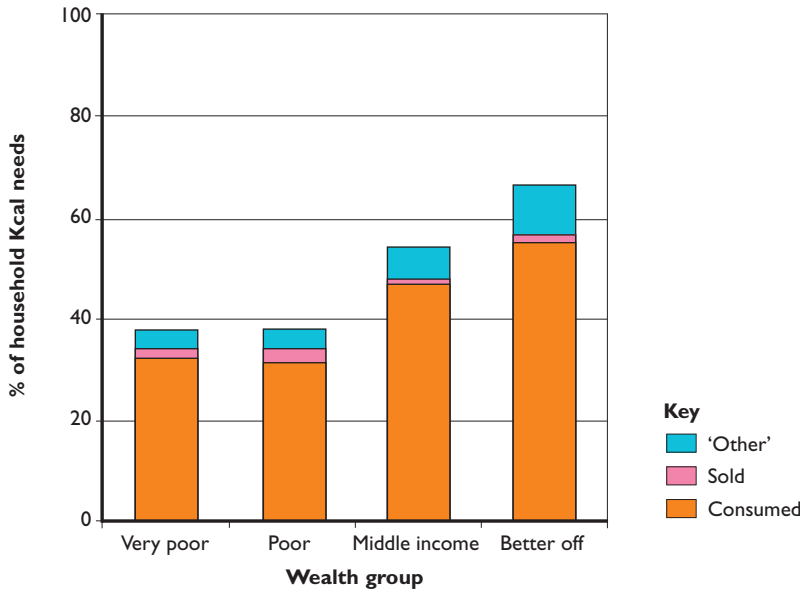


Figure 32: Production and use of cereals (millet, sorghum) and pulses (cowpea) as a percentage of household calorie needs



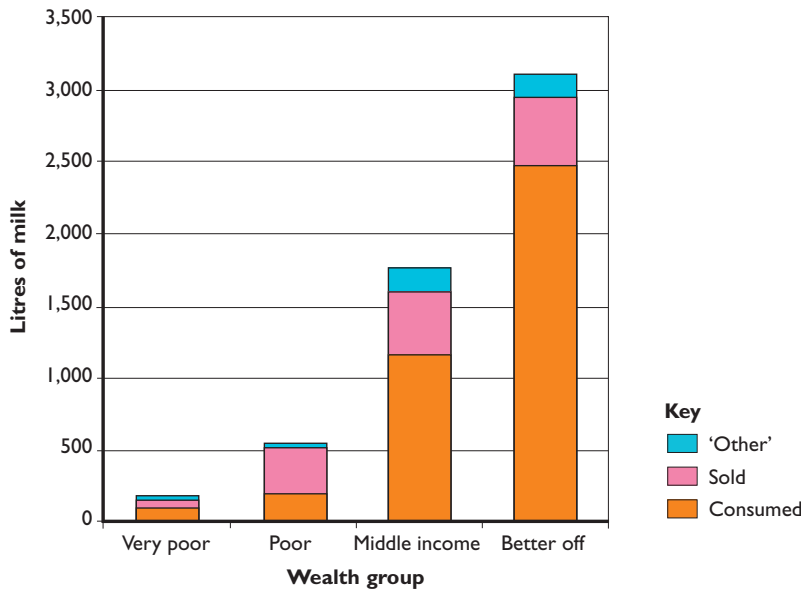
Markets

All wealth groups are firmly dependent on the market for 40%–50% of the calories they eat, and this comes overwhelmingly from purchase of millet. If the very poor actually buy less grain from the market than other households, this is because they get a good amount of grain directly as payment in

kind for their casual work, and also because they receive gifts of grain from wealthier kin or neighbours.

The payments-in-kind and the gifts also explain the apparent over-consumption of food by the better-off, and to a lesser extent the middle-income households: they are the main employers and

Figure 33: Production and use of milk



gift-donors, paying and giving grain as well as cash. But it is no doubt true that they not only drink substantially more milk than poorer households, but eat somewhat more calories overall.

Milk

A household’s level of milk consumption (by far the greatest component of ‘livestock products’) is almost a proxy for its wealth. Here, poorer households’ consumption, at some 2% of their overall calorie intake, is very modest, although it is sometimes supplemented by gifts of milk from wealthier neighbours.

When milk is more readily available, it tends to benefit babies and very young children in the household. Even small amounts can make a major impact on their nutritional status, notably at the time of weaning. On the other hand, for the middle-income and better-off households as a whole, milk provides them with between 10% and 14% of their total calories in the year, adding very greatly to the quality of their diet. This marks them as pastoralists, however *agropastoral* their livelihood seems to be: even better-off Hausa farmers in the Tessaoua district, for instance, do not get more than about 5% of their calories from milk.

Migration for work

Finally, one significant difference between the livelihoods of the Katsinawa agropastoralists and the Bororo pastoralists further north is that the Katsinawa do not generally migrate to find work. Apart from a few very poor households, it seems that local production, and local employment in agricultural production in particular, is sufficient to allow people not to have to go elsewhere to find work.

The seasonal journey away from home that the Katsinawa do undertake regularly is to take the livestock north and south for far grazing. This usually entails longer treks than are undertaken by the pure pastoralists to the north, which may further restrict the possibilities of migration to find work.

Sources of cash

Crops

It is notable that crop sales account for only a very small part of cash income, even in a satisfactory year, and even for better-off households. It seems that agropastoralists grow crops for consumption,

Figure 34: Percentage of cash income from various sources

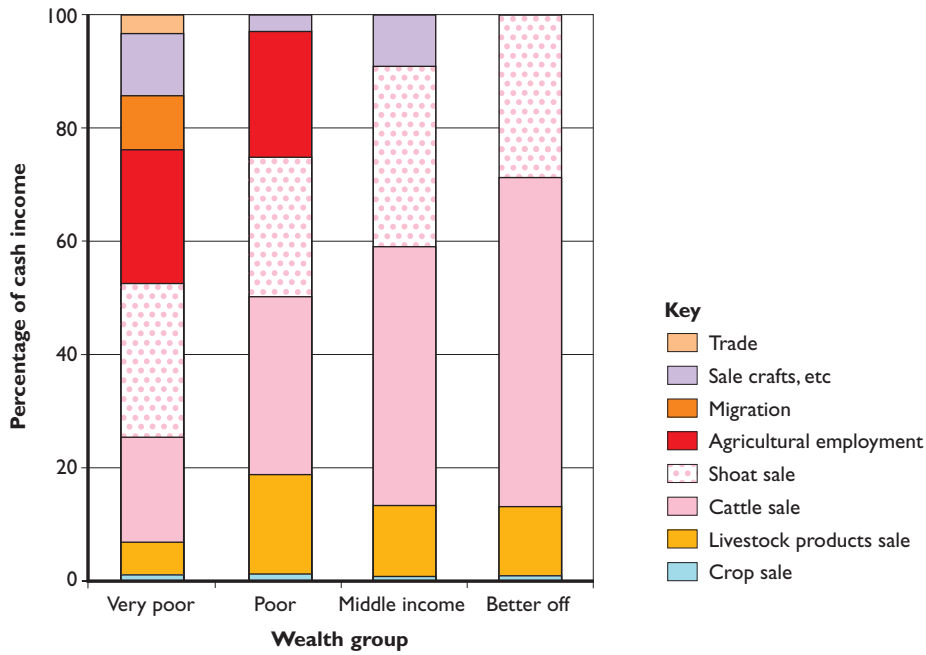
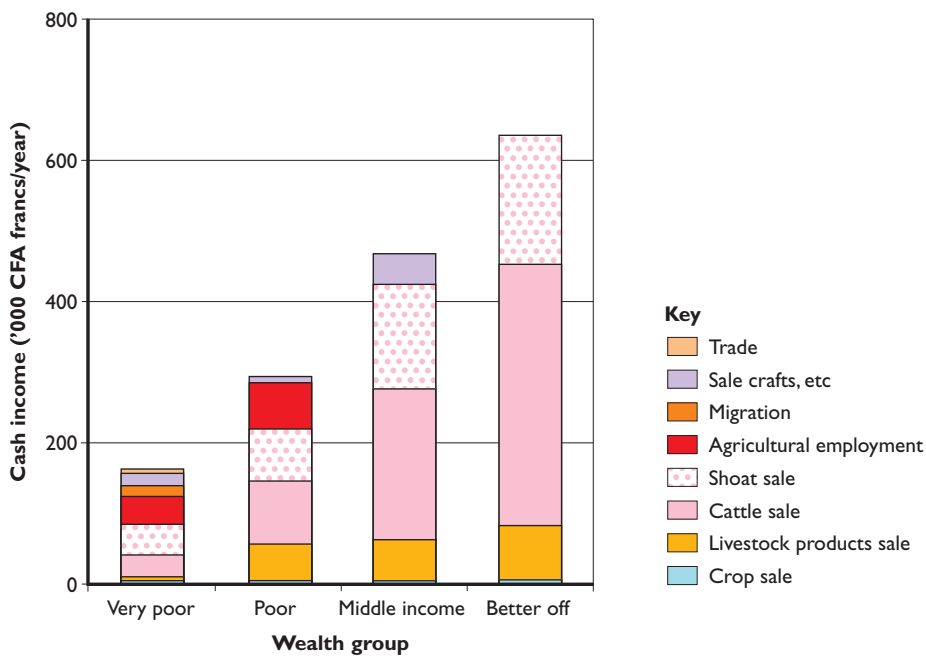


Figure 35: Sources and amounts of cash income for typical households



while by comparison even very poor Hausa farmers in Tessaoua district get some 35% of their cash from sale of crops (provided the rains are satisfactory).

Livestock

The difference between the wealth groups mainly lies in the role of livestock: the better-off and middle-income Katsinawa households make nearly all of their money from animal and dairy sales. Even the very poor get some 50% of their cash from animals, and the poor get nearly 75%.

By comparison, poor Hausa farmers in Tessaoua district, in the north Sahel, get only about 15% of their cash from livestock. In terms of production and its benefits, the Katsinawa have the right to identify themselves as pastoralists first, and farmers second.

But poor and very poor households in particular need far more than they can produce in order to survive. They make up much of the rest of their cash through working on fields owned by better-off households, and if we add the in-kind payments they receive, it is clear that employment forms the greater part of their livelihoods. Some poor households also make and sell handicrafts such as ropes and mats, while the very poor get just under 10% of their cash from work migration: employment, again.

If we take into account the larger size of middle and especially better-off households, the differential in cash incomes is not huge: per capita, the better-off earn around twice as much as the very poor. In this respect, too, the Katsinawa are pastoralists first and farmers second. As with the Bororo pastoralists, it is need rather than opportunity that generates income. They retain the latent 'opportunity' in their livestock, but they only realise their cash value when they need to, to pay for social and cultural events and celebrations (which are modest amounts, even for the better-off), and to survive bad years.

Expenditure patterns

Food

Reflecting their levels of crop production, there is a clear difference between wealth groups in the proportion spent on cereals and other foods. The poorest households spend more than half of their annual income on food (and this is not because they have more people to feed, as average household size tends to be smaller).

Very poor households spend a greater proportion of their income on food than poor households, but they actually buy slightly less of their annual calorie needs (40% compared with 50% for the poor). This apparent anomaly is due to the difference in absolute expenditure (and of course income) between the wealth groups.

On the basis of the average budgets here, the very poor spent just over 12,500 CFA francs per person on cereals and other foods over the year, compared with just under 17,000 CFA francs per person for poor households.

Household equipment

'Household equipment' consists of basic items, including paraffin for lamps, torch batteries, and utensils. The absolute amount spent on these increases with wealth, and this is also the case for salt, spices and stimulants (like green tea and kola nuts), and soap and cosmetics.

Water

Water is mainly bought for the herds. When the livestock are taken south for grazing, their route is determined by the location of water points. Where there is a longstanding social or family connection, the herders may have access to free water; but otherwise they have to pay around 1,000 CFA francs to water their herd as they pass through, or between 10,000 and 20,000 CFA francs (depending on the size of the herd) at a water point where they stay for longer. Clearly, the better-off and middle households incur more water costs because they have bigger herds. Poorer households tend to

Figure 36: Typical annual cash expenditure

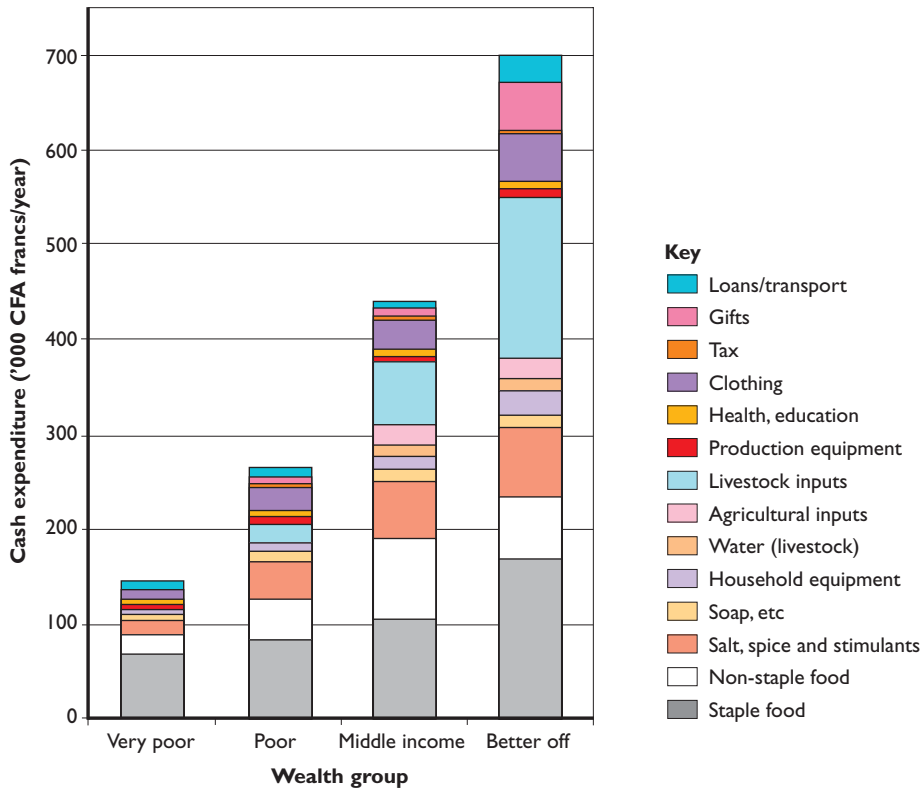
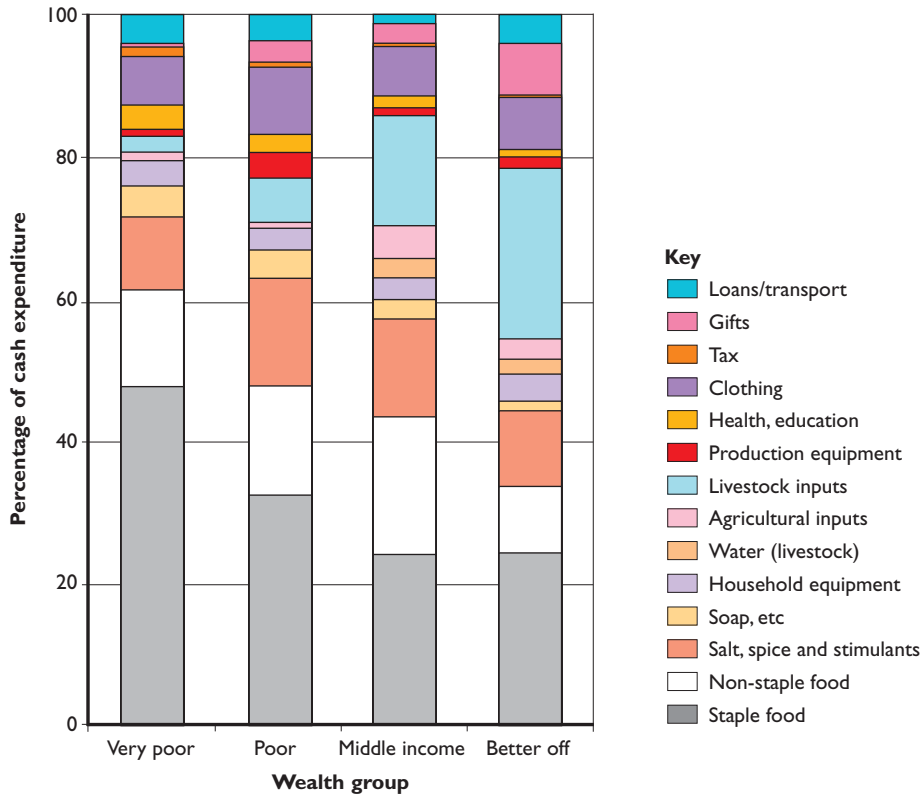


Figure 37: Percentage of cash expenditure on different items



combine their animals with other herds, and so are less likely to have to pay for water during migration. (The ponds in Nigeria are often free of charge.)

Livestock

Generally, villagers have access to free water from communal wells. Households have other livestock expenses, including fodder during the dry season for those livestock not on migration, salt/bicarbonate, vaccinations, treatments and tethering ropes. As expected, expenditure on care of animals increases with wealth, which is itself based on the number of animals owned. This represents one of the biggest expenses for better-off households – just as livestock account for most of their income. Annual costs of livestock inputs range from just over 3,000 CFA francs for very poor households, to more than 150,000 CFA francs for the better off, who often pay contracted herders to do this work. Wealthier households are also more likely to invest in extra fodder to fatten up some animals for later sale, rather than simply to maintain them over the dry season.

Agriculture

All households invest in agriculture, notably buying small quantities of seeds (particularly cowpea) and pesticides. There is a big difference in absolute expenditure for the middle-income and better-off households, compared with poor and very poor households, accounted for by the cost of employing people to work in the fields. Typically, employed labour comes from within the village, but at times of increased demand, extra workers come in from surrounding Hausa villages.

Health and education

Expenditure on ‘social services’ refers to healthcare and education, but in the villages we visited it was rare to find schools or children who were sent to schools elsewhere. Thus, the expenses shown in Figures 36 and 37 mostly relate to healthcare (including traditional healers).

Hazards

The biggest hazard facing Katsinawa agropastoralists in this region of the north Sahel is lack of rain. For cultivators, this can mean:

- late onset of what is already a very short season for crops, and/or staggered onset when germinated seeds dry up, and fields must be reseeded – sometimes twice
- poor spread of rain through the season, so that what looks on paper like a good rainfall total in fact masks damaging dry spells – sometimes for two or three weeks at critical times in the crop cycle
- rainfall ending early in September, which means that the grain fails to mature properly. Too much rain – leading to water-logging, or mould or sprouting on mature heads – is a minor hazard in comparison.

Lack of rainfall obviously affects the quality of grazing for the year, and late onset of the first rains can extend the hunger gap beyond its peak, prompting an unusual migration of herds southwards in search of better pastures. However, grazing pastures are less vulnerable than crops to the unreliable rainfall patterns of the north Sahel – which is, after all, why this area was mainly used by pastoralists until pressure on land in the south pushed cultivation to the current northern limits of viability. Nevertheless, so patchy is the rainfall in the Sahel between one locality and another that, in the same year, crops in the district may do well, while pastures to the north, upon which the Katsinawa agropastoralists partly depend, may be poor.

There is a more positive way to look at this, however, and one that partly explains why wealthy Fulani villages continue to invest in cultivation, even though their wealth in livestock dwarfs what they can earn from their fields. Splitting their livelihoods between cultivation and livestock actually means covering a large geographical space, to accommodate grazing migration. Livestock can provide cash income when crops fail; but crops

Table 7: Villagers' response to hazards, 2002–07

Year	Seasonal performance*	Event	Response
2006–07	2–4	Poor-to-middling rain, insufficient-to-good grazing, poor-to-good harvest	Sale of animals and labour
2005–06	3–4	Medium-to-good year	Sale of animals, Oxfam projects, solidarity
2004–05	1	Drought, lack of grazing, low price of animals, shortage of cereals, poor harvest, livestock deaths, locusts, expensive cereals	Household migration to the south Humanitarian assistance Purchase of cereals and fodder at high price Sale of labour
2003–04	2–5	Middle-to-good crop production, good pasture	
2002–03	3–5	Middle-to-good crop production 'similar to 2003–04'	Strategic management of harvest/sale of animals/food purchase

* 1 = very poor year; 2 = middling year; 3 = average year; 4 = good year; 5 = excellent year

offer at least a slightly lower annual food budget, as well as some degree of safety net in the rare event that pastures, rather than crops, fail.

The other main hazards facing farmers in this zone are crop pests and diseases, sandstorms, and soil degradation; and livestock diseases, insufficient fodder/pasture, and theft of animals.

People respond to these hazards in a number of ways, as seen in Table 7 above, which looks at seasonal performance as judged by the villagers themselves. Since rainfall performance differs from one locality to another, even within a limited area, the only real consensus about seasonal performance is for the crisis year of 2004–05.

Livelihood Profile 5

Bororo pastoralists

Dakoro district

Fieldwork for this profile was undertaken in February 2008. The information presented is for the reference year October 2006 to September 2007 – a generally good year by local standards. Provided there are no fundamental and rapid shifts in the economy, the information in this profile is expected to remain valid for approximately four years (ie, until 2013).

Introduction

Bororo pastoralists (or Wodabeare, a Fulani group) are found across the vast sahelian ecological band south of the Sahara, from Mauritania and Senegal, to western Sudan. In Dakoro district, they occupy the area to the north of the agricultural zone, and to the west of the Gadabeji forest reserve. The Dakoro pastoral area is not typical of the northern band of the Sahel, bordering the Sahara. In a flat to slightly undulating landscape, with mainly sandy soils and some fixed dunes, the vegetation is largely a mixture of grassland (sometimes extensive) and tree cover, with acacia and other species that tend to be taller than the trees and shrubs in the northern Sahel elsewhere. Dakoro district contains some of the most northerly-positioned sahelian ecology in Niger.

How do people earn their livelihood?

The Bororo practice transhumance, moving their livestock seasonally to different grazing pastures not far from their homes. The grazing in this area is also used at least seasonally by Touareg pastoralists from the north, and by Fulani agropastoralists from the south. The Bororo are essentially cattle

pastoralists, but own sheep and goats too. They build their houses using portable stick-and-matting, but some have set up fixed village areas where they have built mud-and-wattle houses. Their 'villages' or settlements are generally found near wells. They have been settled in this area for between 60 and 120 years.

Their distant origins of the Bororo are in northern Nigeria. The agropastoral Fulani also migrated here from the same area, pushed by territorial and population pressure, and the conflict between cultivation and pastoralism. This conflict was partly expressed through laws on pastoral settlement enforced by the Sokoto Emirate before and during the British colonial administration.

The Bororo in Dakoro district claim to have always been pastoralists, even if in the past they may have practised some cultivation. They say that in Niger, some of their ancestors were nomads who came into conflict with other groups and so became semi-sedentary, taking on the restricted movements of transhumance. Others were always transhumant pastoralists, but they fled their original areas more to the south (as far as Kornaka) because of conflict with encroaching cultivators.

Where do they graze their livestock?

In a reasonable rainfall year, the Bororo do not migrate far with their livestock, especially cattle. During the rainy season, they go north towards Agadez and Tahoua (no more than two to five days' trek) to use pastures there, keeping grazing areas nearer to home for later (see Figure 38 on page 65 for map of main markets). Watering is available free from some wells (but they have to pay at some

wells owned by Touareg pastoralists), and there are numerous seasonal ponds.

After the harvest period, animals are also trekked south (mostly smallstock but also some cattle), towards Sakabal. Here, they have to pay for watering their stock, at a cost of 10,000 CFA francs a month for a herd of 50 cattle. In a bad year, such as 2005, when northern pastures fail, there is a more concerted movement south immediately after the harvest period. Normally they would not go beyond Maradi, but in a catastrophic year, such as 1984, they would go into Nigeria if pastures are available there – a journey that takes about one month.

The Bororo people's livelihoods are centred around wells, and increasingly they are settling around them. Original wells, several decades old, remain in daily use, and communities with or without project help have invested in improving many of them with cement heads and partial lining. However, the system of water

extraction remains traditional (usually via a skin or special thick plastic sack on the end of a rope, pulled by donkeys, oxen or occasionally camels), which is a constraint for the development of their livelihoods, as well as adding substantially to their workload.

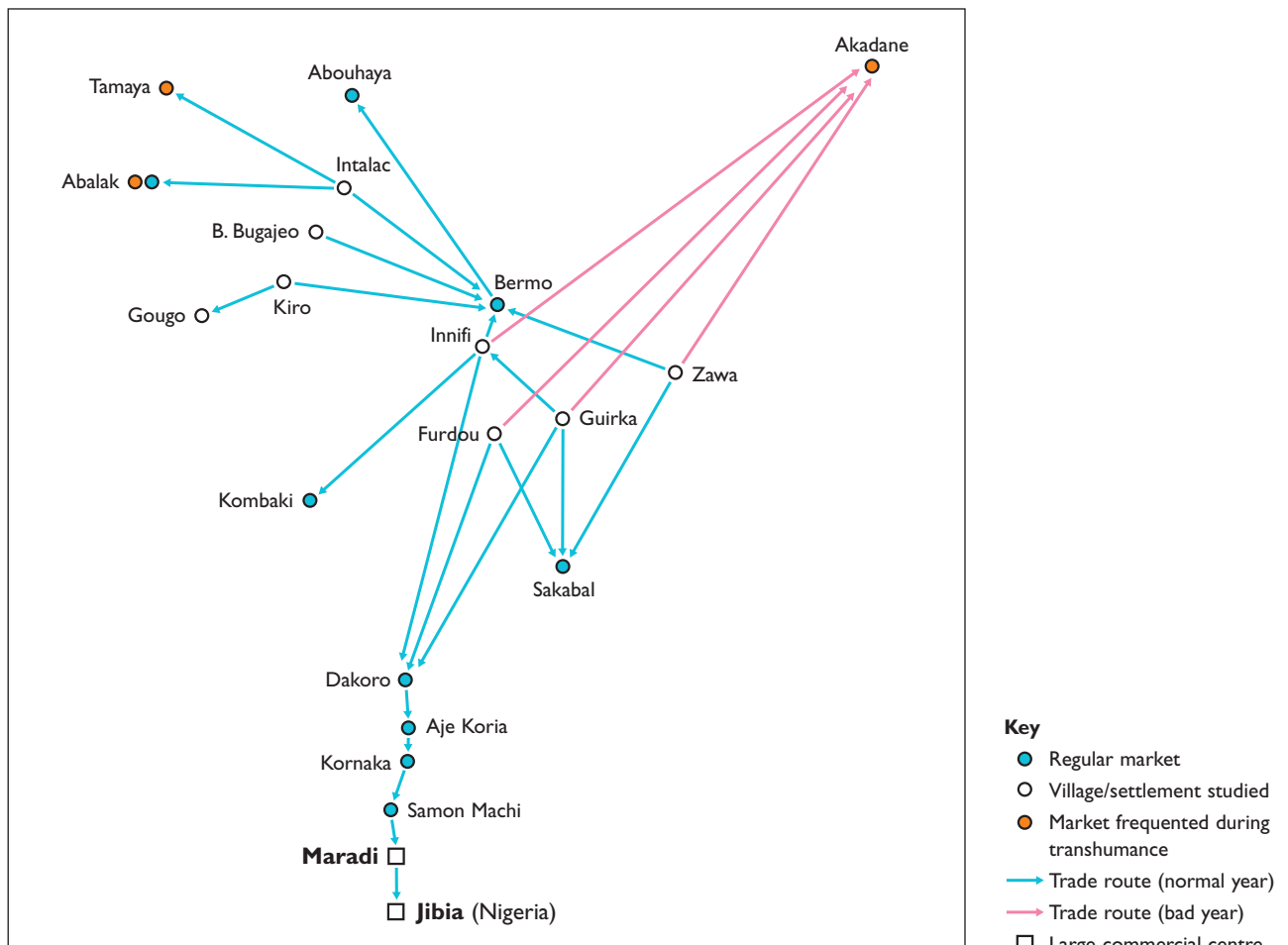
Markets

The Bororo live principally by two crucial market transactions: they need to sell livestock, and they need to buy grain. But these transactions do not always take place in the same market or season. Their market network ranges from occasional inter-village transactions, through the main local weekly markets to the big markets on the main road south.

Where do people buy and sell?

Bermo is the biggest local market (see map of main markets, Figure 38, below). Grain mainly comes in

Figure 38: Main markets used by Bororo households in the villages studied



via the southern main road, and Dakoro and Sakabal. But during migration periods, they sell animals and buy grain at more distant markets to the north (as far as Abalak on the main Tahoua–Agadez highway).

What do they buy and sell?

Millet is by far the most purchased grain, and the Bororo are particularly vulnerable to price rises for this staple. But sorghum and cowpea are also popular. Most livestock that are sold (cattle, smallstock and even donkeys) are destined for the meat trade in urban centres – some in Niger (notably Maradi, the nearest regional centre), but mainly in Nigeria. Jibia is the main border collection centre for onward sales in the cities of northern and southern Nigeria.

Locally, livestock are sold either for slaughter or to add to the herd or flock, at local markets or in the village. These transactions take place either among Bororo, or between Bororo and farming villagers. In the latter case, it is almost always Bororo selling to Hausa, since pastoral as well as agropastoral Fulani generally have more stock than Hausa households. Most market or individual sales are made from November to December, during the seasonal southward transhumance, and from May to July (see seasonal calendar, Figure 39, on page 67).

Cash, barter or both?

These days, livestock are mainly exchanged using cash, but grain is sometimes bartered when it is convenient for both parties. Sometimes a mixture of both is used: a sheep might be sold to a trader for, say, one sack of grain and 10,000 CFA francs. The Bororo also sometimes barter milk for grain, but they get cash from selling butter, which is less perishable than milk and can be sold in the weekly markets and beyond. Their northward transhumance in the rainy season offers fewer opportunities for buying and selling, since there are no cultivators wanting milk or animals.

While milk is the chief addition to the main cereal (millet), it is not normally sold, and then usually only

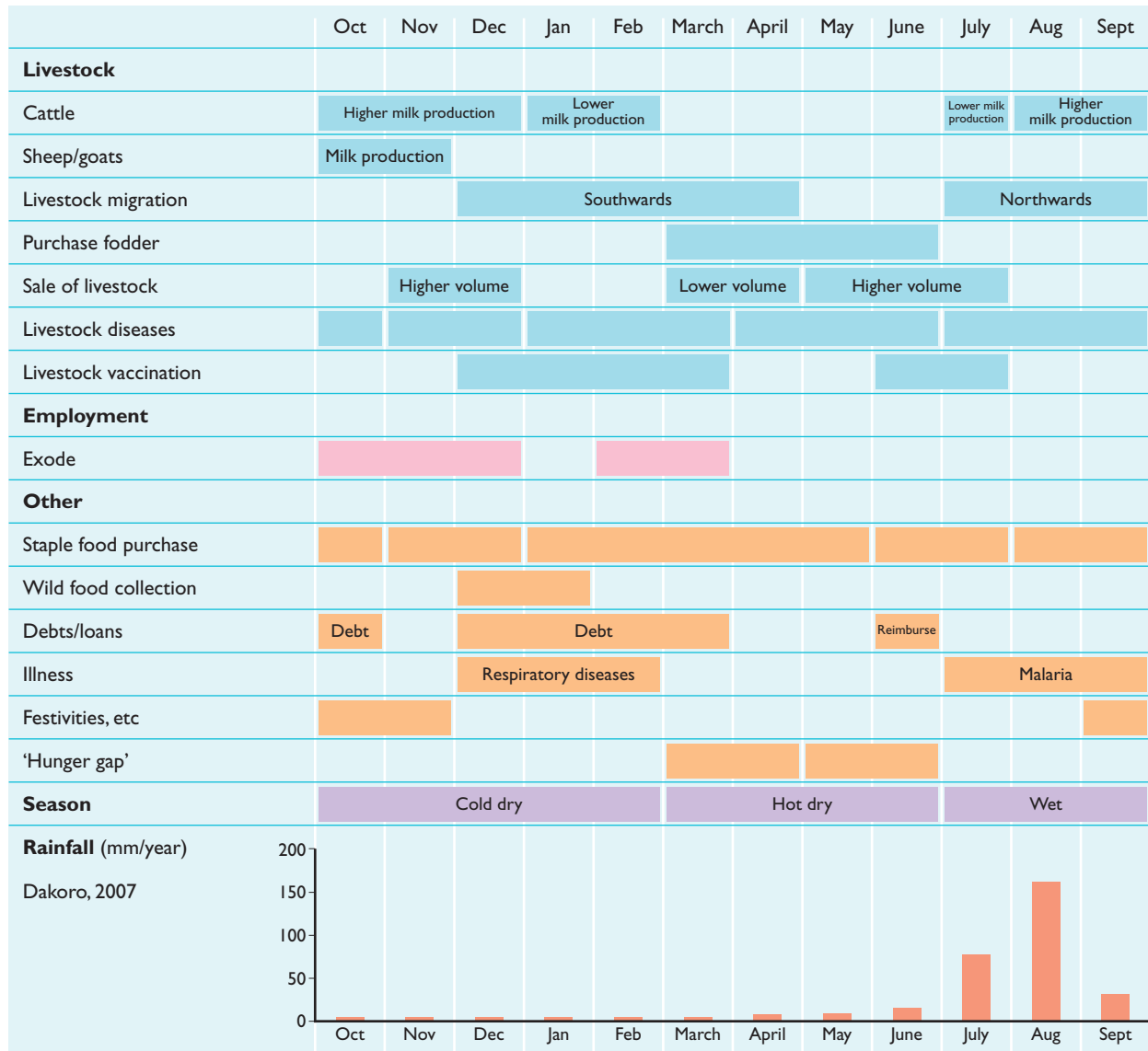
when the household has at least five milking cows, and there are nearby customers. In this case, roughly half of the milk is kept for consumption and half is sold as skimmed milk after butter production. Butter is made from this skimmed part, and sold for 1,000–1,250 CFA francs per litre. Most Bororo sell only a little butter – not more than a litre per week in season. The money from this and any milk sold tends to be spent on sugar and condiments. Butter is cheapest in the mid to late rainy season, and most expensive in the dry season. As well as being used for food, women and men use it for their hair and skin.

Most transactions are made at weekly markets, where herders typically sell just enough smallstock to buy grain and other supplies to see them through the migration. Most transactions involving livestock are done through an intermediary, who acts as guarantor between a seller and a trader who do not know each other. The seller will offer the intermediary a little food and tea and some 500–1,000 CFA francs. When people sell at markets further away – to get a better price for livestock and maybe to get cheaper grain – they entrust their animals to community delegates who are already going to the market for their own business. They are usually paid a nominal fee of 1,000–2,000 CFA francs (non-obligatory). In these cases, the chain is: herder → community delegate → intermediary → purchaser.

What are the peak marketing periods?

Animals are sold in smaller or larger volume all year round, but there are two peaks. One is at or just after harvest time, among the cultivators to the south. Herders who can afford it try to get in a substantial stock of grain at the lowest price of the year, perhaps selling a post milk-stage cow of 6–8 years or a bull of 3–5 years for slaughter. At that time, the animals are in good condition from the new grazing, and fetch relatively high prices. Grain tends to be stored in the fixed mud-and-wattle houses owned by wealthier people, or may be stored by arrangement with traders at market centres. Poorer people often sell one or two

Figure 39: Seasonal calendar – Bororo pastoralists livelihood zone



smallstock at this time if they can, rather than getting credit to buy grain.

Another peak time for sales is May/June, just before the main rains, when supplies are needed for the northward grazing migration, and indeed for the family home as the last stocks run out. This is the worst time of year for terms of trade: animals are in poor condition and grain prices are relatively high. Sales tend to be piecemeal and of smallstock, just to eke out the season with grain purchases every three weeks or so until cash from migrant workers is available or, if not, until the harvest period comes

round again. Herders prefer to sell male animals, notably goats from about seven months of age, or old females beyond bearing age. It is a sign of a bad year if reproductive females of any type appear on the market.

Coping with the seasons

The pastoral year is divided into three main seasons: the cold dry season is the easiest, as the benefits of the previous rains (availability of milk and cheaper grain) are felt. In the hot dry season, it gets harder to make ends meet, as grain prices rise

and milk production tails off. The ‘hunger gap’ for poorer households continues into the rainy season, when cereal prices are at their highest, but livestock begin to recover thanks to the reappearance of grassland, and milk production increases.

Most households find May and June difficult months. When grazing land is scarce, households that can afford it need to purchase fodder for their animals to maintain milk production and to keep their livestock healthy. The hunger gap in the pastoral zone is usually over before the equivalent period starts in the agropastoral zone, due to the differences in their economies.

In the cold dry season, two activities cause hardship to a greater or lesser extent. Households have to split up as some members take livestock south for the longer of the annual far-grazing migrations (usually within two or three days’ trek from the village), to benefit from fields open for grazing on the stubble (and for manuring by the grazing herds) after the harvest has been stored. This is also when women (especially from poorer households) leave their families to find work in other countries, often reportedly selling herbal medicines (something the Bororo are considered as specialists in) or doing domestic work, or working in other people’s fields. Some men migrate too, but in far fewer numbers. As well as selling traditional cures, they also do some livestock droving or even craftwork.

Women migrate to find work

Depending on their local contacts, some women go south into Nigeria, while others reportedly travel as far as Togo, Ghana and Senegal – the latter some 4,500km away by road and rail. They have to leave their young children behind in the care of other household members. Where there are several adult women in a household, they might share the trip, and may do only one trip each in a year. They usually return home after two or three months, bringing much-needed money and goods to sell, such as soap and clothing. But after a month or so many head off again for a second trip. Before travelling, they (or sometimes their husband on their behalf) often have to borrow money to pay for transport. They have to

repay the money on their return, at a time when livestock sales are at a peak.

Key informants talked about this migration as a difficult but necessary activity; many said they would prefer not to go because it is difficult to be away from their children, especially very young ones, but they “do not have enough cattle” to meet their household needs otherwise.

The condition of livestock

It was reported that there were no excessive losses due to livestock diseases during the reference year (October 2006 to September 2007). Diseases (particularly respiratory diseases) are most prevalent from November to December, and from April to May, when the livestock are generally not well fed.

Wealth breakdown

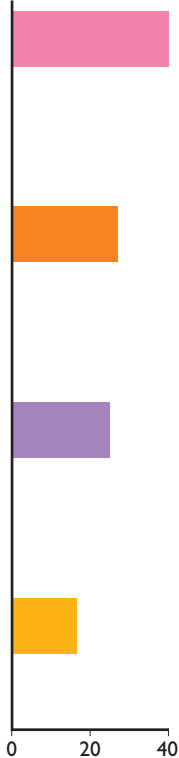
Household composition and gender relations

The domestic unit of analysis for the present survey was based on a man and his wife or wives and children, since this is the basic unit of asset-holding, economic operation and consumption. One or two unmarried kin or elderly people may also be attached to such a household; but among the very poor especially, there may also be a married son and his family who do not have enough livestock (at least a couple of cattle and a handful of smallstock) to set up a separate home. Women as well as men own some livestock; it is the husband’s responsibility to ensure household survival based on his stock. But when necessary – for instance, in a bad year, or to provide for a ceremony – the woman’s stock may be sold or slaughtered if she gives her consent.

Wealth ranking

The categorisation of wealth in terms of types and numbers of animals owned, and the proportion of households in each of the four wealth categories, was made according to villagers’ own judgement. This is an economic statement rather than a statement of social status, which depends on other factors including kinship and clanship position.

Table 8 : Wealth ranking for Bororo pastoralists in Dakoro district

Wealth group	Percentage of households	Number in household	Livestock owned (per 10 household members)	Own livestock lent (<i>habbanayé</i>) to others	Additional livestock (<i>habbanayé</i> received) per household
Very poor		7–9 or 18–21	3–4 cattle, 10–11 sheep/goats, 2–3 donkeys	–	1 cow, 2 goats, 1 ewe
Poor		9–16	5–6 cattle, 14–15 sheep/goats, 2–3 donkeys	–	1 cow, 2 goats, 1 ewe
Middle income		12–18	16 cattle, 0–1 traction bull, 43–45 sheep/goats, 3–4 donkeys, 0–1 horse	2 cows, 6 female sheep/goats	2–3 cows, 3 goats, 2 ewes
Better off		12–22	30+ cattle, 1 traction bull, 60–70 sheep/goats, 1 camel, 0–1 horse	4 cows, 8 female sheep/goats	3 cows, 3 goats, 2 ewes

* *Habbanayé* is a traditional ‘solidarity’ system whereby better-off households lend animals to poorer households. Usually the recipient household borrows a young female and keeps it until it has produced at least one calf or kid or lamb, which the household then owns. *Habbanayé* loans can last up to three years; the returned animal may then be loaned to another household.

This ‘solidarity’ between rich and poor is one of the main ways that poor people build up a flock or herd, or even remain in the pastoral system after losses incurred through drought. But this loan system also entails ‘solidarity’ between households that are not poor, so that a household may be lending and borrowing stock at the same time. The reasons for such arrangements between relatively well-off households are not clear, but presumably include mutual advantage, whether in terms of husbandry or reciprocity and social relations, and strengthening of genetic stock. Another common form of loan, *‘dilayé,’* involves the loan of a milking animal for a period; in this case, the borrower does not own any young produced.

Households were defined as the basic economic unit in terms of assets, production, earnings and consumption. The wealth ranking resulting from discussion and ‘proportional piling’ exercises estimated that some 35–40% of households were very poor, 20–30% were poor, 20–25% were middle income and 10–20% were better off.

Size of households

It is noticeable that even discounting extremes, there is a wide range of household sizes in each wealth group. Furthermore, the size of household does not tend to increase with wealth status, which is the usual trend in agricultural communities. Larger

households are usually polygamous, but many poor men and even some very poor men have more than one wife.

One complicating factor in categorising household size is the life cycle of households: a younger household head with his wife or wives (separate female-headed households are rare) may be poorer than an older household head simply because he has very young children and/or has not had much time to build up a sizeable herd of livestock (this usually builds up over time, barring catastrophe). Generally speaking, households ranked in one wealth category tended to stay in that category, even if losses caused by a bad year temporarily knocked them down to a lower category in terms of number of livestock. But the very poor group showed a special pattern (see Table 8) in that they either had relatively small households or relatively large ones, with few in-between. This is explained by the fact that quite a few households included sons who were married.

Given the range of household size, assets are shown in terms of a notional household of 10 people, so it is easier to see the pattern of assets. These are typical ranges of animal holdings: a few, untypical better-off households own twice as many animals as shown; and a few, untypical very poor households own no more than two or three smallstock and have a few animals on loan. Although there is a clear gradation in assets from the very poor to the better-off, there is a clear demarcation: the very poor and poor together are distinctly worse off than the middle and better-off together. It should be emphasised, however, that these figures refer to animal holdings in 2006–07. This was only the second year after the crisis of 2004–05, when a great number of livestock were lost or sold in response to unprecedented grain prices.

In the following sections we see how each wealth group makes a living, regardless of the size of their herd.

Sources of food

Figures 40 and 41 show where the Bororo get their food from. 'Gift/loan' means food given in kind – ie, grain or milk handed over directly. The 'school canteen' element reflects the contribution free school meals make to the household's overall food requirement. 'Purchases' are mainly of grain, but also other foods available from the market.

The 'migration' element refers to meals eaten away from home during migration. 'Payment in kind' is grain, and relates to the work done by Bororo men who go south to stay with Fulani agropastoralists and work on their fields, sometimes alongside local Hausa casual labour. Finally, 'livestock products' are almost always milk, since butter is not eaten in any great quantity, and what meat is consumed contributes very few calories overall.

Grain and livestock

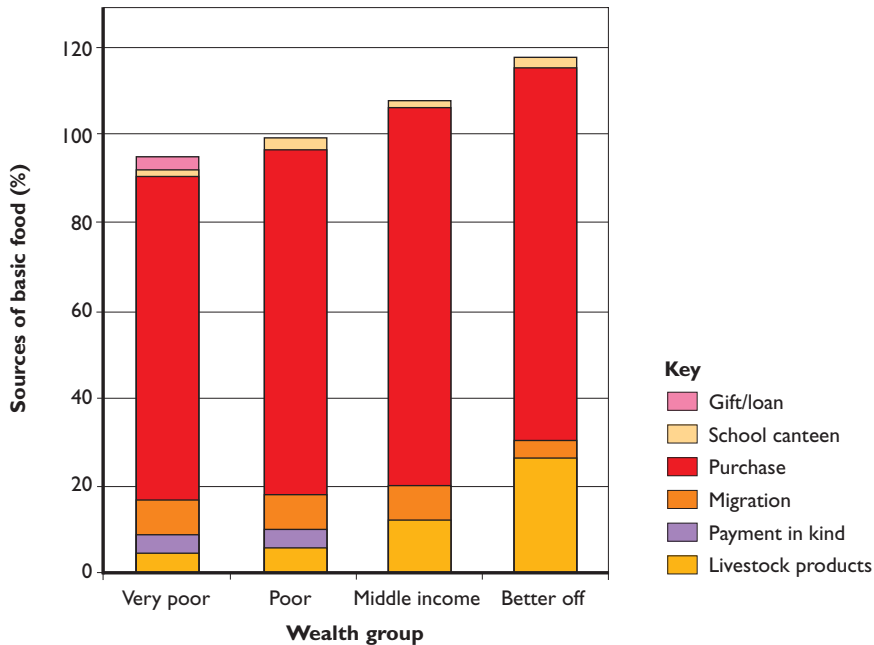
The Bororo are not at all unusual among pastoralists in Africa in that they live mostly on purchased grain. This is something they have done for generations, although in the past, with fewer people and more cattle per capita, they would have consumed more milk. But as the population has grown, the 'food value' of livestock has shifted further away from milk, towards greater value in their exchange for grain.

Therefore, in any year, what it costs them to buy grain, and how much they can sell their livestock for, is the most crucial livelihood calculation for most Bororo.

Milk

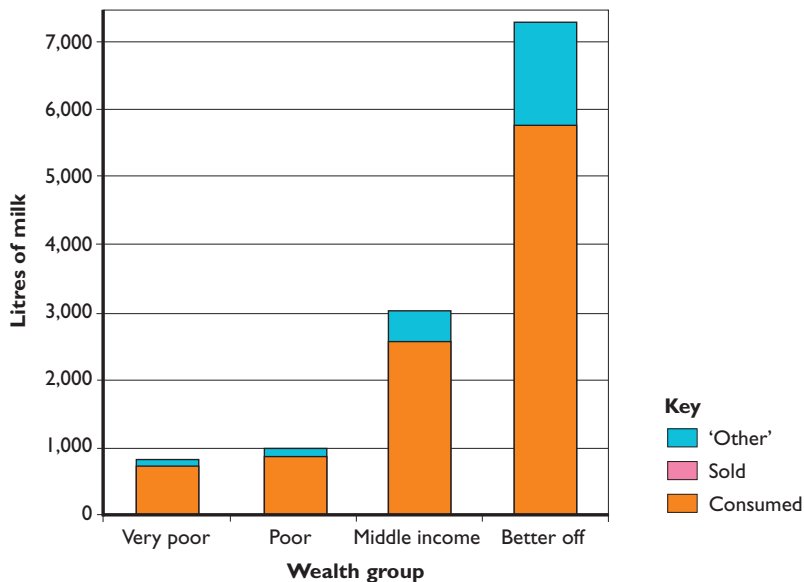
Nevertheless, milk is an important part of the diet, and its great taste and its contribution to the quality of diet – one might say to the quality of life – remains part of the point of being a pastoralist. Not surprisingly, wealthier households with more cattle drink more milk (for some it accounts for one-quarter of their overall calorie intake). But all wealth groups drink substantially more milk than their kin who are agropastoralists and agriculturalists – even a very poor Bororo

Figure 40: Sources of basic food consumed by typical households



In this graph, food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2,100 Kcals per person per day.

Figure 41: Production and use of milk, Dakoro Bororo pastoral zone, 2006–07



household drinks about as much milk per capita as a wealthy Hausa farming household.

Figure 41 shows that the Bororo in northern Dakoro, at least, do not sell milk. Part of the 'other' use refers to barter for grain, but mostly milk is used for butter and cheese-making. Sometimes,

wealthier households give milk to poorer households as a gift, especially at times when there is too much fresh milk for them to consume (this is often the case after the rains in October/November, before the southward transhumance, when cattle have been feeding well off the renewed pastures).

Sources of cash

The most obvious pattern here is the importance of the sale of livestock and livestock products in the income of better-off and middle households. Among the poor and very poor, migration earnings are the major source of income.

Nevertheless, livestock sales are important for the poorer groups, amounting to 35% and 50% respectively of total income for the very poor and poor. In other words, although they don't own sufficient livestock to be pastoralists, they are locked into the pastoral system. Indeed, if that were not the case it is unlikely that most of them would be there: the roughly 40% of households who are middle and better-off could not fundamentally support the 37% who are very poor, not to mention additional numbers from the 25% of poor – that is, beyond the animals they lend them under *habbanayé* and the cash loans they make to them.

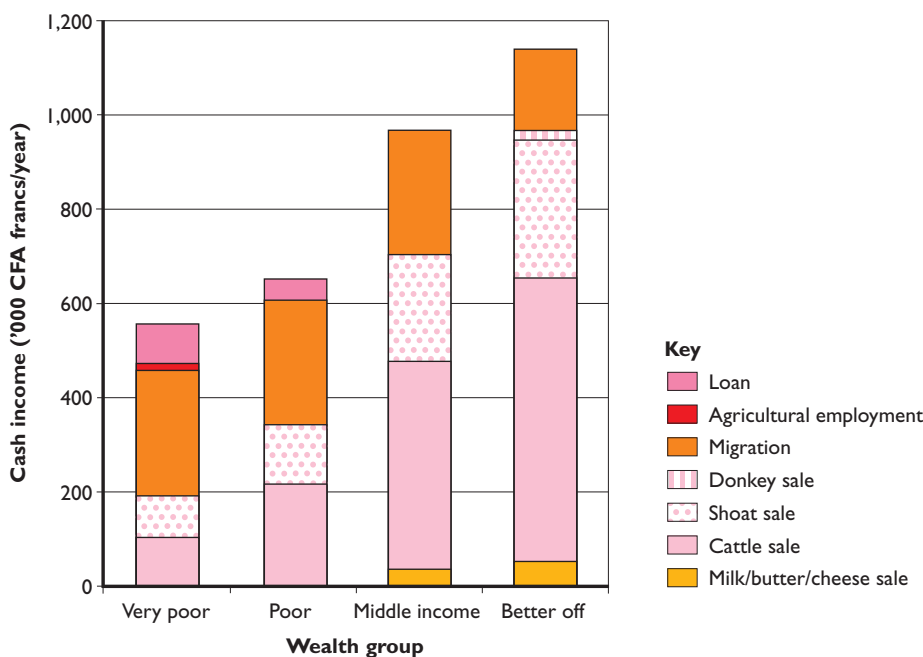
By the same token, however, it seems that for poorer households to profit from the pastoral system, they must get between a half and two-thirds of their earned income from elsewhere (including the cash to repay the loans from year to year).

And in the case of this group of Bororo, apart from a little paid work done by the very poor on the fields of agropastoralists to the south, 'elsewhere' can mean a long way away: many travel as far as the Senegalese capital, Dakar, 4,500km away (see the seasonal calendar, Figure 39, on page 67).

The cash income of better-off households is typically about double that of very poor households, while in between, the middle earn about 50% more than the poor. This is on a household basis. If we adjust for comparative household sizes, the differentials are reduced: on a per capita basis the better-off earn two-thirds more than the very poor, and the middle earn about 30% more than the poor.

In terms of livestock, while the better off own ten times more livestock per capita than the very poor, and middle-income households own three times more than the poor, the income differentials are perhaps surprisingly low. However, it seems that for the Bororo pastoralists, especially the wealthier households, cash income is generated only on the basis of need: people tend to retain their capital and savings as security, only selling or slaughtering the number of animals necessary for food and other material or social obligations. In a bad year,

Figure 42: Sources and amounts of cash income for typical households



when grain prices are high, they are likely to have to sell more animals; in a good year, they sell fewer. Thus, a pastoralist household's comparative wealth is not properly reflected in what it earns or spends. A farmer is much more likely to maximise cash income from assets, especially crops harvested and the sale of any surplus grain, as well as cash crops.

Although farmers do also keep capital/savings 'on the hoof', better-off Hausa farmers also tend to invest in trading. Better-off Bororo tend not to (except in the sense that some individuals make a profit from mediating livestock sales or collecting livestock from others to sell to traders). This is one penalty for being far from the major commercial activity of the south, much of it connected with the Nigerian market.

Expenditure patterns

Perhaps like the cash income totals, the expenditure patterns are not as different as one might expect, given the disparities in absolute wealth as measured by livestock holdings (see Figures 44 and 45 on page 74).

Food

Is this illusory? Clearly, the better-off, with far more of their calories coming from milk than is the case with the poorer groups, spend proportionately less on cereals. They actually spend more in absolute terms, partly because they have larger households (16 is typical for the better off, 13 for the very poor).

The difference would be more noticeable if we took account of the relative importance of migrant workers' meals 'saved'. But if we add together the three main items of expenditure on food – cereals, other foods (such as beans), and salt, spices and stimulants – it is striking that for all groups, they amount to between 55% and 65% of expenditure. On the other hand, in absolute terms, the better-off spend twice what the very poor spend, and evidently eat more food, and a better diet. Yet this picture hints at people living the same fundamental lifestyle: wealth in livestock is not generally converted into big houses or other basic assets.

Non-food expenditure

The most acute differences are seen among other items of expenditure, and not surprisingly there

Figure 43: Percentage of cash income from various sources

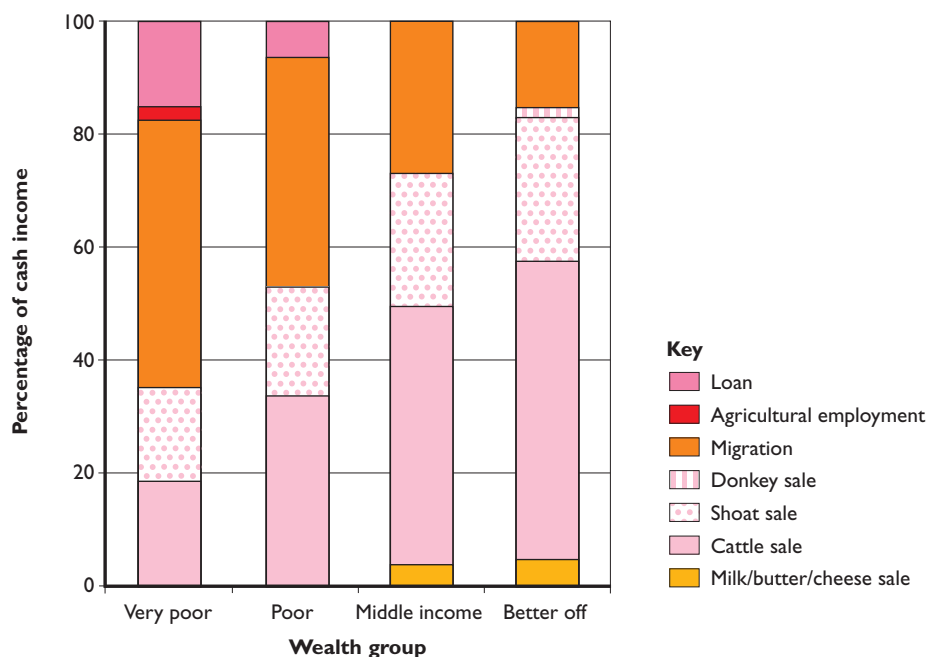


Figure 44: Typical annual cash expenditure

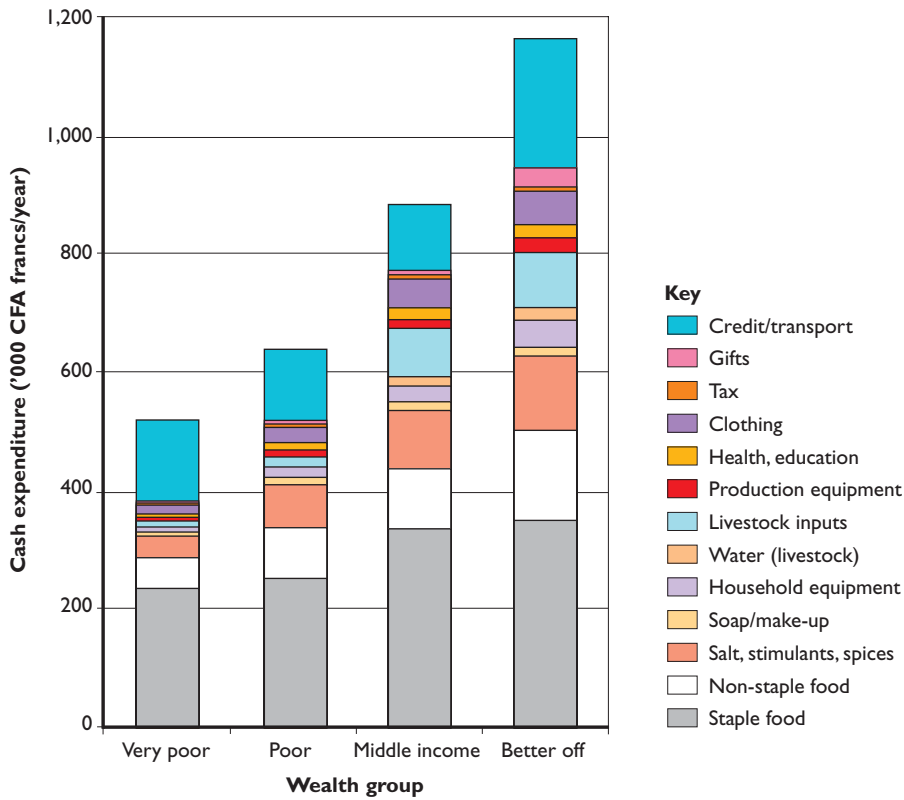
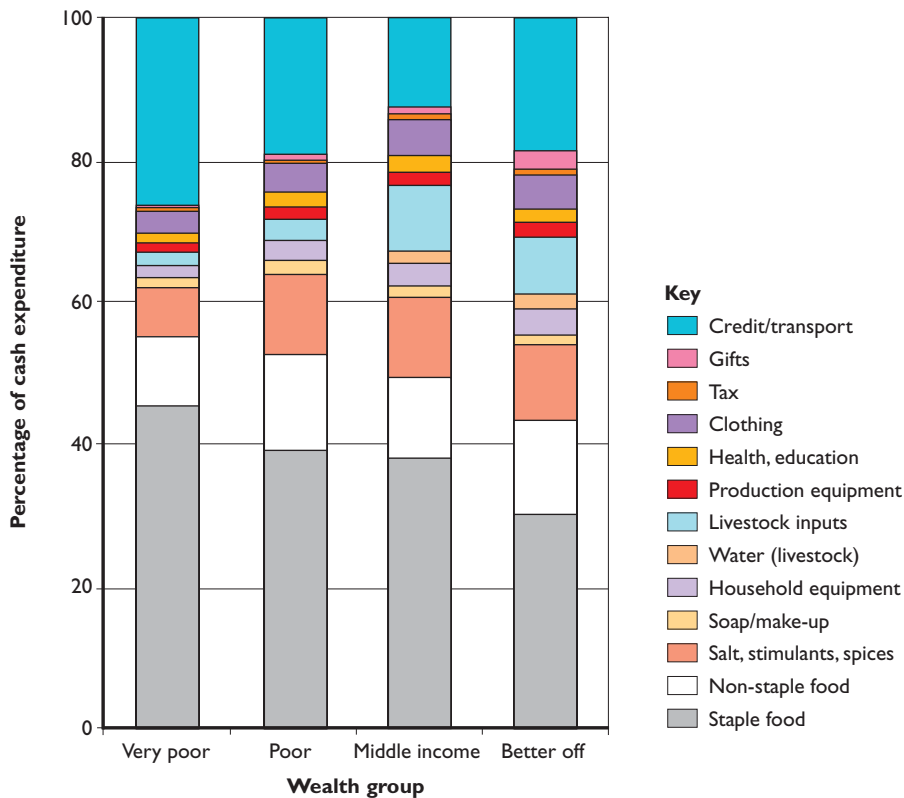


Figure 45: Percentage of cash expenditure on different items



is a great difference in expenditure on livestock inputs. These include fodder, veterinary drugs, etc, and water costs too, as these are principally for livestock.

The middle and better-off households spend far more on clothes than the other groups (every group has migrant workers who can bring back cheaper clothes from Dakar, Nigeria or elsewhere).

The transport picture is complex, because a large part of it consists of the outlay for migrant workers' journeys and the associated credit and repayments.

Education and health

Finally, households in the better-off and middle groups spend two to three times more on education and health than the poor and very poor. Part of the difference in education expenditure is the capacity to meet the cost of sending a child to board at a district town in order to attend secondary school. On the other hand, the primary school canteen system at village level, introduced by NGOs and taken over by the Education Ministry, encourages poorer people to send their children to school, as well as contributing to the overall household food requirement, as seen in Figure 40 on page 71.

Hazards

The main hazards facing the Bororo pastoralists are:

- **lack of rainfall**, which limits grazing pastures (near or far) for the dry season. Bad years occur every three years or so; severe drought is a much rarer occurrence
- **animal diseases**, which are a perennial problem. But some years see epidemics, leading to greater livestock losses and lower than usual milk production
- **market events**, especially grain price hikes, and a glut of animals on the market, which lowers the price
- **animal thefts**, which occur quite often. These are one reason why the Bororo do not keep camels – high-value animals that are normally left unattended and thus are particularly prone to theft
- **bush fires**, which can threaten human as well as animal lives, and destroy grasses and grazing
- **influx of herds** from other regions, especially when conditions elsewhere are comparatively unfavourable.

People respond to these hazards in a number of ways, as seen in Table 9 (on page 76), which looks at seasonal performance over the last five years (as judged by villagers). As is common in the sahelian ecology, rainfall – and therefore pasture performance – is quite localised, so that the only absolute agreement on the quality of a year among the different villages was the crisis year of 2004–05.

Table 9: Villagers' response to hazards, 2002–07

Year	Seasonal performance*	Event	Response
2006–07	3–5	Good grazing (except in one location plus overgrazing by transhumant herders in another)	Purchased animal fodder, bran. Migrated towards the north (for one location), migration (apparently worthwhile for some)
2005–06	3–5	Good rainfall, abundant grazing	Food aid and livestock re-stocking (Oxfam)
2004–05	1	Drought, lack of pasture, livestock deaths, de-stocking due to high cereal prices	Migration, purchase of food and animal fodder, sale of livestock, external aid (Oxfam)
2003–04	Differed by location 2–3 4–5	Good-to-middling pasture but grazing in the north was bad, so herds from Agadez and Tahoua came further south, competing with local herds. Basic foods expensive, flooding in one location that caused loss of grazing and livestock	Sale of livestock to purchase food, migration
2002–03	1–5	Very variable – differed from one location to another	Variable, as above

* 1 = very poor year; 2 = middling year; 3 = average year; 4 = good year; 5 = excellent year

PART 3

Conclusions and key findings

Inequality of income and wealth

Wealthy groups get wealthier while resources shrink

In the agricultural areas of Tessaoua and Dosso districts, where land is getting increasingly scarce due to population pressure, the survey data show a striking degree of disparity in rural wealth. Figure 46 below shows the sources and amounts of household cash income for households in the south-central livelihood zone of Tessaoua district.

There are nearly always significant differences in income in rural communities, particularly accentuated in major cash-cropping areas, and among pastoralist groups. But the seven-to-tenfold difference in income between almost half of the population and the rest is unusual. The north settled livelihood zone shows almost equal income disparities.

Tables 10 and 11 on page 78 show the division of assets in both zones of Tessaoua district.

Figure 46: Sources and amounts of household cash income, Tessaoua district (south-central zone)

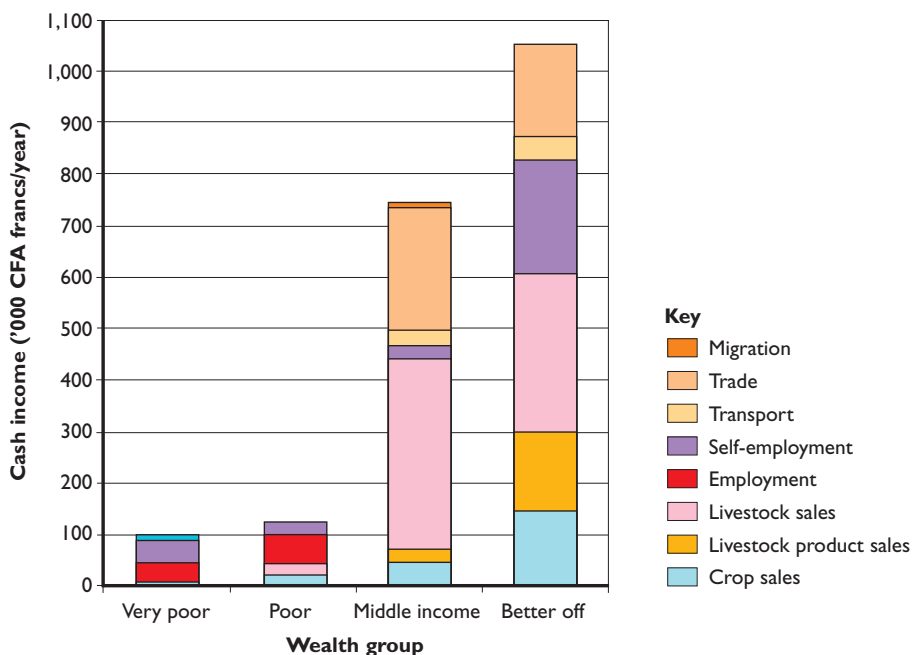


Table 10: Proportion of overall community assets in land and livestock owned by the total of households in different wealth groups, south-central livelihood zone

Wealth group	% total households	% total population	% land owned	% land cultivated	% cattle		% shoats	
					Owned	Loaned	Owned	Kiyo
Very poor	36	29	8	11	–	–	–	3
Poor	28	22	19	16	–	5	8	4
Middle income	21	24	34	32	28	–	33	–
Better off	15	25	38	40	66	–	53	–

Table 11: Proportion of overall community assets in land and livestock owned by the total of households in different wealth groups, north settled livelihood zone

Wealth group	% total households	% total population	% land owned	% land cultivated	% cattle		% shoats	
					Owned	Loaned	Owned	Kiyo
Very poor	42	34	19	20	–	–	4	5
Poor	25	21	19	19	–	–	10	2
Middle income	19	22	26	26	33	–	30	–
Better off	14	23	36	35	67	–	49	–

Notes

'Shoats' means sheep and/or goats.

The figures do not always add up to 100% due to rounding of contributing data.

The patterns in each zone are sufficiently similar to be considered together. Better-off and middle-income households are bigger (ie, with more family members) than the poor and very poor households, which results in the difference between % households and % population for each wealth group. Looking at the divide between these two sets of wealth groups, the headline finding is that the wealthier 33%–36% of households (45%–49% of the population) own and cultivate 62%–72% of the land.

Land ownership

The discrepancies within wealth groups in terms of land ownership and land cultivated arise because wealthier households may loan land to poorer

households, especially land that is newly being cultivated or has lain fallow, which requires a good deal of extra labour. The advantage to the owner is that they can take back and use the cleared land the next season, and maybe offer another new or fallow plot for loan. In the south, where better-off households are cultivating more land than they own, this is due to their retaining land that has been mortgaged to them by poorer people who urgently need money (and are possibly already deeply indebted to the new retainer of the land). There appears to be no time limit on this arrangement, but it can be a vehicle for the eventual outright purchase of the land by the retainer. Land tends to change hands more frequently in crisis years, such as 2005. On the other hand,

there is little or no share cropping in this area; people work on other people's land for a direct wage in cash or kind.

Key finding

Generation after generation, the poorest farmers are losing land to the benefit of better-off farmers. This phenomenon is exacerbated in times of crisis, due to the limited ability of poorer households to cope with shocks. The overall result is increasing inequality of wealth between rural households.

Ownership of livestock

Ownership of livestock is even more skewed than land ownership. Wealthier households own nearly 100% of cattle (some poorer individuals own one or two cattle but this very rare). In the south, there is some element of redistribution of cattle from wealthier to poorer households through loans (usually of bulls/oxen), whereby the borrower keeps the young animal for up to three years and fattens it for eventual sale. In return, they can use the animal for labour, and usually receive part of the sale price (usually 25% or a fixed sum of 20,000 CFA francs in the reference year). The *kiyo* system for smallstock is similar, but here the recipient is able to use the milk, and usually gets to keep one in three of the young – the only way that very poor households can own sheep or goats, since they can rarely afford to buy them. This benefits very poor households in the north, who can end up owning three times as many smallstock as their counterparts in the south. Overall, if we include the actual ownership of *kiyo* animals, better-off and middle-income households in Tessaoua own 86%–93% of smallstock.

Key finding

Ownership of livestock is even more skewed than land ownership.

Key trends

We are not in a position to know the precise settlement and expansion history of these populations over more than a century, nor the way in which patterns of land ownership and land use have changed. There is no reason to believe that there was ever a situation of equitable distribution of assets, even among a much smaller population. Today in the north there is still more land available than in the crowded south, but the proportion of poor households within these communities is increasing. Nevertheless, it seems reasonable to conclude that there is a process of increased accumulation of assets and skewing of incomes, with some slight variations between south and north. The main reason for this must be the increasing population pressure on land, especially in the south, and the tendency for poorer households to forfeit land to wealthier households at the onset of shocks due, for instance, to localised climatic events or loss of livestock through disease, or even family illness that affects breadwinners. This is a piecemeal process that becomes much more visible during periods of crisis.

Key finding

There is a process of increased accumulation of assets and skewing of incomes in agricultural areas from the south to the north.

But in the north too, although the areas cultivated are greater among all wealth groups, there are already signs of land pressure. This is not due to continued settlement from the south, but to natural population increase, which requires increased expansion of cultivation via the establishment of new villages where wells can be dug. But the 'bush' that is cleared to do so is in fact grazing land, and there are increasing tensions with the resident or visiting Fulani herders.

The north exhibits a wider fluctuation in rainfall conditions than the south from one year to the next, within a normally expected range (ie, as

opposed to real drought). The fact that there has been no appreciable trend of permanent outmigration means that people in the north have managed to adapt to these fluctuations. This is evidenced in Livelihood Profile 3, the north settled zone, where (as so frequently happens in the Sahel) in the same reference year, one side of the zone experienced a good harvest, and the other a bad harvest.

The greater ownership of land and livestock per capita in the north than in the south, although not spectacular, allows enough success in good years to cover the losses of bad years. The food stocks and realisable cash of wealthier households (through livestock sales and trading assets) are also important to the poor, because they enable their wealthier neighbours to give them support through credit and gifts. If a growing population begins to diminish either the available land or livestock in the north, then the negative effects will begin to bite harder. Poorer households will be hit hardest: they will not be able to cope with the bad (let alone crisis) years without further impoverishment, which they will be unable to recover from.

Key finding

Better-off households' accumulation of productive assets is a good cushion against the effect of shocks. They are much more able to cope with crisis than their poorer neighbours, who become more impoverished with each bad year.

Poorer households' dependence on wealthier households raises a question. In Tessaoua, taking the north settled and south-central zones together, can the one-third of better-off and middle-income households really afford to give substantial employment, loans and direct support to the two-thirds of very poor and poor households? The huge divide shown in Figure 46 on page 77 says that they can, and that over the years it is profitable for them to do so. But neither should poorer households' dependence on their wealthier neighbours be over-exaggerated. They

do have other sources of income, including from temporary work migration (mainly to Nigeria) and local 'self-employment' – for instance, cutting and selling firewood and fodder grass to both rural and urban customers, and portering and selling water on market days. But unless they can find ways to increase either their primary production of crops and livestock or their other income, they are likely to remain crucially dependent on their wealthier patrons.

Key finding

Reciprocal help between better-off and poorest groups does exist but is fairly limited, and is usually motivated by economic interests, especially in agricultural areas.

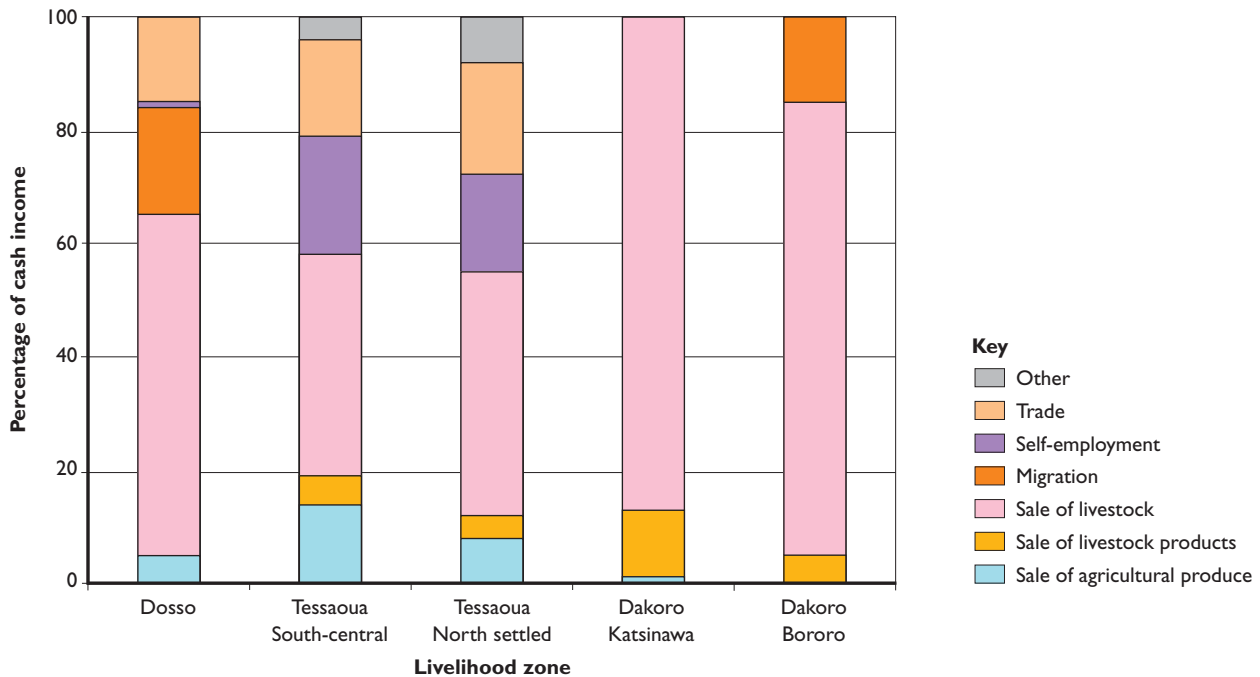
Livestock: a pillar of the rural and national economies

Livestock are a mainstay of both the Nigerien domestic and export economies. After uranium, livestock exports constitute the second biggest source of national income.

Livestock ownership and household wealth

In the five livelihood zones studied, livestock earnings are the main source of income for the wealthiest, far outweighing crop earnings, even in areas where agriculture is considered to be the dominant activity. Indeed, the sale of agricultural products appears to be quite marginal compared to other sources of income. More than access to land, ownership of animals determines whether a family is poor or wealthy.

Livestock earnings for wealthy households represent considerable amounts of cash that drive most of the economic exchanges within communities. The poorest households, more and more dependent on casual labour for their wealthier neighbours, are increasingly paid in cash derived from livestock earnings. The poor also benefit from animal loans that allow them to generate income (either from a

Figure 47: Sources of income across the five livelihood zones (better-off households only)

Key finding

More than land, the key factor that determines wealth is livestock. Even in the agricultural zone, better-off households derive most of their income from the sale of livestock.

share of the sale price or acquisition of offspring through traditional loan systems such as *habbanayé*, *kyo*, *kourkoura*, etc). The handful of smallstock they own are the first line of economic security for the poor, if not the very poor. Possible shocks affecting livestock and livestock incomes therefore have an impact on all wealth groups in all areas.

A sector worth investing in

In contrast to livestock, the intensification of the agricultural sector is particularly challenging in Niger. With limited potential and difficult climate conditions, efforts to develop rainfed crop sectors have not been fruitful so far. In many areas of the country, crop yields are actually declining instead of increasing, due to soil erosion, the practice of monoculture, limited access to fertiliser, etc.

These reasons, together with the strong markets for livestock, probably explain why the wealthiest households have invested more in livestock capital. There is strong and increasing demand for livestock and livestock products in the region, fuelled by the growing middle class in Nigeria, and prices are being maintained at fairly high levels. In Tessaoua district, for example, the sale of a fattened bull can bring in more than 300,000 CFA francs – ie, more than twice the annual cash income of a very poor household.

Although most animals are still bred in extensive or semi-extensive grazing systems, the breeding of animals is more and more intensified. Even in pastoral areas (see Livelihood Profile 5, on the Bororo), wealthy households are increasingly purchasing feed supplements to maintain their herd throughout the year, and to mitigate the effects of occasional lack of pasture. In the agricultural zone, animals are mainly bred and fattened so they can be sold at a high price for their meat.

Livestock would appear, therefore, to offer an opportunity for the poorest households to escape poverty and increase their livelihood security. However, it is not clear that the great imbalance in livestock assets and earnings between poorer and wealthier households can be tackled by external

inputs, as the poorest households would have to migrate to earn enough cash, making livestock husbandry difficult. Because of the fundamental links between the household economy of wealthier and poorer groups, efforts to protect and enhance the livestock sector would appear to be essential to reduce poverty in rural areas. Improved veterinary services ought to be a priority for government, as should the supply and subsidy of fodder and food supplements for livestock.

Household economy management and food security in a pastoral context

Making the transition to a monetised economy

Despite maintaining the traditional pastoral way of life characterised by transhumance of livestock and modest campments, the livelihoods of the pastoral Fulani have evolved considerably in recent decades. The HEA studies we carried out reveal that they have made the transition to a highly monetised economy, as even among properly nomadic pastoralists there are now very few groups that have enough stock to subsist on the milk and meat from their animals. For most, purchased grain (including processed grain) and quantities of sugar provide the majority of their annual food intake. Pastoralists who do no cultivation, therefore, depend heavily on the produce of farming populations, via the market.

There is nothing new about the dependence of pastoralists on grain. But the degree of their dependence has been increasing, and with it the degree of their dependence on cash. The progress of this phenomenon is not well documented, but it is certainly the case that the Fulani population has increased at a greater rate than their livestock (seen in terms of tropical livestock units¹⁵ and averaged over time); and so fewer animals per capita – and therefore less milk – have been produced on average, taking good and bad years together.

At first, this perhaps translated into there being less milk available for exchange with grain, even if the demand for milk was growing among the increasing Hausa population. In such circumstances, cash had

to be more and more the medium for obtaining grain; animals, rather than milk, became the chief item of exchange. At the same time, a wider market network has opened up for pastoralists, encouraged by new roads and increasing numbers of trucks, and the increasing use of cash for (often imported) items that were rarely purchased even a couple of decades ago – notably some factory-made clothes, radios, and food for occasional consumption such as pasta, and even cassava flour from Nigeria.

Key finding

Pastoralists are increasingly engaging with markets and have successfully made the transition to a highly monetised economy. This development has been crucial for the survival of their communities.

The Fulani in the northern Sahel now need more grain than they can get from local farmers at a reasonable price, especially in the pre-harvest months when most farmers themselves need to buy grain. For both populations, grain has to come onto the market from wider regional and national sources. The corollary is that money to buy grain also has to originate increasingly from beyond the locality of the herders and cultivators, whether Fulani or Hausa. So the Fulani need more customers, across a wider area, for their livestock.

Again, there is nothing new about the long-distance trading of livestock from the Sahel, down as far as the coast (most livestock from Niger are destined for markets in southern Nigeria). What is new is the rate of growth of urban demand there, and the proportion of the livestock of Niger's pastoralists that are sold there, increasingly via truck transport from collection markets in southern Niger or on the Nigerian side of the frontier. So, over the generations, pastoralists in Niger's northern Sahel have increasingly produced livestock not for milk, but for grain; and in the livestock transaction the producer and the consumer have moved geographically further and further apart.

Decisions about when to sell animals and buy grain

For both Bororo and Katsinawa households in Dakoro district, buying grain is heavily dependent upon selling animals. The exception is very poor households among the Bororo, that earn 50% or more of their cash income through migrant work; but even for this group, livestock sales account for 35% of their cash income – still a significant proportion. Among both groups, some households buy food virtually all year round, but there are definite peak buying times. Similarly, some livestock are sold regardless of the time of year, but there are peak selling times. The peak times for both activities tend to coincide, because, as key informants noted, “it is need that generates income” – ie, households tend only to realise their capital for specific purchasing needs, and do not tend to hold cash savings, or to invest cash in other significant activities such as trading, except to pay for transport for work migration.

Key finding

For pastoralists, as opposed to settled populations, the need to make purchases generates income. Although pastoralists now operate in a highly monetised economy, they keep their capital as assets (the herd) – a strategy that exposes them to shocks (such as drought or livestock disease).

Another reason why the peak selling and buying times coincide is that there is one season in which the terms of trade are particularly favourable for those who can afford to sell substantial numbers of animals – the harvest and immediately after. At this time, most farmers need to get their hands on cash for many reasons, including repaying loans. The bulk of the harvest is, therefore, sold at this time, and prices consequently reach their lowest point of the year.

Round about this time, livestock are in their best condition, as they have been grazing on rainfed

pastures and crop residues. As a general rule, better-off households among both Bororo pastoralists and Katsinawa agropastoralists tend to buy most of their cereals with a few major purchases during the year, selling cattle to enable them to do so. Poorer households mostly sell smallstock, and are unable to find enough cash to buy bigger quantities, so they have no choice but to buy smaller quantities more often.

Key finding

Contrary to common belief, pastoralists tend to rationalise the sale of their livestock when the market is most favourable. Only the poorest households, who have few animals, are unable to store grain for several months. They are most vulnerable to the high fluctuation of cereal prices on the markets.

For home consumption, wealthier Bororo households that can afford to sell quite a few animals and have a means of storage usually buy enough grain just after the harvest to last them for most of the year. But many households cannot afford to do this, and so there is a second peak buying period in June/July, when the terms of trade are less favourable. At this time, livestock are in poor condition, because they have not had time to recover with the new grazing; fodder, if purchased at all, has to be eked out, because it is expensive. Buying grain at this time not only serves the usual domestic consumption needs, but enables households to buy provisions for those who take herds on the three-month northward migration.

For poorer households, at this time of year, the need to sell livestock depends on how much remains of the cash brought back by migrant workers around January, and again around the end of March if a second trip was made. In other words, migrant earnings are not only necessary for survival, but to maintain and increase their capital assets in livestock holdings.

Livestock holdings

The HEA baseline data, while limited in terms of annual comparisons of herd size and composition, does attempt to enumerate some key aspects of livestock holdings: namely, the number of animals owned at the beginning of the reference year, the number of reproductive females, the number giving milk, the number born, sold, slaughtered and lost, and the number remaining at the end of the year (see Tables 12 and 13 below). The most relevant figures, however, are typical milk production, livestock and product sales, and the cash earned from them. The livestock production information needs to answer to the overall budget picture for the year, and to make sense in that regard.

Herders are notoriously unwilling to answer direct questions about their own herd numbers. The focus group discussion, where the question is not about an interviewee's own herd but about their estimate of typical herds for their wealth group, allows a reasonably accurate picture to be drawn about the herd's contribution to the household budget.

The tables suggest only very marginal herd growth in the reference year, with only wealthier Bororo households showing appreciable increases in smallstock. But we cannot say with confidence that some degree of downward bias in reporting did not mask a slightly bigger growth in what was generally reported as a satisfactory year for grazing, and when people were still trying to recover from losses incurred in 2005.

Table 12: Bororo livestock holdings at the beginning and end of the reference year 2006–07

	Wealth group			
	Very poor	Poor	Middle income	Better off
Number at start				
Cattle	5	7–8	24	44
Goat	8	10	34	50
Sheep	6	9	32	54
Number at end				
Cattle	5–6	7–8	24–25	45
Goat	9–10	9–10	40	63
Sheep	7	9–10	33	66

Table 13: Katsinawa livestock holdings at the beginning and end of the reference year 2006–07

	Wealth group			
	Very poor	Poor	Middle income	Better off
Number at start				
Cattle	1	3–4	15	30
Goat	4–5	8	20	30
Sheep	4	9	17–18	30
Number at end				
Cattle	1	3–4	15	31–32
Goat	4	8–9	20–21	32
Sheep	3–4	9	17–18	30

As regards the overall holdings, we used tropical livestock units (TLUs),¹⁶ which are an accepted way of comparing different mixes of livestock among households or groups, where 1 camel = 1 TLU, 1 cattle = 0.7 TLU, and 1 sheep or goat = 0.1 TLU. In the literature, there is a common estimate that pastoralists who do not cultivate any crops need a minimum of 3 TLUs per adult in order to make ends meet (via consumption of animal products and selling animals for grain), without compromising the viability of their herd in a normal year. However, we take this figure as indicative only, since it does not specifically relate to the Sahel, and is based on data that are at least a few years old; moreover, it does not take into account terms of trade for grain, which might well have changed considerably in recent years – perhaps, on the whole, in favour of pastoralists.

With this caveat, the figures in Tables 14 and 15 below show that only the middle-income and better-off households among both populations could survive on their livestock alone.

It is not surprising to see that wealthier Bororo have around twice the minimum requirement of TLUs per adult – after all, their livestock largely determine their wealth. However, it is interesting to consider that according to this calculation,

among the agropastoralists, even middle households could manage without their crop production; and among the Bororo, the middle households, let alone the better-off, could survive without work migration.

The message seems to be that the wealthier households among both groups try to maximise their herd numbers by minimising livestock sales for food and other necessities. In the case of the Bororo, they put ‘spare’ labour (mainly women) into work migration, at a certain social and physical cost to the household. In the case of the wealthier Katsinawa agropastoralists, they not only use household labour for cultivation, but invest in hiring labour. And they reinvest some cash in buying livestock to regenerate their herds (whereas the Bororo rely essentially on natural increase and the exchange of livestock between herders).

Patterns of work migration

The HEA data show that poorer Bororo households do not live by their livestock alone; work migration forms a major part of their livelihood. It is mainly women who migrate, and their main destinations are beyond Niger’s borders. They do a range of work, including selling traditional medicines, domestic work and agricultural labour.

Table 14: Katsinawa agropastoralists’ typical livestock holdings

	Wealth group			
	Very poor	Poor	Middle income	Better off
Typical number of adults/household	3	3	4	6
TLU/adult	0.5	1.4	3.6	4.5

Table 15: Bororo pastoralists’ typical livestock holdings

	Wealth group			
	Very poor	Poor	Middle income	Better off
Typical number of adults/household	4–5	4–5	5	6
TLU/adult	1.1	1.6	4.7	6.4

We do not know the precise attitudes and calculations that determine the choices households make about work migration. It is at least partly that men are occupied with herd migration – transhumance – to the south in the months after the rainy season, when work migration also takes place. But sometimes the family travels as a group for transhumance, with one wife and children. We know that some men do migrate to find work, but they tend to be from poorer households, who if they do have stock for transhumance, usually send them with other herders. Finally, we know that pastoralists do not readily engage in agricultural labour; only very poor households make a small part of their living by travelling south to work on other people's fields, with payment in cash or kind (grain).

Key finding

Work migration is a major source of income for the poorest pastoralists. This is much less the case for poorer agropastoralists, who are more likely to do casual agricultural work for wealthier landowners in neighbouring areas.

Bororo women said that they found migrating for work to be a hardship, but a necessary one. Informants stated that their work migration began only after the drought crisis of 1973, when livestock losses were on a scale unknown in living memory. In an attempt to survive in the short term, and to get the cash to rebuild herds, people (mostly women) ventured as far as Nigeria to find work. They then developed the habit of yearly migration. It was said that the contacts made within Nigeria, and knowledge of the availability of emergency pasture, was an important factor in saving some livestock during the 1984 crisis (in 1973 people had not ventured beyond the border).

Traditional safety net systems

The traditional loan system – *habbanayé*

Our research shows that the majority of animals transferred under *habbanayé* are actually exchanges between wealthier households, rather than loans

from wealthier to poorer households (see Tables 16 and 17 on page 87). *Habbanayé* seems to be more important among the Bororo than the Katsinawa, but a proper herd composition study is needed to provide a deeper understanding of *habbanayé* and other loan mechanisms.

Undoubtedly, there is an important economic element to these transfers of animals. Informants from poorer households said that *habbanayé* is a means of increasing their herds, and restocking after a crisis year. They explained that not everyone loses all their animals in a crisis, and the degree of loss suffered is not always related to wealth group; after a crisis, those who still have animals support those who have lost animals.

The survey team was often told that *habbanayé* is “not the same as it used to be”. In the past, a person receiving *habbanayé* used to keep the animal for two or even three birth cycles, whereas nowadays, once a female is born and weaned, the mother animal has to be returned. There is much in the literature concerning the various nuances of *habbanayé*, and the system clearly performs social and economic functions. Among wealthier households, it seems likely that as well as a sign of friendship, kinship and trust, there is a pragmatic element of good animal husbandry, since sharing animals around enables genetic mixing, and so strengthening of the stock.

Use of credit

The seasonal calendars and income and expenditure graphs in Profiles 4 and 5, for the Katsinawa agropastoralists and the Bororo pastoralists, show the overall pattern of loans during the year. Many households – whatever their wealth group – make short-term loan arrangements to bridge temporary gaps, or to meet an unexpected and urgent need. These loans tend to be quickly repaid and they can be taken on at any time of the year. Among the Bororo, poorer households often get substantial cash loans from better-off households to cover transport costs for migration. There is, of course, a social aspect to these kinds of loans, but an HEA survey is not the best vehicle with which to uncover all the intricacies of credit systems.

Table 16: Animals loaned through *habbanayé* (Bororo households) 2006–07

	Wealth group			
	Very poor	Poor	Middle income	Better off
Own livestock lent as <i>habbanayé</i> to others	None	None	2 cows, 6 female sheep/goats	4 cows, 8 female sheep/goats
Livestock received as <i>habbanayé</i> from others	1 cow, 2 goats, 1 ewe	1 cow, 2 goats, 1 ewe	2–3 cows, 3 goats, 2 ewes	3 cows, 3 goats, 2 ewes

Table 17: Animals loaned through *habbanayé* (Katsinawa households) 2006–07

	Wealth group			
	Very poor	Poor	Middle income	Better off
Own livestock lent as <i>habbanayé</i> to others	None	None	n/a	n/a
Livestock received as <i>habbanayé</i> from others	0–1 cow, 1 goat, 0–1 ewe	1–2 cows, 1 goat, 1 ewe	0–1 cows, 1–2 ewes	0–1 cows, 0–1 ewes

Key determinants of food security in settled rural zones

Drought and erratic rainfall, or the price of grain?

Because rainfall levels can be quite varied within one zone, no single village can be taken as representative. We collected information from people in several villages in the south and north of Tessaoua district, regarding the amount and quality of rainfall and harvest in each year of the last ten.

The results are shown in Table 18 on page 88, using a score where '0' is the median value, denoting an ordinary performance – what the farmers call 'more or less acceptable'. The scoring then goes up via + marks (where + + + denotes an excellent year) or down via – marks (where – – – denotes a very severe harvest failure). The villages span the width of each zone. In the north, the current harvest (2007/08) was at a stage where villagers were confident of the result, and so scoring for this year is included.

What is particularly striking is that the crisis year of 2005 does not show as such across the board

in either zone. This was so surprising that villagers were pressed about this. They confirmed that although the harvest was extremely bad for a great number of villages, it was just mediocre for some. But they also made clear that economically, the year was extremely bad for all, because of the great hike in grain prices and the collapse of livestock prices.

The purchase price of grain is so important that, when asked about the performance of a given year, many respondents began by recalling the grain prices as the big indicator, rather than talking about rainfall. The quality of pasture counts too, and the vagaries of the Sahel are such that it is even possible for pastures to be mediocre when crops are good.

Key finding

An event (such as lack of pasture, abnormal demand for cereals from Nigeria, etc) that affects livestock or cereal markets can be more damaging for rural households' food security than an event that affects agricultural production alone.

Table 18: Rainfall and harvest performance since 2000 in the north and south of Tessaoua district

South				
Year	Gazori	Fara	Sarba	
2006/07	+++	++	++	
2005/06	+	0	0	
2004/05	0	---	---	
2003/04	-	+++	++	
2002/03	-	-	+++	
2001/02	+	-	-	
2000/01	-	++	+	
North				
Year	Dan Meyro	Sansana Wakili	Yachin Gila	Magariya
2007/08	+++	++	+++	+++
2006/07	+	+	--	--
2005/06	-	-	0	0
2004/05	---	---	0	0
2003/04	0	-	+	0
2002/03	-	--	-	++
2001/02	++	+++	+++	0
2000/01	+++	--	+	++

Table 18 shows the full range of rainfall and harvest performance since 2000. But the picture reveals not only a crisis year, but that this was generally preceded and/or succeeded by poor or unsatisfactory years. It is notable that when poorer farmers talk of indebtedness today, they refer to a build-up even

before the crisis year (2005). Even now, they have not been able to restock their herds to pre-crisis levels, and wealthier households have not managed to fully restock their grain stores, which must have a bearing on the amount of grain marketed.

Key finding

The local and occasional failure of crop production does not lead to major food insecurity. The variability of rainfall is such that households have developed many coping strategies. As the poorest households do not normally produce anywhere near enough to cover their minimum food needs, bad harvests alone do not push them into extreme hunger; although they lose one of their sources of food in a bad harvest, the loss of other sources of food and income make them more vulnerable to food insecurity and malnutrition.

Given that poor harvests are a fairly frequent event in the Sahel, one of the biggest questions in terms of food security is how people overcome the ‘ordinary’ bad year, as opposed to the crisis year. In Livelihood Profile 3, the north settled zone of Tessaoua, there is a comparison of good and poor harvest performance as it affects the household economy of each wealth group. The poor harvest is bad enough to require even better-off households to buy considerably more grain than usual, as they failed to achieve their usual surplus of production over requirements.

But it is particularly important to note the effects of good and bad harvests on cash incomes, since this is a highly monetised economy. In this context, it is difficult to see much difference between food security and livelihood security, as the two are so closely linked.

Figures 48 and 49 below show the different percentages of income sources in a good and bad harvest for all wealth groups in the north settled livelihood zone. Livelihood Profile 3 shows that although absolute income diminishes with a poor

harvest, there is no collapse: the worst blow is to the middle-income group, who are down by 27%, followed by the poor at -22%, the better-off at -14%, and the very poor at -2%.

Figure 48: Cash sources in a good harvest, north settled zone, Tessaoua district

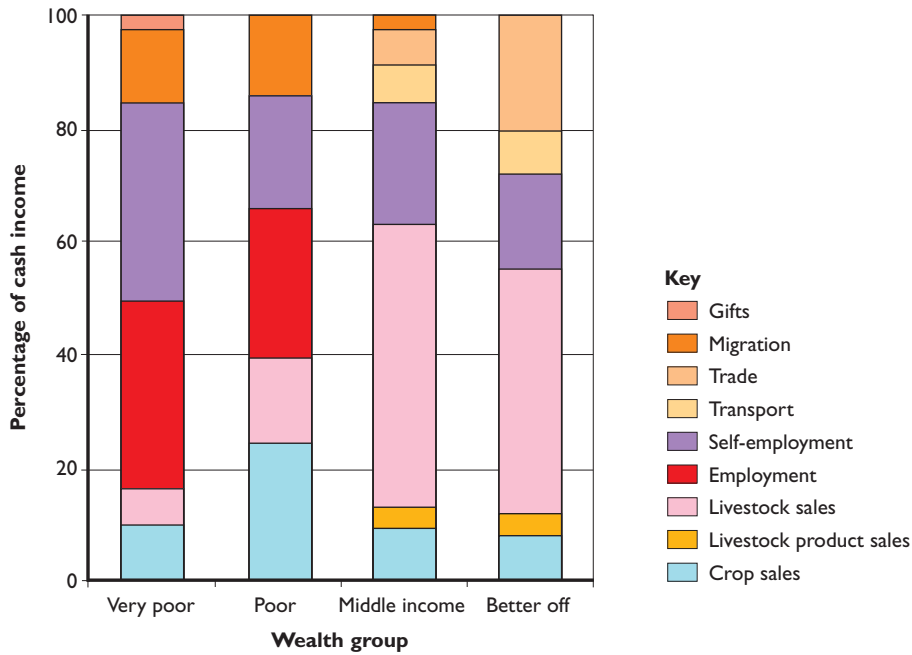
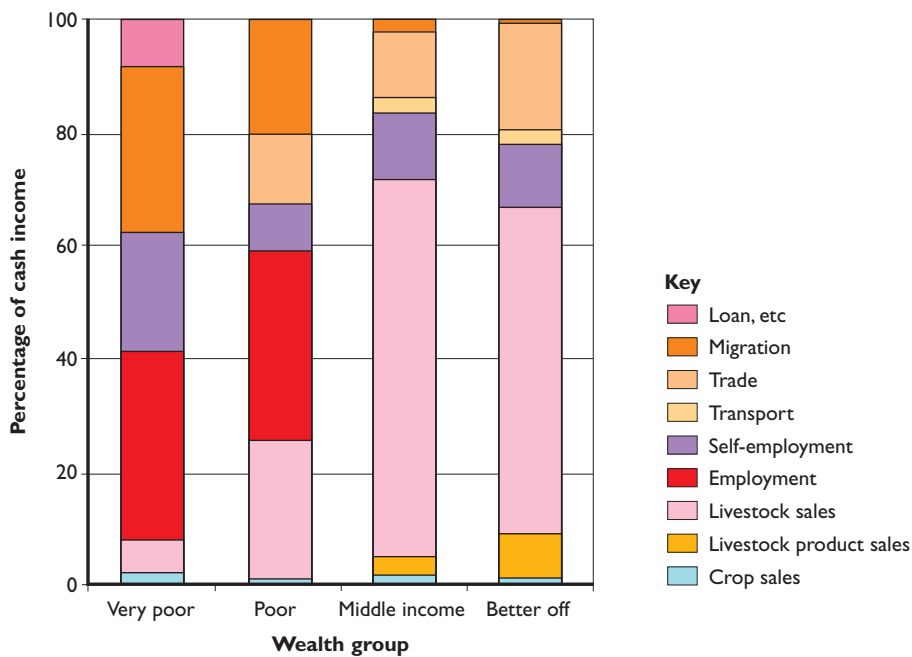


Figure 49: Cash sources in a poor harvest, north settled zone, Tessaoua district



Without going over all the explanations in the profile, it is worth looking at the difference between Figures 48 and 49 on page 89. The very poor have the least to lose in cash terms from diminished crop sales, and in fact they lose more in terms of self-employment earnings; they make up almost all the gap through increased migration for work. This often means the husband – the main source of labour – is away for twice as long as usual. Very poor households also take on more loans (sometimes twice or three times what they would borrow in a normal year) to tide them over the hunger gap. Here, there may be an element of charity from the creditors, who cannot always have confidence that such very poor clients will be able to repay any time soon, if at all.

Key finding

In the event of a bad harvest, the poorest households increase their borrowing from better-off households, and make up the loss of income through increased work migration.

In the north settled livelihood zone, poor households seem to lose most from the fall in crop sales, showing that they are more reliant on farming than very poor households (this is also the case in the south-central zone too). They make up the gap in earnings partly through selling more livestock (admittedly, in a budget down by more than 25%), again showing that they are more genuinely agro-pastoral than the very poor.

But like the very poor, they are also heavily dependent on employment; however, they manage to increase their earnings from local labour rather than migration, which presumably involves a lesser social cost to the family than that incurred by the very poor, who make up more of their earnings from extended migration. Poor households also make up for some loss in self-employment earnings with petty trade, although this is not something they usually engage in. They have more diversified

responses to a bad year, and to that extent, although they are extremely poor by comparison with the better-off or even middle-income households, they are less vulnerable than the very poorest.

The key factor for middle-income and better-off households is livestock sales: these are what people rely on to cover crop losses in a bad year, and indeed, seem to allow them to continue to offer employment – even expanded employment – to their poorer neighbours and kin.

The importance of purchasing power in determining food security

People's purchasing power is key to their food and livelihood security, and to their capacity to maintain and increase their assets.

The 2005 food crisis in Niger served to underline that the market is crucial for rural people. The unprecedented rise in food prices caused great hardship for people around the country, regardless of whether they were in areas worst affected by crop or grazing failure. Similarly, the sharp falls in livestock prices were not simply the result of people selling off animals for which grazing could not be found. Many people sold animals in unusual numbers because they needed cash for food; and so the terms of trade of grain for livestock turned against them massively. For such reasons, the early warning system (SAP) takes market price information, including terms of trade calculations, as one of its major indicators of food security trends.

Key finding

There is a high market dependency in all wealth groups and all livelihoods zones studied.

Figures 50 and 51 on page 91 summarise the survey results for sources of food in Tessaoua (south-central zone, profile 2) and Dakoro (Bororo

Figure 50: Sources of food for households in Tessaoua central rainfed agriculture zone, 2006–07

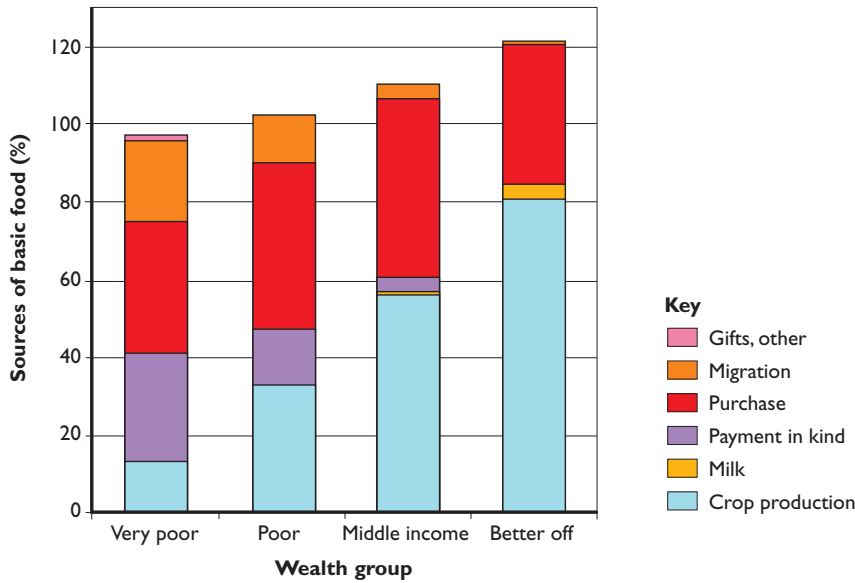
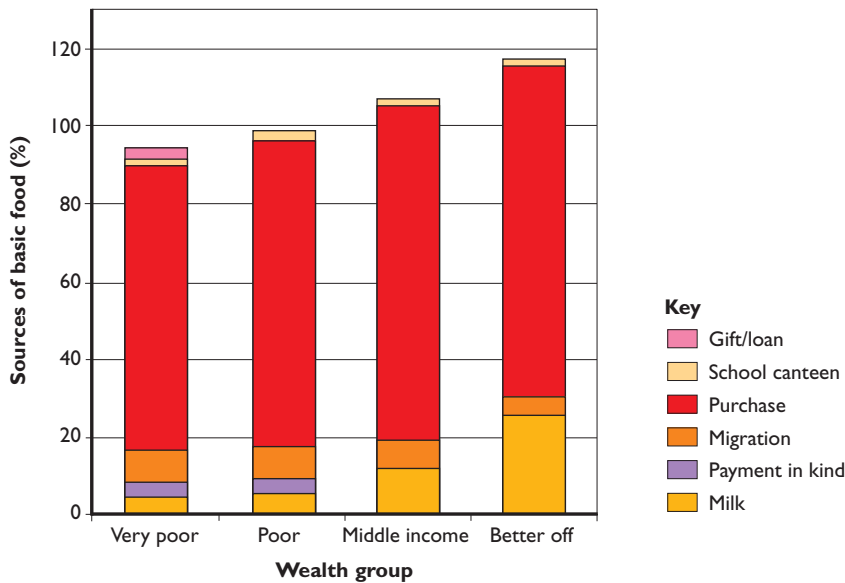


Figure 51: Sources of food for households in Dakoro pastoralists zone, 2006–07



In Figures 50 and 51, food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2,100 Kcal per person per day.

pastoralists zone, profile 5), for the reference year 2006–07. The data refer to a period following generally acceptable harvest and grazing conditions, and before the major hike in food prices occurred on the national market, influenced by international

factors. This has shown us that market dependency is not simply the phenomenon of a very bad production year, or of years of exceptional food price inflation. It is a perennial condition, part of the structure of the modern rural economy in Niger.

It is clear that market dependence plays out differently for rural people with different types of livelihood, and for households at different levels of wealth. Most pastoralists today get the majority of their food calories from purchased cereals and cowpea, even though on average they drink much more milk than cultivators. For their part, the cultivators in this non-surplus zone of Tessaoua do, of course, grow their own cereals, but only the wealthier households tend to grow enough to support themselves fully (in fact, they sell some of their cereals and cowpea to buy rice and other preferred foods, to give a more diversified diet). Less wealthy cultivators are heavily dependent on the market for food, even if not to the same extent as pastoralists.

For early warning purposes, it is the purchasing power of poorer people that is of greatest concern, since they are most dependent on the market for food and have the least cash at their disposal. This makes them vulnerable to crop failure (increasing their dependence on the market) or, among pastoralists, to grazing failure or other threats to livestock production (which reduce their capacity to sell enough animals for food without also selling the females, and thus losing their capacity to regenerate their herd through natural means).

Key finding

Understanding employment patterns and food access through markets is the key to understanding food security among the poorest households.

But it is interesting to note that poorer households may also be affected by changes in the purchasing power of wealthier people, who employ them as field labour for herding or transporting goods, and who buy cut firewood or fodder they have collected. Since wealthier people will lose earnings in a bad year when they have less produce to sell, and since they generally need to buy some food

too, they may economise by cutting back on hiring labour and buying services from poorer people. Thus, ideally, it would also be advantageous to monitor the purchasing power – or expenditure choices – of wealthier households.

Household economy and child malnutrition

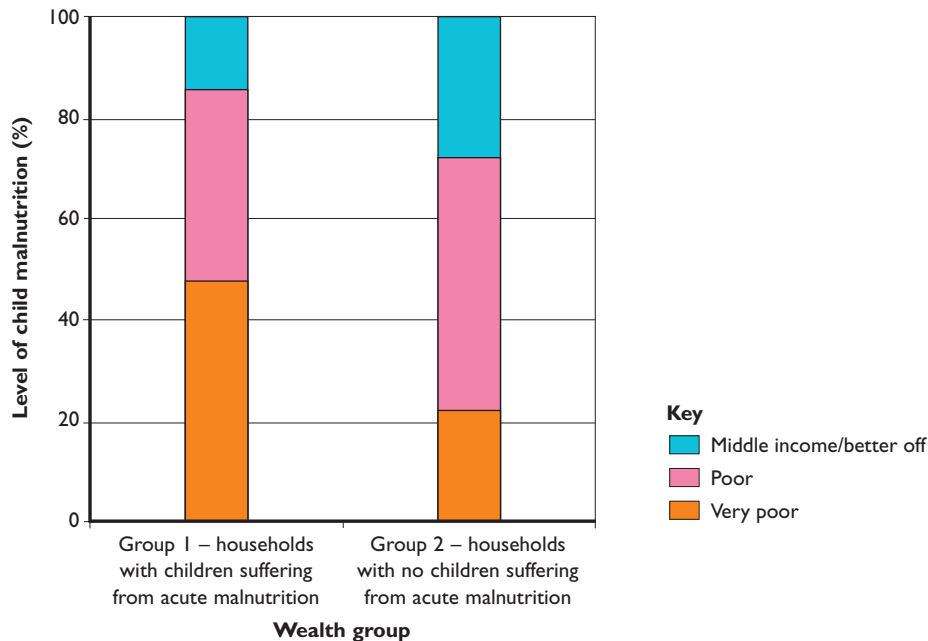
In Niger, even in a ‘normal’ year in terms of the harvest, nearly one in every two children under five is chronically malnourished, and one child in ten is acutely malnourished. One of the objectives of the HEA studies was to better understand the economic causes of malnutrition, and to investigate the extent to which extreme household poverty prevents access to an appropriate diet.

HEA studies provide useful information on how households meet their minimum energy requirements. Moreover, in Tessaoua district, Save the Children recently carried out two complementary studies: *The Cost of a Healthy Diet*, looking at whether households can afford a balanced diet, and *Survey on the Causes of Malnutrition, North Tessaoua* (Enquête sur les causes de la malnutrition, Nord Tessaoua), comparing features of households where children are acutely malnourished with households where children are not malnourished. This section presents the main findings of these studies to shed light on how poverty is linked to malnutrition in rural Niger.

Malnutrition and wealth

There are many causes of malnutrition. In a context such as rural Niger, causes include inadequate sanitation, poor public health and hygiene, and poor childcare practices (such as delaying breastfeeding – only half of women who give birth start breastfeeding within an hour of doing so, as recommended – the early introduction of water and semi-solid foods, and weaning with a nutritionally poor millet-based gruel). These factors affect children from better-off families as well as the poorest families.

Figure 52: Levels of child malnutrition in Tessaoua (north settled zone) according to wealth group



However, malnutrition is not evenly spread across all wealth groups. The *Survey on the Causes of Malnutrition, North Tessaoua*, where Save the Children used to run community therapeutic care (CTC) programmes, highlighted that 85% of children admitted to treatment centres were from poor or very poor households (according to HEA criteria), with 50% from very poor households. The income of households that were most affected by malnutrition was much lower than in the control group (households where there was no malnutrition).

Key finding

The poorest households are much more vulnerable to malnutrition than their wealthier counterparts.

National statistics also reflect this unequal risk of malnutrition. The EDSN-MICS survey¹⁷ (2006) revealed that the prevalence of wasting was higher

in the three lowest quintiles ($\geq 11\%$) than in the wealthiest quintile ($< 9\%$). The poorest households are hence logically more vulnerable to malnutrition.

Can poorer households afford to meet their basic food needs?

The HEA studies of very poor households give a fairly good illustration of the difficulties they face in meeting their basic food needs. In the five communities studied, none of the very poor households can typically cover 100% of their basic food requirement, even in a good year. During the lean season, they face a real deficit in calories, requiring them to put in place coping strategies that either have a high social cost, or that deplete their limited assets, therefore undermining their livelihoods in future years (eg, sale of land, migration, taking children out of school, etc).

The cost of food is a heavy burden for very poor households: it accounts for between 60% and 75% of their entire expenditure in a normal year. In times of crises, almost their whole budget could be dedicated to buying food, and they would have

to drastically reduce the amount they consume, which puts children at even greater risk of acute malnutrition.

But covering calorific need alone is not sufficient for the healthy development of adults, let alone children, who need a healthy diet – ie, a diet that enables them to cover their macro- and micronutrients needs. Save the Children’s report, *The Cost of a Healthy Diet*, calculated the cost of the cheapest healthy diet in Tessaoua district on the basis of the foods available in the market, in the wider natural environment, and produced by households. The study drew the following conclusions:

- A balanced diet is possible using foods available locally. In both livelihood zones of Tessaoua (south-central and north settled), local availability of food has enabled a balanced diet to be determined. Generally, this diet is composed of four essential ingredients: cereals, leguminous/oleaginous¹⁸ plants, an animal food source, and wild fruits/leaves.

Key finding

Local availability of food in Tessaoua district does allow the consumption of a healthy diet at all times of the year – if people can afford it.

- The poorest households (very poor and poor) – ie, two-thirds of all households and nearly half of the population – cannot afford a balanced diet throughout the year in Tessaoua district. This is one of the main reasons why more than half of all children in these two livelihood zones are chronically malnourished. The situation is particularly extreme in the south-central zone, where the poorest households’ total income (cash + in kind) would need to at least double to enable them to afford a healthy diet. It is therefore not surprising to find such high levels of child malnutrition in this zone. Better-off and middle-income households can easily afford a balanced diet, thanks to their total income level

and the substantial contribution of their own milk (they have milking animals) in reducing the cost of this diet. It is important to note that the comparison presented here between the cost of a healthy diet and total household income only refers to the cost of a balanced diet. If all essential household expenditure was taken into account (water, health, education, etc) the gap between purchasing power and the cost of basic needs would be much greater than described here.

Key finding

In Tessaoua district, two-thirds of all households – representing about half of the population – cannot afford a balanced diet, even when sufficient food is available locally.

The importance of milk in preventing malnutrition

Milk is a key element of a healthy diet in Niger. Those who have access to free milk from their livestock, such as the better-off in the above example (Figures 53 and 54 on page 95), can have a balanced diet for half of the cost of those who do not have animals (such as very poor households in the south-central zone). The availability of milk and levels of consumption help explain why child malnutrition is mainly concentrated in the south of the country.

To illustrate this, Livelihood Profile 5 (the study of the Bororo pastoralists of Dakoro district) reveals that the poorest households consume four times

Key finding

Access to free milk through livestock ownership significantly contributes to a healthy diet and reduces the risk of child malnutrition.

Figure 53: Cost of nutritious diet (locally available) per person per year, compared with income per person per year (Tessaoua north settled zone)

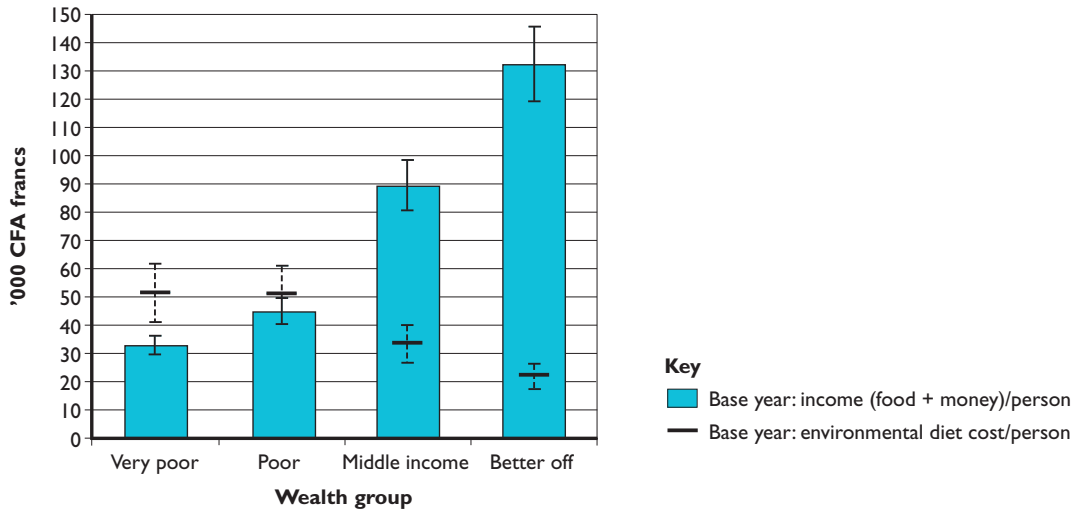
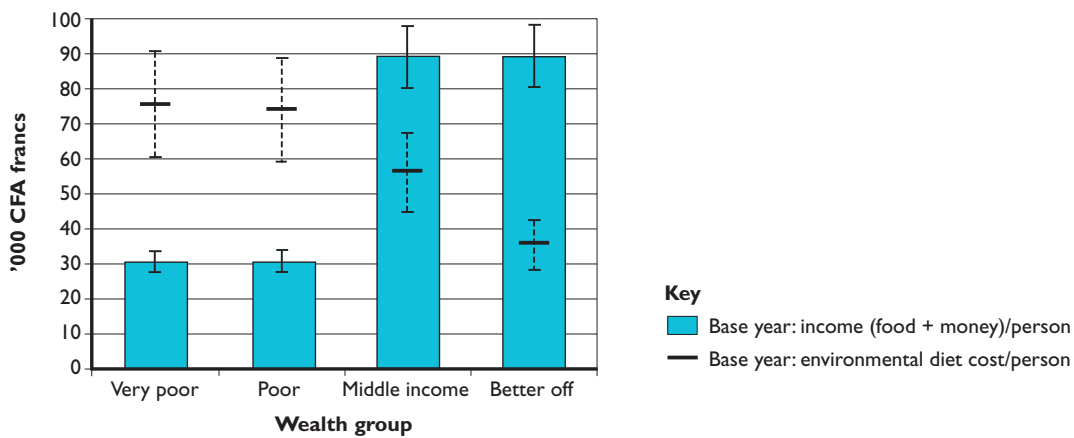


Figure 54: Cost of nutritious diet (locally available) per person per year, compared with income per person per year (Tessaoua south-central zone)



more milk than better-off households in the south-central zone of Tessaoua district. Even if those poor households only owned a few animals directly, they benefited from cows loaned to them by wealthier households during the milking period. Levels of child malnutrition in these communities are much lower than among the southern Hausa communities of Tessaoua district.

We can therefore conclude that lack of cash and access to milk are key determinants of child malnutrition. But unfortunately, these factors are not always addressed by interventions and strategies to tackle malnutrition.

Key finding

Access to milk is more difficult for the poorest households in the south of the country, which, together with the higher levels of poverty and sub-optimal feeding and weaning practices, helps explain the high levels of child malnutrition in the south.

Using evidence rather than assumptions to inform policy and practice

These HEA surveys give us a detailed and quantifiable picture of the economy of rural Nigerien households at the beginning of the 21st century. They show that people's livelihoods in this harsh, limited economic environment are not static, but are constantly evolving, rooted in complex wealth group dynamics.

The key question is how can we use the wealth of information contained in these livelihood profiles and complementary reports to strengthen policies and practice to reduce poverty and prevent malnutrition?

There would need to be further analysis of other livelihood zones (such as the irrigated areas along the banks of the River Niger and River Komadougou and the market gardening zones in the Air mountains, for instance) in order to have a complete picture of the rural household economies of the country. But the five profiles presented here give us a strong understanding of how most rural households in Niger live, from the rainfed agricultural areas to the zones inhabited by pastoralists. They enable us to draw some critical conclusions.

The most striking finding is the extent of the wealth gap between people in the same communities and villages. The majority of households, poor and very poor, struggle to cover their most basic needs – notably food – and apart from their labour, they have very limited assets. At the same time, a minority of households own most of the productive assets, and earn the greatest incomes. They are critical to the functioning of the rural economy, as they provide employment for the poorest families, and can easily cover their own basic food needs. This wealth gap seems to be increasing with time, as resources are getting scarcer and the population is increasing. This pressure and inequality is all the more acute in the southern part of the country, where the population density is higher.

To a surprising degree, it is livestock that are the mainstay of cash earnings in the agricultural economy. Owning livestock, and particularly cattle, determines whether a household is wealthy or poor. Thus we find that in *all* the livelihood zones studied, agricultural as well as agropastoral and pastoral, livestock earnings are by far the main source of cash. This is quite logical, bearing in mind the limited options for diversifying productive activities, the limited performance of the agricultural sector in rainfed areas, and the favourable environment for herding and positive market trends for animals driven by a rising demand for meat in neighbouring countries (particularly Nigeria).

Another key finding is the importance of the cash economy for rural households. Contrary to popular belief, most rural households in Niger, and especially the poorest, do not fit the stereotypical picture of small-scale farmers who rely on their harvest and food stocks for survival. For most of the year, their food security is dependent on their capacity to buy food on the markets on a daily or weekly basis, and subsequently on the capacity to earn enough income to cover the cost of food. For all wealth groups in all livelihood zones studied, the household economy is characterised by a high dependency on markets and cash exchanges. As much as anything it is the *sources* of this cash that differentiate poorer from wealthier households: in the main, wealthier households get cash from selling their products and from trading, while poorer households get cash mainly by working for others or providing services.

Finally, these studies give valuable insights that help us understand more fully why malnutrition is found in the grain baskets of the country. Being surrounded by millet fields is in no way a guarantee of food security and adequate nutrition. First, as mentioned above, for the poorest households, crop production as a source of food is fairly marginal. Second, the very limited and fragile purchasing power of these households does not allow them to meet their basic food needs at certain times of the year, which, combined with poor public health and sub-optimal childcare practices, makes acute malnutrition more likely.

Moreover, throughout the year, the poorest households cannot afford a healthy diet (ie, a nutritious diet that corresponds to the macro and micronutrients needs of the different household members), although such a diet is theoretically possible on the basis of food items available locally. Access to milk is another key element in understanding malnutrition. In Tessaoua district, for instance, the fact that wealthier households have free access to milk through ownership of cattle means they can access a healthy diet for half the cost of those households who do not own any animals.

These findings challenge current policies on poverty and malnutrition, and should challenge us to find ways to improve them. With regard to tackling malnutrition, current policies do not sufficiently take into consideration the economic constraints facing households, as they mainly focus on improving childcare and infant feeding practices such as early and exclusive breastfeeding. Although improving people's awareness about childcare and weaning practices, and improving the wider public health environment, are important to prevent and reduce malnutrition, they can only be effective strategies if the poorest households can afford to put what they learn into practice.

Preventing malnutrition also requires promoting food security. The HEA studies provide a great deal of information on which households are food insecure, and why. The widely varying levels of food security evident among households of different wealth groups within the same communities should be fully taken into account by responses to food insecurity. The studies also help quantify the levels of need, and shed light on the key determinants of food security that should be addressed through the

early warning system (SAP). At the moment, the SAP places great emphasis on agricultural production, while household purchasing power – which the profiles reveal to be a critical factor – is given less weight.

The HEA surveys also give us valuable information on development opportunities in rural Niger. What is clear is that the poorest households will not be able to benefit from any development efforts unless they can cover their most basic needs, as the constant battle for food and cash takes up most of their resources and time. It is therefore important to invest in predictable safety nets to allow them to maintain a minimum standard of living, while at the same time giving them the opportunity and confidence to invest in the future.

Understanding what makes successful livelihoods can also show us which sectors are worth investing in. The success of the livestock sector is a remarkable illustration: those households that own livestock are much less likely to be vulnerable to malnutrition and food insecurity (except in the event of a major climate shock) than those who do not. They also generate most of their income from livestock husbandry. For all these reasons, the government and aid agencies should give greater consideration to investing in the livestock sector, including measures to mitigate risks to animal health and market conditions (such as lack of fodder, outbreaks of disease, market bans, etc).

Further analysis of people's livelihoods in rural Niger is to be encouraged, to inform effective strategies to reduce malnutrition and poverty – strategies that are based on evidence rather than popular belief.

Notes

PART 2: How rural livelihoods are changing

¹ As opposed to probability samples of a predetermined size.

² There was some initial concern that women would not speak freely in front of men, but the teams found that women generally, but not always, needed little encouragement to participate fully, and on the whole this was accepted by the men. Separate interviews with men and women might be the ideal, but would double the time and cost of fieldwork.

³ In 2008, the total population of Dosso district was estimated to be 435,000, with people spread over 425 towns, villages and encampments. Interministerial Committee for Piloting the Rural Development Strategy (Comité Interministériel de Pilotage de la Stratégie de Développement Rural), Preliminary study into the regionalisation of the rural development strategy, Dosso region. Coopération Luxembourgeoise, October 2008

⁴ FEWS NET 2005, 'Livelihood zones and profiles in Niger', Famine Early Warning Systems Network (FEWS NET), United States Agency for International Development (USAID)

⁵ Save the Children UK and FEG Consulting 2008, *The Household Economy Approach: A guide for programme planners and policy-makers*

⁶ SIM-A: Systeme d'information des Marchés Agricoles; SIM-B: Système d'information des Marchés du Bétail = System for Market Information A: Crop items; B: Livestock

⁷ *Zakat* or *zaka'* is the obligatory giving of a proportion of a Muslim's annual earnings or production as charity. Locally this amounts to 10% of the cereal and pulse harvest where the total production of an item is ten measures or above. However, it is not always clear that all wealth groups actually give this amount of their production.

⁸ The area included in the field study extended west into the Gazoua area of Aguié department, in which two of the eight survey villages were located.

⁹ A *tia* is a bowl used as a standard local measurement. The *tia* used to measure production within the villages is slightly larger than that used for market transactions. A *tia* of millet at the market weighs on average 2.5kg.

¹⁰ See note 7.

¹¹ The area included in the field study extended a little west into Mayayi district, from which two villages were included in the sample.

¹² According to the 2001 census, the population of Tessaoua was 343,700. With a population growth rate of 3.7%, this extrapolates to an estimated 412,168 people in 2006.

¹³ See note 9.

¹⁴ See note 7.

PART 3: Conclusions and key findings

¹⁵ A way of comparing different mixes of livestock among households or groups of herders.

¹⁶ There was confusing information on the number of units per type of animal, but we have taken the values as used by the UN Food and Agriculture Organization (FAO), see: www.fao.org/Wairdocs/ILRI/x5443E/x5443e04.htm

¹⁷ Enquête Démographique et de Santé et à Indicateurs Multiples

¹⁸ Producing or containing oil or lipids.



Save the Children
UK

Understanding Household Economy in Rural Niger

“The 2005 food crisis in Niger came as a surprise to many. Warning signs were often incomplete and given late, full of contradictions. The classic food security beliefs that dominated the information missed the point that rural livelihoods have been changing. This important study will help all concerned understand who is most at risk of food insecurity and malnutrition in Niger today, and why. It will help decision-makers to avoid a repeat of what happened in 2005, and to respond faster and more effectively in times of crisis.”

Jan Eijkenaar, ECHO's Adviser for the Sahel region of West Africa

In Niger, nearly one in every two children under five is chronically malnourished – and that's in a 'normal' year. Almost half of the population in the south of the country can't afford a balanced diet. At the same time, the economy of rural Niger is changing rapidly, and the gap between rich and poor is growing.

To make Save the Children's programming as effective as possible, we need to really understand how people manage their livelihoods. What do they buy and sell, when, and where? How much do they earn, and how do they earn it? How much do they spend, and what

on? What makes a household better off or poor? And how do people cope with bad years or lean seasons?

This report has the answers. We carried out Household Economy Analysis profiles in five different livelihood zones in the sahelian zone of Niger. The story they reveal includes some surprising findings.

We hope this major piece of research will be widely used to inform discussions and decision-making on food security, early warning systems and poverty reduction strategies.

