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LONG-TERM CHANGE IN FOOD PROVISIONING AND MARKETING IN THE KANO REGION, 1960–2000

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Preface

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

This working paper is part of a study which aims to relate long-term environmental change, population growth and technological change, and to identify the policies and institutions which are conducive to sustainable development. The study builds upon an earlier project carried out by the Overseas Development Institute (ODI) in Machakos District, Kenya, whose preliminary results were published in a series of *ODI Working Papers* in 1990–1. This led to a book (Mary Tiffen, Michael Mortimore and Francis Gichuki, *More people, less erosion: environmental recovery in Kenya*, John Wiley, 1994), which was a synthesis and interpretation of the physical and social development path in Machakos. The book generated a set of hypotheses and policy recommendations which required testing in other African dryland environments. Using compatible methodologies, four linked studies have been carried out in:

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

For each of these study areas, there is a series of working papers and a synthesis, which have been reviewed at country workshops. An overall synthesis was discussed at an international workshop at London on 17 January, 2001.

The working papers on Nigeria are included in a combined Niger-Nigeria Series. The Nigeria component is limited to one in-country study of food marketing in the Kano region (leader Dr J. Ayodele Ariyo). The remaining studies, which are written in the UK, explore other aspects of long-term change in natural resource management, livelihoods and policy, and are based on published and unpublished material. The Research Leader for these studies is Michael Mortimore. He, Mary Tiffen or J. Ayodele Ariyo may be contacted at the following addresses.

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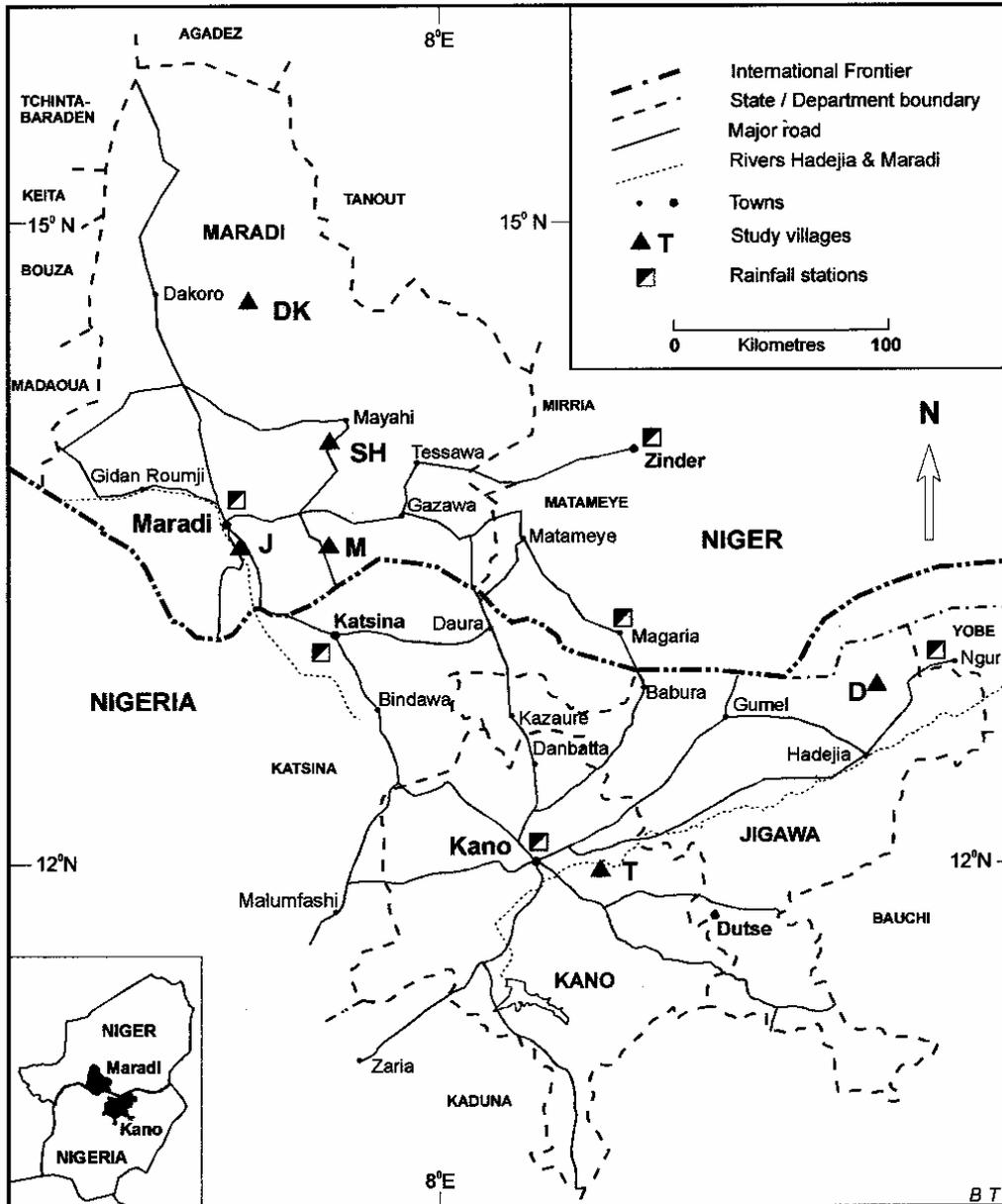
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Preface map



Abstract

Kano has long been a great centre of demand for food that elicits spontaneous responses from farmers and traders over a wide territory. This paper examines the nature of this response from three perspectives: of price movements for staple food grains and livestock; the experience of traders who mediate the exchange of these commodities; and the effects of severe rainfall variability and official policies on food prices and trade. Holding constant the amount of rainfall and politics, price appears to be the most important variable to which farming and trading activities in the Kano region are sensitive. When price levels were attractive and stable, farmers increased production and traders evolved a sophisticated form of trade organisation through which they patronised regional and distant markets for food commodities. The sensitivity of prices to macroeconomic policies is underscored by the profiles of staple food prices in Metropolitan Kano markets. The profiles feature periods of relative stability and wide fluctuations that represent policy epochs in Nigeria. The upward swing in food prices in the 1970s and through to the mid-1980s was first precipitated by the great drought of 1972–3 and then by huge public expenditure and massive rural-urban migration which characterised that period. However, the rise in the prices of locally produced food commodities was attenuated by the massive importation of grains and meat. The Structural Adjustment Programme, instituted between 1986 and 1998 in order to reverse the interventionist policies which had distorted the economy, initially stimulated food prices and production. However these positive effects could not be sustained owing to persistent hyperinflation that reduced people's purchasing power and crippled industrial demand for food raw materials. The spontaneous response of farmers and traders to price incentives suggests that price stabilisation is a key to sustainable long-term change. Thus what is required is the creation of favourable macroeconomic conditions that enable positive externalities to flow from one economic sector to another for the overall development of the region and the nation. In this regard inflation control by strengthening the national currency, and lowering the interest rate, are imperatives for stabilising prices and creating an environment conducive to investment. In addition, Nigeria's nascent democracy should be nurtured to guarantee uninterrupted access to the nation's potentially huge market.

Résumé

Kano est depuis longtemps un centre important pour la consommation de produits vivriers, ce qui crée une demande à laquelle répondent spontanément les paysans et les commerçants et qui touche un vaste territoire. Ce document examine la nature de cette réponse selon trois perspectives: Les variations des prix des céréales (cultures vivrières) et des produits animaux, l'expérience vécue par les commerçants qui servent d'intermédiaires au niveau de l'échange de ces produits, et les effets d'une variabilité importante de la pluviométrie, ainsi que des politiques gouvernementales sur les prix des produits vivriers et le commerce. L'ampleur de cette réponse au niveau des quantités de produits commercialisés et des zones touchées par ce commerce dépend de l'abondance des précipitations, des prix et de facteurs politiques. Lorsque le volume des pluies reste constant et qu'il n'y a pas de changements sur le plan politique, les variations de prix sont le facteur le plus important affectant les activités agricoles et commerciales dans la région de Kano. Le fait que ceux-ci soient stables et favorables a permis aux paysans d'augmenter la production et aux commerçants d'organiser un système de commercialisation élaboré leur permettant d'avoir accès aux produits des

marchés régionaux et des marchés plus éloignés.

L'influence des politiques macro-économiques sur les prix est mise en évidence si on examine l'évolution des prix des produits vivriers sur les marchés de la ville de Kano. Celle-ci présente des périodes de stabilité relative alternant avec des périodes de fluctuations importantes correspondant à des changements politiques sur le plan national. Au début de la période post-coloniale, de 1960 à 1969, qui fut caractérisée par une certaine stabilité sur le plan politique, les prix réels des produits vivriers ont très peu varié. Ces prix ont connu une tendance à la hausse au cours des années 1970 et jusqu'au milieu des années 1980, qui a été due en premier lieu à la sécheresse sévère des années 1972-3, mais également à d'énormes dépenses publiques et à une migration massive des populations des zones rurales vers les zones urbaines au cours de cette période. Le programme d'ajustement structurel qui a été institué entre 1986 et 1998 afin contrecarrer les effets des politiques interventionnistes de l'Etat, lesquelles avaient créé une certaine distorsion sur le plan économique, a initialement permis de stimuler les prix des produits vivriers et la production ; mais ces effets positifs n'ont pas pu être maintenu en raison d'une hyperinflation constante qui a réduit le pouvoir d'achat de la population et qui a limité la demande en matières premières de l'industrie alimentaire.

Contrairement au point de vue très répandu selon lequel les marges bénéficiaires prises par les commerçants sont énormes, la différence entre les prix de revient et de vente des produits sont actuellement très faibles en raison de l'amélioration des moyens de transport et de communication, lesquels ont permis une bonne intégration des marchés de la région de Kano. Les commerçants réfutent l'idée qu'ils stockeraient des produits vivriers afin de créer une fausse pénurie leur permettant d'augmenter les prix, car de tout temps ils ont vendu des céréales sur les marchés à quiconque leur offrait de les acheter à un prix raisonnable. Les paysans et les commerçants de la région de Kano ont montré qu'ils pouvaient être autosuffisants en parvenant à générer des fonds de roulement à partir de l'argent qu'ils avaient épargné et de celui provenant de leur famille. En outre les paysans ont montré leur faculté d'adaptation en abandonnant l'emploi des engrais chimiques et en utilisant de plus en plus la fumure animale pour maintenir la production vivrière.

La réponse positive spontanée des paysans et des commerçants par rapport à des prix incitatifs indique que la stabilisation des prix est essentielle pour pouvoir assurer une évolution à long terme durable. En conséquence il faut créer des conditions macro-économiques favorables permettant à des facteurs positifs affectant un secteur particulier d'avoir une influence sur les autres secteurs, entraînant ainsi le développement économique de toute la région et du pays. Le contrôle de l'inflation grâce à une politique de soutien de la monnaie du pays et de réduction des taux d'intérêt, est nécessaire pour stabiliser les prix et créer un environnement favorable pour les investissements, non seulement dans le domaine agricole ou commercial, mais dans tous les secteurs économiques. En outre, il faudrait soutenir le système démocratique mis en place depuis peu au Nigeria, afin de garantir un accès ininterrompu au marché intérieur dont le potentiel est énorme.

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Acronyms and abbreviations

FCFA:	Franc de Communauté Financière Africaine
CPI:	Consumer price index
KCSZ:	Kano Close-settled Zone
KNARDA:	Kano State Agricultural and Rural Development Authority
NNMB:	Northern Nigerian Marketing Board
SAP:	Structural Adjustment Programme
OFS:	Office of Federal Statistics

1 INTRODUCTION

1.1 BACKGROUND

Food security is a major concern in the Sudano-Sahelian region of West Africa because of the nature of its environment, which is characterised by increasing aridity, recurrent droughts and rapidly growing urban and rural populations. The key question is whether the region can continue to sustain such a large population with diversified income generating opportunities, as more and more people will have to look for livelihoods outside agriculture. While some authorities claim that population pressure is leading to soil degradation and erosion, thus reducing the productive capacity of the land, evidence of the intensification of agriculture has been found in the densely populated hinterlands of cities across the region (WALTPS, 1995).

The largest inland city in the region, Metropolitan Kano has an urban population of 1.5 million, and rural densities of over 300/km² in its intensively farmed hinterland, which is also known as the Kano Close-settled Zone (KCSZ). The influence of Kano's huge urban markets extends into other parts of Nigeria and neighbouring countries. Recent studies have shown that the KCSZ has succeeded in sustaining its soil resources under intensive agriculture (Harris, 1996; Mortimore and Adams, 1997) and may be a model of future development in similar areas in Nigeria and its neighbours.

The central aim of this study is, therefore, to investigate long-term change in the food supply system of Kano, with a view to identifying specific policy lessons which are applicable to similar areas. This aim has been pursued through the following tasks:

A. The construction of long-term real price profiles for the staple food commodities (millet, sorghum, maize, cowpeas and groundnuts) sold in Metropolitan Kano markets from 1960 to 1999: The objective of this exercise is to identify and match significant changes in the price of each food commodity with equally significant environmental and policy changes, such as rainfall variability, general macro-economic policies and infrastructural development.

B. An estimation of annual prices of the same food commodities, and of livestock (bulls, cows, sheep and goats) for Metropolitan Kano and rural markets within the Kano region: The target populations and source of information in this task are the grain and livestock traders in the major Kano markets, and in three regional bulking markets. The objective here is to supplement the long-series price data with the experience of the traders who mediate the exchange of these commodities, and whose perspectives may shed more light on the pattern of change that the price data may reveal.

C. An estimation of changes over time in the volume, geographical pattern and organisation of the food trade in the Kano region, using a study of the food trade in urban Kano in 1966 (Gilbert, 1969) as a baseline. Although 1966 marked the beginning of a major crisis which led to a 30-month civil war in Nigeria and is, therefore, perhaps an unrepresentative year, this is the only study with adequate coverage to serve as a baseline. The target populations are again the grain traders in the urban Kano and three regional bulking markets. The specific objectives are to determine changes in the types of food commodities traded, supply areas of the food commodities, allocation of food

commodities by the traders between Metropolitan Kano, other Nigerian markets and international ones, and the organisation of food trading at the urban Kano, regional and rural market levels.

D. An examination of the views of key participants in the food trade on the effects of government policies and of the rainfall, on their trading activities and food production decisions: The production of wheat and rice is not included in this study.¹

1.2 METHODOLOGY

1.2.1 Sources and analysis of data

Food prices from secondary sources

The long series food commodity price data for urban Kano markets were derived from three sets of sources. The first were archival materials in Kaduna. Copies were later taken from the *Bulletin of Market Information, Northern Provinces* monthly food prices for 1928–45, *Crop and Weather Report* of the Ministry of Agriculture and Northern Nigeria monthly food prices for 1952–65 (Northern Nigeria, MA, 1965). Files on Kano Province yielded prices of millet, sorghum and cowpeas for 1966–8. The second source was the *Annual Digest of Statistics* by the Ministry of Finance and Economic Development, Kano State, which gives monthly prices of the five food commodities for 1966–84. The third source was the monthly retail food prices published by the Kano State Agricultural and Rural Development Authority (KNARDA), from where price data for 1984–99 were copied (Kano, KNARDA, 1984–99).

In terms of specific crops, the years for which complete monthly price data are available are as follows:

Millet:	1936–45 and 1950–99
Sorghum:	1936–45 and 1950–99
Cowpeas:	1942–5 and 1957–99
Maize:	1942–5 and 1979–99
Groundnuts:	1928–35 and 1980–99

It should be pointed out that recorded prices available for groundnuts between 1954 and 1984 were the annual prices fixed by the Northern Nigerian Marketing Board (NNMB), whose mandate was to regulate the prices of export commodities such as cotton and groundnuts. Our effort to find *monthly* prices of groundnuts to fill the gap for that period (1936–79) was not successful. The commodity prices up to 1972 were converted to naira per ton. Based on the data available, retail price profiles were constructed from 1960 to 1998 for cowpeas, sorghum and millet, from 1961 to 1998 for groundnuts and 1979 to 1998 for maize. These price profiles reveal and reflect epochs in macroeconomic policies, socio-political development and environmental problems that have occurred in Nigeria, and enable some comparisons with other countries.

¹ All wheat, and most rice, grown in Northern Nigeria is irrigated. Large quantities have been imported, depending on government policies. The impact of these policies on staple food prices is shown in Chapter 4.

Rainfall data

A major factor directly affecting food production in a dry area like the Kano region is rainfall. Severe rainfall variability which characterises this region means that its people have to live with recurrent droughts. Long-term rainfall data (1916–99) were obtained from Ahmadu Bello University Institute for Agricultural Research, Kano station, which shows for each year the number of rainy days, total amount of rainfall, and deviations from the long-term means of both rainy days and rainfall. The rainfall data were used as a partial but strong explanatory variable in relation to food commodity output and price movements.

1.2.2 Price movements

The real prices of the food commodities were derived by deflating their mean annual nominal prices with the official annual consumer price index (CPI). Three CPIs were available (Annex 1): a) 1960–9; b) 1960–76; and c) 1970–98.

The 1960–9 series with 1960 as base was used to deflate the mean annual nominal prices of cowpeas, groundnuts, millet and sorghum from 1960–9. The 1970–98 series with 1985 as base were used to deflate the mean annual nominal prices of all five commodities from 1970–98. The resultant real prices of each commodity for the periods 1960–9 and 1970–98 were graphed together in the same frames, except in the case of maize, for which there were no nominal prices available from 1960–78. Real prices could not be calculated after 1998, as no price index was available.

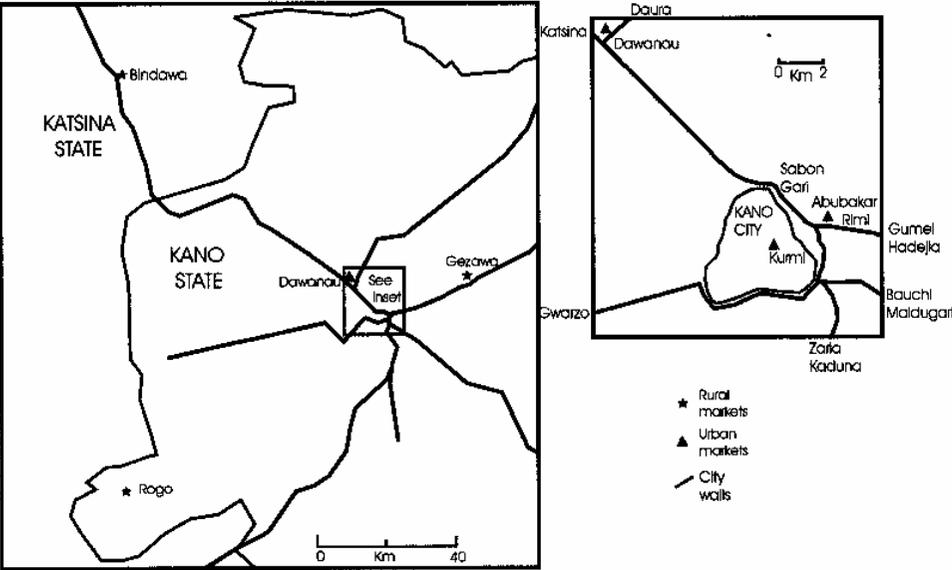
1.2.3 Key participants in the food trade and their selection

The key participants

The key participants in the food trade of the Kano region are the grain and the livestock traders in Metropolitan Kano and the regional bulking markets. Also included in the study are the farmer-traders who trade in food commodities and who operate at the lowest tier of the markets where rural output and consumption can be picked up better.

At the apex of the food marketing system are the three Metropolitan Kano markets – Dawanau (the newest and largest), Abubakar Rimi (formerly called Sabon Gari), which was the largest market before Dawanau assumed that position in the 1980s, and Kurmi (the largest inside the ancient city of Kano). Two traders of each of the five food commodities were selected for interview at each market. In selecting the regional bulking markets, consideration was given to the ecological diversity existing in the Kano region. Gezawa is located in a dry area, has a high population density and lies within the KCSZ. Bindawa (in Katsina State) is also located in a dry area but has a lower population density than Gezawa and is further away from urban Kano. Rogo lies in the sub-humid southern part of Kano State. The three centres are long-established and well patronised regional bulking markets, from whence food commodities are transported to larger urban markets in northern and southern Nigeria. Again two traders in each of the five food commodities were selected for interview in each regional bulking market. The sample of smaller periodic markets where farmer-traders are most likely to be operating were selected close to the three regional bulking markets. These are Tumbau near Gezawa, Sibdawa near Bindawa and Jajaye near Rogo. Twelve farmer-traders were interviewed in each of the three villages.

Figure 1: The markets included in the survey



In or near each of the six markets six livestock traders were selected for interview. It is important to point out here that, in the absence of any recorded livestock price series for Kano markets, this study relies entirely on the information provided by the traders.

Selection of traders for interview

Apart from a willingness to be interviewed for one and a half to two hours, the major criterion for the selection of traders for interview was a long trading experience (c 20 years). Such experience (and of farming, in the case of farmer-traders) was considered necessary in order to be able to provide historical information on the pattern of long-term change in trading activities, and the factors seen as responsible for the change.

An additional consideration in selecting farmer-traders for interview was that they should be long-time residents in the villages where the periodic markets are located. We are convinced that thorough interviewing of this type of trader can reveal a lot about others who are their clients. The selection of a small number of traders in each market was therefore purposeful, depended on personal contacts, and is possibly unrepresentative of the range of food commodity traders in the Kano region.

1.2.4 Interview questionnaires

Three sets of questionnaires, which focused on a wide range of issues, were designed, tested and modified for in-depth interviews of the three categories of traders. The questionnaires consisted of a mixture of open- and closed-ended questions and took about one and a half hours to administer.

A. The grain trader questionnaire addressed the following: characteristics of the traders; sources of capital; sources of information on grain supply and demand areas; the process of price fixing; organisation of the grain trade; variations in the volume, price and destinations of the grains traded in the last twenty years; grain storage; effects of ecological problems on the grain trade; distribution of profits from grain trading; and the perceived effects of macroeconomic policies on grain supply and prices, and how the traders adjusted their trading activities in response to them.

B. The livestock trader questionnaire covered the characteristics of the livestock traders; sources of capital; organisation of the livestock trade; sources of information on livestock supply; sources of livestock supply; changes in the source markets over time and reasons for the changes; relationships between livestock traders and suppliers; variations in the quantity, price and destinations of the livestock trade over time; average annual prices of each type of livestock; seasonal variations in the prices of each type of livestock and the reasons responsible for the variations; effects of insufficient rainfall on livestock trade; and the effects of major government policies on the livestock trade.

C. The farmer-trader questionnaire focused on the characteristics of the farmer-traders; labour supplies; land holding; sources of capital; capital investment in grain production; organisation of the grain trade; variations in the volume of grains produced and sold; other sources of additional grains; reasons for patronising these sources; services farmer traders perform for other farmers whose grains they sell; relationship between the farmer-traders and urban grain traders; how farmer-traders are remunerated for their services to other farmers and urban traders; things farmer-traders normally

consider in determining which crops to grow and sell from year to year; grain storage; effects of ecological problems on grain output and sale and actions of the farmer-traders to cope with poor grain harvests; perceived effects of government policies on grain farming and trading and how the farmer-traders adjusted their activities in response to each policy.

1.2.5 Administration of the questionnaire

The markets covered in the study fall into three concentric zones. The three markets in Metropolitan Kano, and its cattle markets, constitute the first zone. Gezawa is a second, while Bindawa and Rogo are the third. A trained assistant was used to administer the questionnaires in each zone.

Some of the questions required the traders, who normally do not keep records, to remember quantitative facts over a fairly long period of time. In order to assist them to remember, the assistants were provided with a list of significant political regimes and events, and widely published economic policies, which they used in the form of recall questions. This process and the length of the questionnaires explain why it took 1.5–2 hours to interview a respondent. It turned out that in spite of the selection of the traders on the basis of trading experience, and the use of recall questions to assist them, only two or three in each market could remember quantitative facts about their trading activities over a 20-year period. A few more could recall their sales, output and expenditure figures over the last 10 years, while most of them had no problems at all remembering quantitative facts about their trading activities in the last five years.

1.2.6 Analysis of questionnaire data

The returns were analysed by type of food commodities and by market, to see if ecological differentiations in the Kano region would be reflected in differentiations in trading activities among the various markets. Where appropriate, the summaries were transformed into graphs to show the changes that have occurred in food trading in the markets.

1.3 STAPLE FOOD MARKETING IN NORTHERN NIGERIA

This review is restricted to the findings of those previous studies accessible to us as they relate to the marketing system, the geographical pattern of the trade areas and the factors which affect food production and trade decisions, and which may explain long-term changes in the food trade.

1.3.1 The food marketing systems

Location of produce sales

The food marketing system of northern Nigeria was, and still is composed of four exchange levels:

- producers;
- village markets;
- rural bulking; and

- urban or regional markets.

At the producer level, the transaction is between the farmer and rural assemblers who move from compound to compound to buy for themselves or on behalf of assembling wholesalers. Other farmers are also involved at this level, buying for their own use or for resale later in the same locality. Producers with small sales may also take their commodities to nearby village markets while those with larger sales patronise rural bulking markets. In both the village and rural bulking markets the producers deliver the grains they have to sell to rural assemblers, retail or wholesale commission agents.

The urban or regional market serves the double functions of consumption centre and a break-of-bulk and transshipment point (Gilbert, 1969). A large proportion of the produce arriving in the urban market is consumed within the urban centre while the remainder is transferred to other deficit urban centres and rural areas. Wholesalers, retailers and wholesale commission agents, who receive their supplies in lorries from rural bulking markets, dominate the urban market. At the time Gilbert's study was carried out there were two major urban markets in Kano – Sabon Gari (now Abubakar Rimi) and Kurmi markets. Dawanau market, located some 20 km outside Kano, has emerged since the mid-1980s as the third and largest market.

Two important changes have been observed in the organisation of the food trade among Dawanau merchants (Meagher *et al.*, 1995) that may be typical of recent developments in other urban centres. Until the mid-1980s, urban food traders sourced their supplies through commission agents based in rural areas, who were advanced money for purchases.² Recent improvements in road transportation and increasing risk in advancing money to agents have brought about a change in organisation. Dawanau grain traders have now evolved networks of major dealers, semi-independent sub-dealers and agents through which contacts are made and information passed on about grain supply, demand and prices. Following this network, some urban traders go to the rural markets to buy directly, while some rural traders take their grains directly to the urban markets to sell. In addition, traders also come to the urban markets to buy grains for shipment to deficit areas far and near. The main function of the major dealers has become that of matching buyers and sellers for a commission. However, dealers who supply government and industry on contract still use their own capital to buy grain. Dawanau traders have also evolved an umbrella association (Chapter 3) to promote co-operation among the numerous unions in the market and with traders from other parts of the country. The umbrella association also negotiates with the Government over taxes, market infrastructure, and facilitates business transactions and grain deliveries at designated places without the actual traders having to come to Dawanau market (Meagher *et al.*, 1995).

Actors in the marketing system

The groups of actors who occupy the central position in the food marketing system are the assemblers (Hausa = *dan sari* (singular), *yar sari* (plural), wholesalers (Hausa = *dan sari babba* (singular), *yan sari babba* (plural)), retailers (Hausa = *ma'auni* (singular),

² This shows the strength of demand and vigour of supply, as it used to be common for traders to tour producing areas offering advances (e.g. on groundnut as early as 1912 – Hogendorn, 1978) or buying futures (e.g. yams in the Zaria area in the 1970s).

ma'auna (plural)) and commission agents (Hausa = *dillali* (singular), *dillalai* (plural)). Assemblers and wholesalers complement each other in that the former operate at the production end and the latter at the consumption end. Assemblers usually reside in the village where they trade, are part-time traders, and often combine farming with other activities. Assemblers deal in small volumes, so entry into the trade requires a very small capital. Their primary function is to collect produce from the farmers and resell to wholesalers, retailers, and to consumers directly or through commission agents.

Wholesalers are full-time traders dealing in larger volumes, and though they operate over wider areas than assemblers, they generally have their operating bases in cities. They buy their supplies from producers, assemblers and commission agents in bulking markets and transport their purchases to bulking markets or consuming centres for sale to other retailers and consumers. Commission agents act as intermediaries between produce buyers and sellers. They are knowledgeable about market prices and conditions. There are rural and urban commission agents. Both operate along similar lines, except that urban wholesale commission agents are involved in much larger volumes of produce and therefore require a lot more capital and store space.

Retailers form the fourth group of actors in the marketing system. They sell directly to consumers and are found in every location of produce sales. Quantities sold are measured with bowls of standard sizes (usually the *tiya* of 2.2 kg, of which 40 make up one 100 kg bag) approved by the local governments. There are large and small-scale retailers, as well as assemblers and wholesalers who are also in the retail business. So retailers form the largest single group of actors, next to producers, in the marketing system in northern Nigeria.

Storage and market margins

All the actors in the marketing system, from assemblers to retailers and even producers, engage in the storage of food commodities for varying lengths of time (Hays, 1975; Gilbert, 1969). Grain storage of one to two weeks is common today among wholesalers and wholesale commission agents.³ Rural assemblers generally store their produce for not more than a week when supplies are plentiful and they can make more frequent visits to the market, but store up to three weeks in time of low supplies to allow stock to build up. Rural commission agents do not store grains as a general practice, returning what is not sold to the owners.⁴ At the producer level, storage for consumption may last for six months or more, while up to 50 percent of what is earmarked for the market is normally sold within three months of harvest.

All food commodities, including groundnuts since the abolition of marketing boards in 1987, are traded in an unregulated environment, characterised by a large number of independent and competing sellers and buyers. Given this apparently strong competition in the market, the trade margins of the numerous actors should be minimal. In Zaria around 1970, producers received an annual average of 69 percent of retail prices (Hays, 1975).

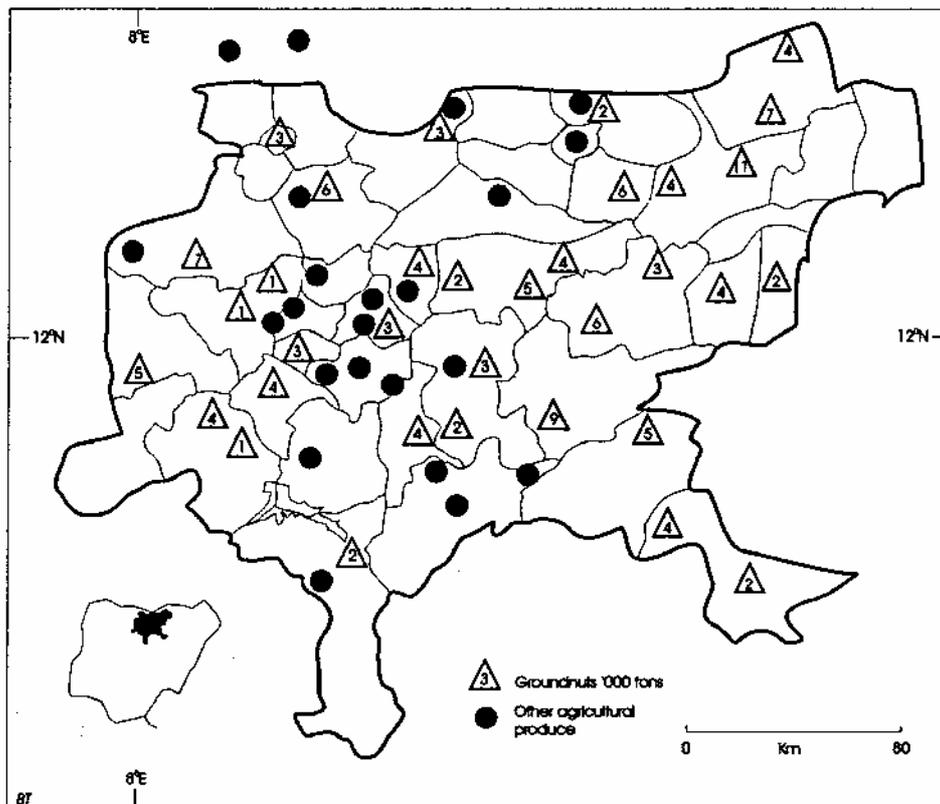
³ See "Answers to queries", 13.17.

⁴ Storage for periods is unusual and hoarding (=locking grain stores against would-be purchasers) is vehemently denied. See Chapter 3.

Price changes at the retail level were reflected back through market channels to the producer. Although there were sometimes as many as seven intermediaries in the distribution channel, they all provided necessary services for which they received a reasonable return given their investment of time and money.’ (Hays, 1976: 147)

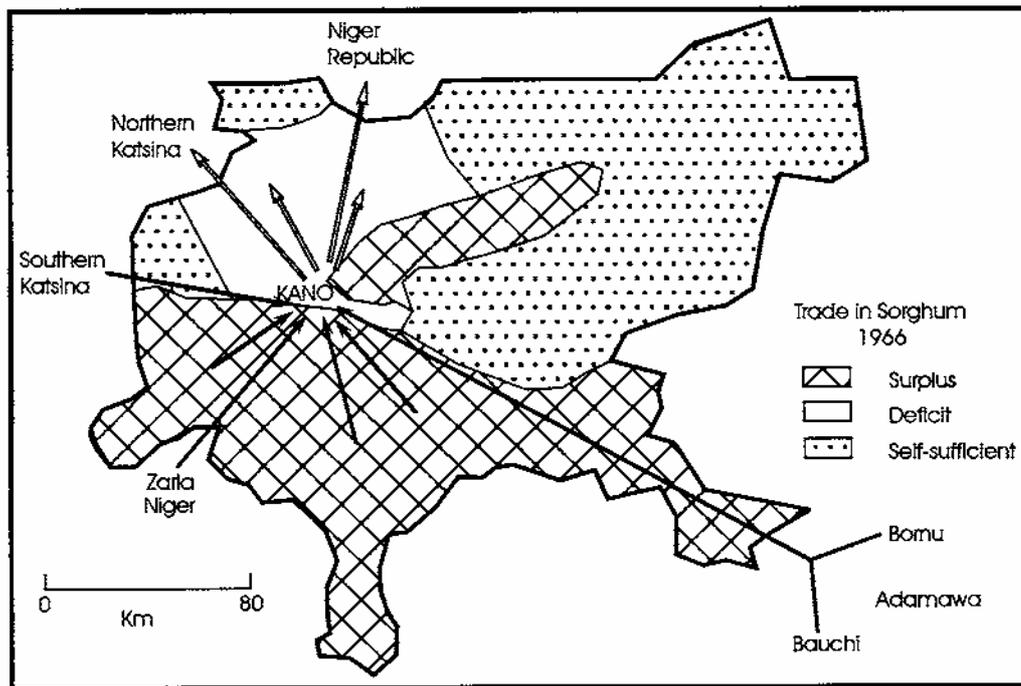
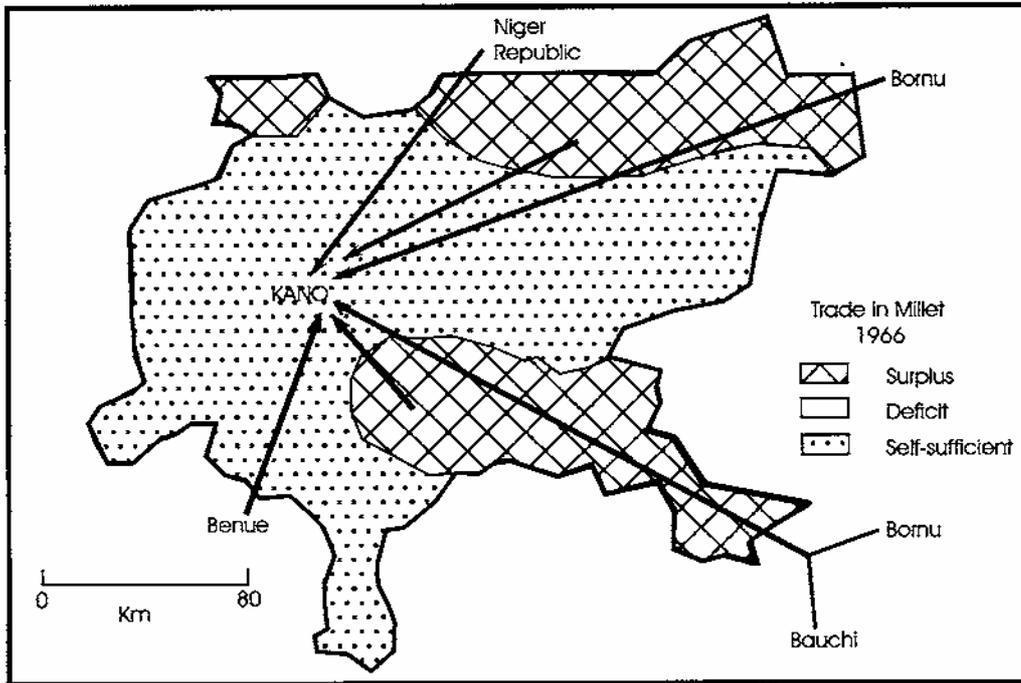
However, notwithstanding competition, inter-market price differentials implied imperfections in the market. These may have included erratic supplies, and poor information dissemination in the various markets (Gilbert, 1969; Hays, 1975).

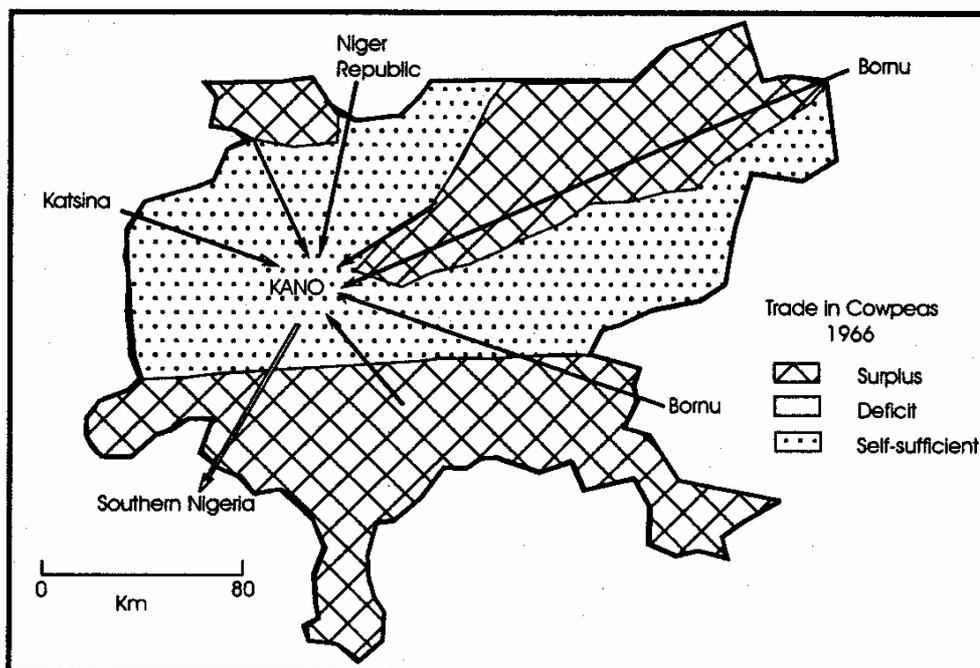
Figure 2: Sources of supply of groundnuts and foodstuffs, Kano Province, 1963



Source: McDonnell, 1963 (reproduced in Trevallion *et al.*, 1969: 17).

Figure 3: Sources of supply of millet, sorghum and cowpeas to urban Kano, 1966
 (below and facing page)





Source: Gilbert, 1969.

1.3.2 Geographical pattern of the food trade in Kano

Kano is an ancient city with a long tradition of trade and commerce. It was an important terminal point of the trans-Saharan trade before the twentieth century. By the end of the nineteenth century, travelling traders (*yan kwarami*) maintained extensive networks, which included food commodities, for which Kano's demand drew on a catchment area extending to Zamfara and Damagaram, involving round trips of three to four weeks (Watts, 1987). The extension of the railway to Kano in 1911 led to a transformation of the city into the most important commercial centre in northern Nigeria. Its population grew from 250,000 in 1962 to 1,500,000 in 1991. Kano's deficit in food (notwithstanding a significant output of grain from farms owned by city residents) generated a strong inward flow, and the transfer of trading surpluses, built up in the process, to other deficit areas both north and south.

The spatial pattern of the food trade in Kano at the beginning of our period – the 1960s – reflects the ecological differentiations in its hinterland. Kano's hinterland is defined as all the areas with which the Kano urban markets trade, including the whole of Nigeria and its northern neighbour, the Niger Republic. Figures 2 and 3 show the source areas of the major food commodities, within the then Kano Province and regionally, using data obtained in 1963 (McDonnell, 1963) and 1966 (Gilbert, 1969). Millet and cowpeas then came into Kano mainly from the drier northern areas, corresponding to Sokoto, Katsina, northern Kano, Jigawa, Yobe, northern Bauchi and Borno States, and Zinder and Maradi Departments of Niger. Sorghum flowed from somewhat more humid districts, and rice from riverine areas and from further south in what are now Kaduna,

Niger, Plateau and Benue States. Marketing chains, especially for interregional movements of food commodities such as cowpeas (which were taken from northern Kano or Maradi as far as Ibadan or Lagos) and yams (which were bulked at markets in what is now Benue State for transport to Kano), were specific to the production ecology, demand patterns, transport and price information requirements of the commodity (Mortimore, 1979). The food provisioning of Kano at that time has to be set in the context of price competition with export groundnuts, which were produced in large quantities in every populated area of Kano Province, which then sold half of the entire Nigerian crop.

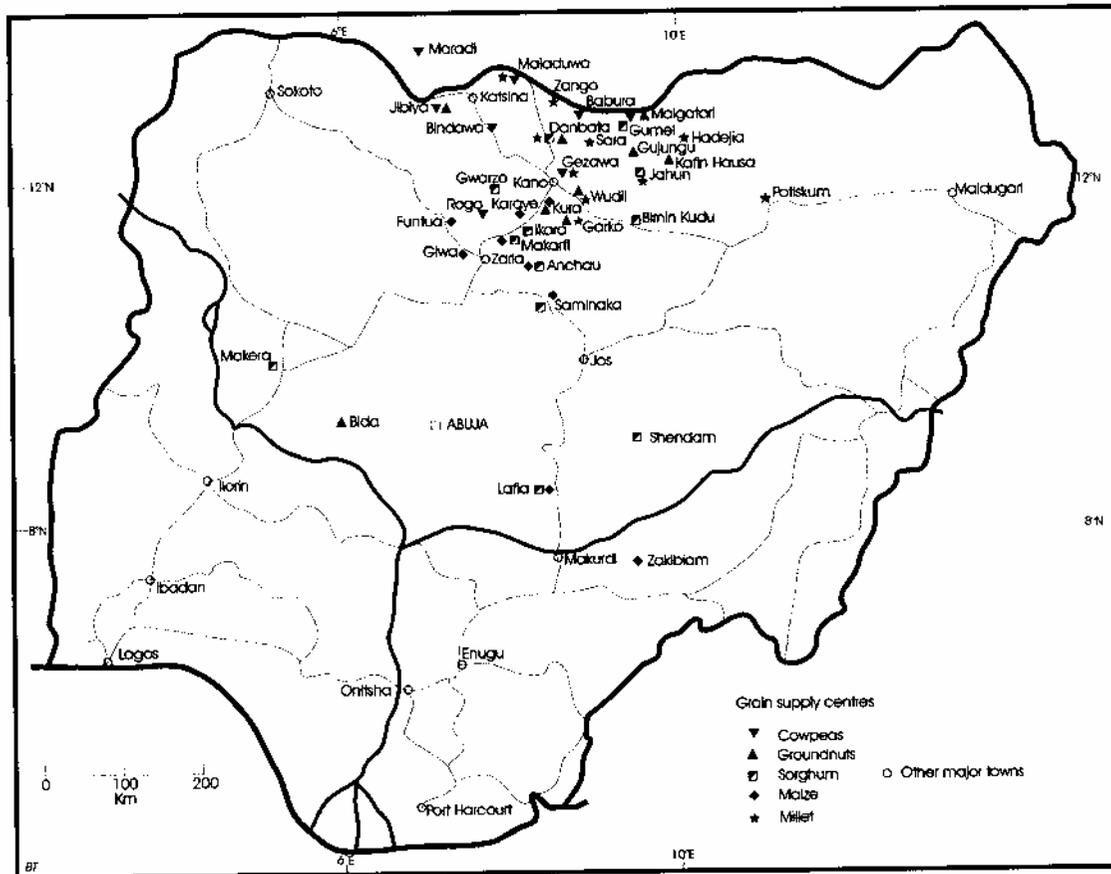
Meat (cattle, sheep or goats) was mostly obtained from a group of markets near Kano, but many of these animals originated in other areas, including Niger Republic. The trade in live animals was strongly focussed on the south of the country (Fricke, 1977, using data of 1974). In Kano, trade cattle slaughtered, or moved live to the south, far exceeded in number those used locally. Sheep, rams and goats also figured large in the transit trade.

These patterns have changed significantly in three ways. First, groundnut production for export virtually ceased after 1975, and unknown quantities are now grown for an internal market. Second, maize has become a major trade commodity in Kano, generally supplied from areas further south, although a small but vigorous production is maintained from local river valleys; rainfed maize in Nigeria is often also destined for industrial uses or feedstock. Third, the import of yams and cassava flour from the south of the country has increased with the growth of urban demand. Otherwise the patterns, including that of meat supply, are still in evidence today (Figure 4).

It is significant that the inner KCSZ even then contributed little to provisioning Kano, except in the households of urban farmers. Surveys of donkeys in 1965 and 1969, then extensively used in short-range transport, showed that grain movements in and out of the city were more or less self-cancelling from year to year (Mortimore, 1972), though there was a net import of cassava (since then, local cassava production has been decimated by low rainfall). In villages within 10 km of the urban area, grain deficits were a normal characteristic of household production systems which gave priority to groundnuts (Mortimore and Wilson, 1965).

Even in the 1960s provisioning Kano was embedded in a pattern of interregional trade at the national level. 'Local foodstuffs' accounted for 20 percent of estimated money flows between the four Regions into which Nigeria was then divided in 1964, and cattle for 13 percent (Northern Nigeria, MA, 1957; Hay and Smith, 1970: 51–70). The local foodstuff trade was dominated by beans (cowpeas) and onions travelling south, and yams, cassava flour and rice travelling north. About 100,000 tons of cowpeas were involved. The number of cattle moving south was estimated to be 300,000 per year, though (surprisingly) 'other livestock' were found to be insignificant. Kano was a key node of both rail and road movements (Hay and Smith, 1970: 113–43). Thus traders were able to allocate commodities to more than one market depending on prices. For urban populations, absolute food scarcities, such as those which brought starvation to the city of Kano in 1908 and 1913 (Watts, 1987), were moderated by rail and, to an increasing extent, road transport.

Figure 4: Major markets supplying grain to Kano urban markets in 1999



Source: Interviews with traders, urban Kano, 1999.

Today, cowpeas, maize, sorghum and livestock are the four commodities which feature most prominently in the food flowing out of Kano. Trading surpluses of sorghum and maize are regularly sent to Niger Republic and to rural areas within Kano's hinterland, where deficits occur on account of crop failures or specialisation in other crops. Millet, livestock and cowpeas are the main food commodities sent to Kano from Niger Republic. The cowpea trade with south-western Nigeria, where it is a favourite staple food, has continued in existence for a long time.

It would appear that the spatial pattern of the food trade in Kano has been basically stable for a long time. The ecological basis of the pattern of the trade has not changed but its ability to survive a significant reduction in average rainfall, while increasing commodity volumes, is testimony to its strength. The changes in the trade circuits are in the volume of the trade, as it has been affected by population growth (demand), improvements in transportation and marketing facilities (supply) and macroeconomic policies.

1.3.3 Factors influencing production and trading decisions

Although prices ultimately determine the exchanges between areas of demand and supply, other factors have played a significant role, first in stimulating price, and second in determining the capacity of suppliers to respond and of traders to undertake the necessary transactions. Among the first group is rainfall variability, which has long been a major determinant of agricultural output and of food prices in the region. Years of drought and low food output are marked by high food prices in drought-affected areas and higher incomes for farmers who are not affected by drought. Metropolitan Kano's large and growing population is another factor, the demand for food so far exceeding what can be met locally that Kano has long been a regional centre of trading.

It is not easy to separate the effects of policy from the impact of underlying demographic and commercial trends on the growth of the trade and hinterland of food commodities, especially as both commerce and local government revenues were supported for half a century from the profits of the groundnut trade. The food trade has been boosted by infrastructural development, especially the expansion of rural roads by the State Government under the Agricultural Development Project (ADP, later KNARDA) after 1981, irrigation development by both the State and Federal Governments especially from 1974, and the provision of market infrastructure in major towns and villages. Other government policies which have encouraged market production in the Kano region are agricultural education through extension services and the provision of subsidised fertiliser and other agricultural inputs.

An important condition for investment in land improvement for market production is the long-established right of individuals to own land in Hausaland.

There has, however, been a reversal of some of these policies under Nigeria's economic deregulation programme which was initiated in 1986 (Mustapha and Meagher, 2000). This has had considerable negative effects on food production and trade. The most significant of these policies which directly affect agricultural production and food trade are the continuing devaluation of the national currency, which has made imported agricultural inputs expensive; the withdrawal of subsidies on agricultural inputs (especially fertiliser) and the continuing increase in fuel prices and the associated high

transport costs. On the other hand, the falling naira has increased the cost of potential competitors of the staple foods (Mustapha and Meagher, 2000: 45, 55).

Monetary policy has also affected the volume and composition of the food trade between Nigeria and Niger Republic (Meagher *et al.*, 1995). The franc de Communauté Financière Africaine (FCFA) had maintained its international convertibility since 1948, but the lack of convertibility in the naira after the late 1960s, and its massive devaluation since 1986, has been the major factor in the direction and magnitude of the cross-border trade between Nigeria and Niger Republic. But the FCFA was itself devalued by 50 percent in 1994. This altered the composition and volume of crops traded between the two nations, with a significant shift towards cowpeas and *aya* (*Cyperus esculentis*) from Niger Republic, and much lower quantities of Nigeria's maize and sorghum going in the opposite direction, than in the period before devaluation. The thrust of this study is, therefore, to determine what lessons can be learned from the trend of the long-series price data, and the responses of food traders to the effects of macroeconomic policies, from which to make practical recommendations.

2 LONG-TERM PRICE PROFILES OF FOOD COMMODITIES

The long-term monthly prices of the five food commodities were converted into real prices by deflating them with the official composite consumer price indices from 1960 to 1998 (Annex 1). Although monthly prices of the commodities were available for 1999 there was no official price index for 1999 by which the prices could be deflated. The graphs which depict the long-term price profiles of the commodities are shown in Figures 5–9.

2.1 1960–9

Except for the interruption of the civil war and its antecedent disturbances in the northern states, the first period (1960–9) was marked by relative price stability. There were minor increases (by present day standards) in the unregulated prices of millet, sorghum, and cowpeas in 1966–7. The relative price stability of the first period derived largely from the consistency in macroeconomic policy. Nowhere is this consistency more evident than in official groundnut prices, which were fixed by the Northern Nigeria Marketing board (NNMB).

Domestic food trading in general operated in an unregulated environment, allowing prices to reflect the actual market forces of demand and supply. The road infrastructure was still rudimentary between 1960 and 1969. Kano markets were not yet wide open to every nook and cranny of Nigeria, as they are today.

2.2 1970–86

The second period, 1970–86, represents sixteen years of major changes in the Nigerian economy and society. It marked the end of the 30-month civil war, the inception and growth of the oil-driven economic boom, which financed extensive intervention by the state in the economy in the form of agricultural development, infrastructural development, a doubling of wages in the public sector and intensive rural-urban migration. The trends in the food prices under study reflect the volatile nature of this period.

The price of groundnuts, which was still fixed by the marketing board during this period, fluctuated less than those of the food grains (Figure 6). The prices of the unregulated commodities (Figures 5 and 7–9), as well as rising over the period, suffered more fluctuation as a result of the combined effects of inflation, poor management of the economy (especially during the Second Republic of 1979–83) and drought (1973 especially). In addition to the demand from a rapidly growing urban population, government policies and poor economic management, and insufficient rainfall in the Kano region pushed up the nominal prices of cowpeas, maize, millet and sorghum significantly between 1981 and 1983. High money flow into the economy and the attendant inflation would have pushed food prices higher still but for the massive importation of food during that period. Hence the downward tendency of the underlying trend in the real price of maize, a grain imported on a massive scale between 1979 and 1986.

2.3 1987–1991/92

The policy package known as the Structural Adjustment Programme (SAP), instituted in June 1986, provides the backdrop to a spectacular rise in prices in general in Nigeria from 1987 to 1998. SAP was intended to attack Nigeria's "excessive dependence on one commodity (oil), chronic lack of self-reliant growth and development, serious balance of payments disequilibria, growing government budget deficit, low productivity, 'stagflation'..." (Phillips, 1987: 1; 1990). Consequently the SAP policy package consisted of the following: trade and payment liberalisation; tariff reform and rationalisation to promote industrial diversification; deregulation; reduction in administrative controls and greater reliance on market forces; removal of subsidies or adoption of appropriate pricing policies for petroleum products and public enterprise output, rationalisation and privatisation of public enterprises; strengthening of existing demand management policies; and adoption of measures to stimulate production and broaden the supply base of the economy. The SAP policies that had immediate and far-reaching effects on prices were deregulation, privatisation and the removal of subsidies on petroleum products and agricultural inputs. For example, a nominal sharp rise in the price of maize during this period followed a large increase in the demand for locally grown maize by industries to replace maize, wheat, malt and barley imports which were banned in 1986. In addition, the institution of a dual exchange rate policy (under which the naira was allowed to float for non-governmental transactions) began a cycle of devaluation and rapid price inflation in all sectors of the economy. The trends of the grain prices outlined below, as well as the responses of the traders interviewed for this study and considered in Chapter 3, reveal the effects of these policies.

In general, however, only the real price of groundnuts (which was deregulated in 1987) increased substantially between 1987 and 1992. During the same period the real prices of cowpeas suffered a decline (except in 1991), while those of maize, millet and sorghum rose only slightly above their 1987 levels.

2.4 1992/93–1998

This was a period marked on the one hand by political and ethno-religious crises, and on the other by low industrial capacity utilisation. The political crises were witnessed in 1993, after the annulment of the presidential election of June 12, and in 1994 when the assumed winner of that election declared himself President and was arrested by the Federal Military Government. The ethno-religious crises usually started as religious crises but assumed strong ethnic dimensions at their peaks. During these crises trade between major urban centres in northern Nigeria and southern Nigeria was usually interrupted, so that prices of domestic food commodities were depressed in the northern towns, including Kano.

The high cost of borrowing money, high foreign exchange rates and the generally low purchasing power of the populace forced many industries in Nigeria either to shut down completely or to produce at levels far below their installed capacity. Consequently industrial demand for raw materials, including some food commodities, fell considerably between 1992/93 and 1998. Compounding these effects, the Government further intensified the implementing of the SAP by increasing fuel prices considerably in 1993 and 1995, and by withdrawing subsidy on various brands of fertiliser.

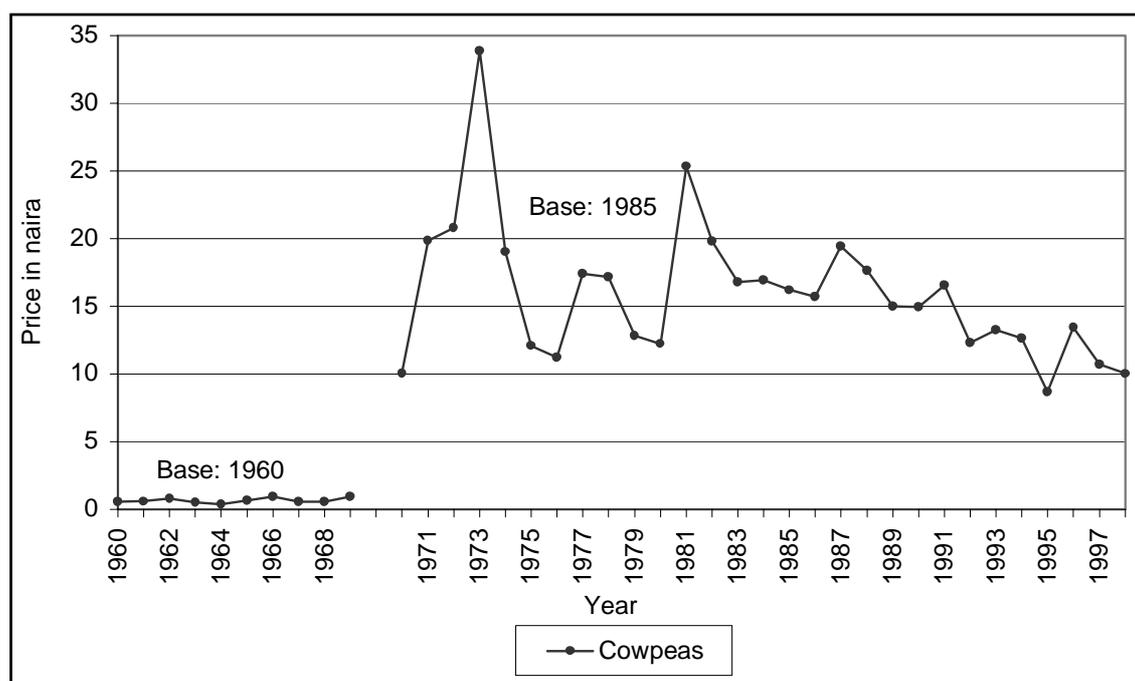
The combined effect of these factors is reflected in the trend of prices shown in Figures 5–9, which assume a strongly downward direction for groundnuts, stagnation for maize, and an upward direction for millet and sorghum between 1992/93 and 1998. The stagnation in the price of maize and the rise in that of sorghum during this period were because industries have found sorghum to be a good substitute for maize. Millet remained the favourite staple food of the region and in great demand because of the rising population, hence the upward movement of its price during this period. The peaks and troughs which marked the price trends (especially cowpeas) were specific years of drought or of political and religious crisis, when prices were driven up by poor supplies or down by low demand.

2.5 CONCLUSION

Two findings of the above analysis of trends in real prices are important for our present purpose.

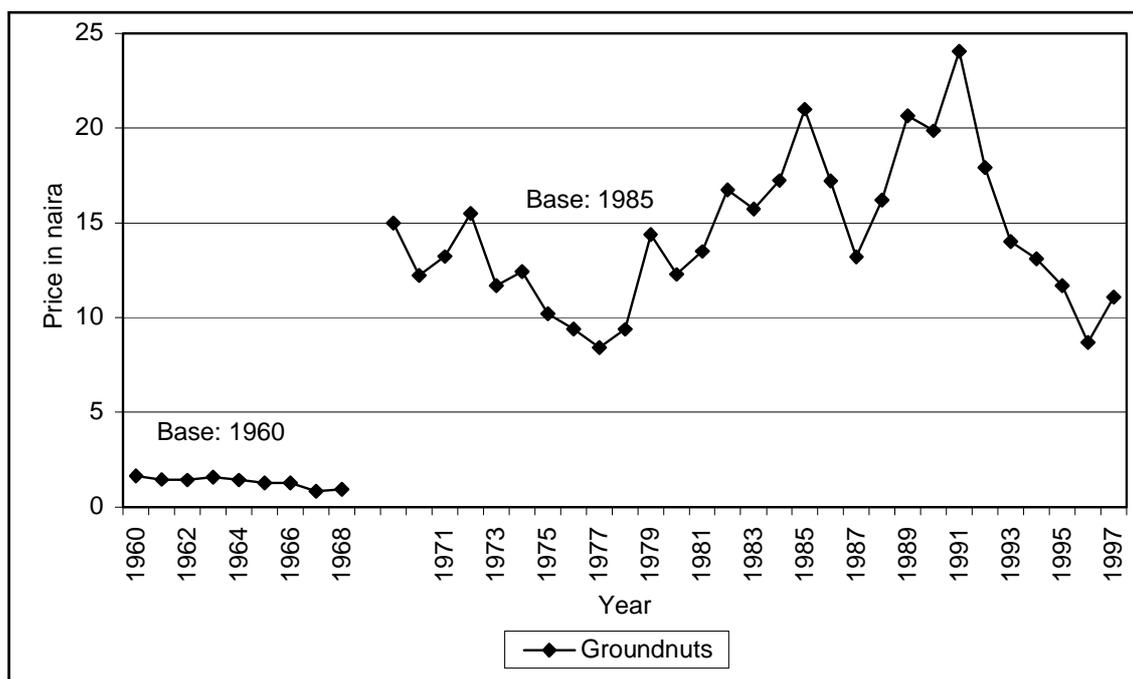
1. Fluctuations caused by weather, policy changes and political disturbances have undermined the stability of retail (and therefore also of producer) prices since the Sahel drought of 1972–4.
2. Notwithstanding the high levels of inflation which have driven the nominal prices of food ever higher and undermined consumer confidence, the underlying trends in the real prices of these five commodities were downwards for significantly lengthy periods (e.g. cowpeas from 1981 to 1998; groundnuts from 1992 to 1997; millet from 1977 to 1994; sorghum from 1981 to 1994). This has profound implications for producer confidence.

Figure 5: Cowpea real prices, 1960–98 (naira/ton)



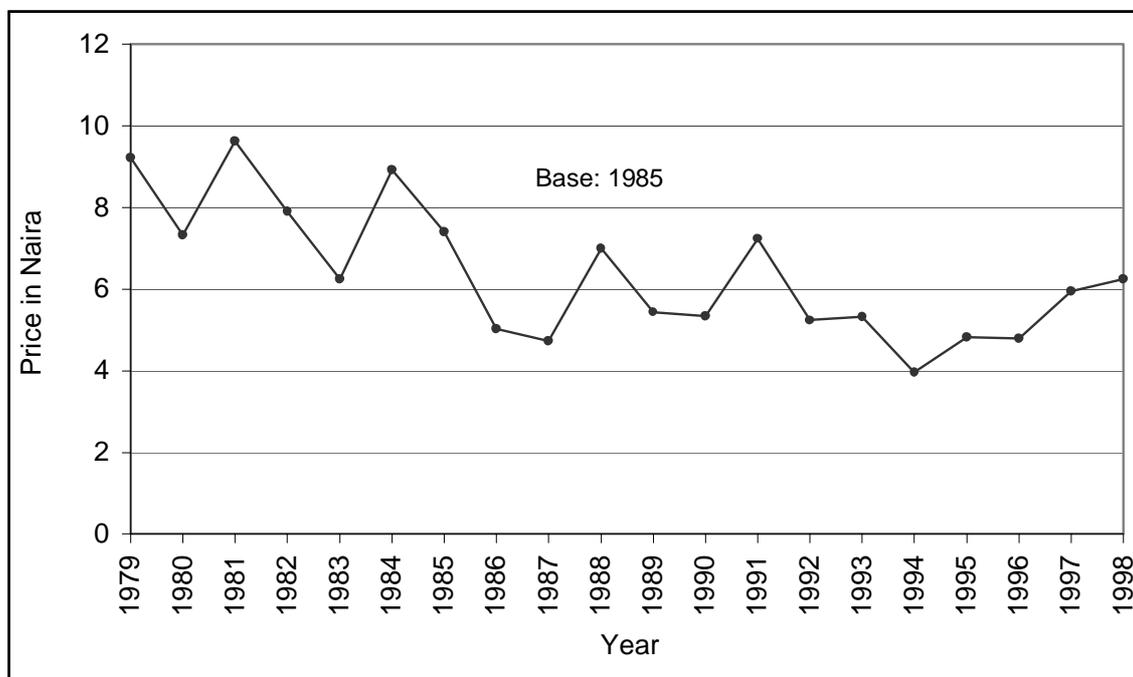
Base: Base year of deflator (see p. 3).

Figure 6: Groundnut real prices, 1960–98 (naira/ton)



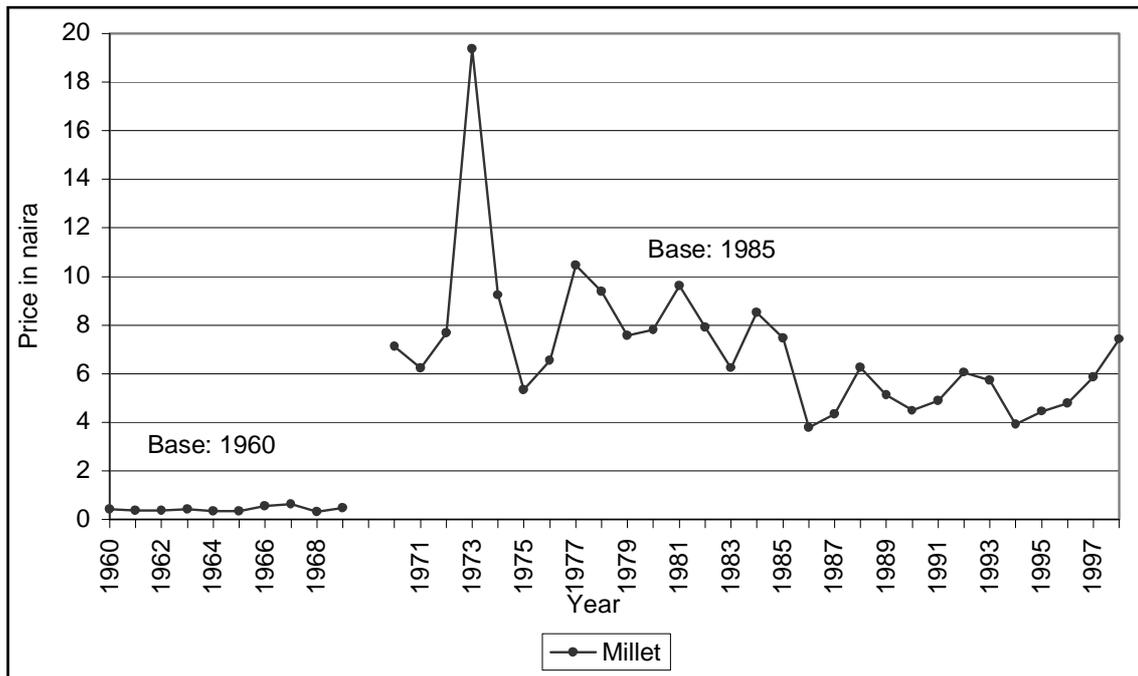
Base: Base year of deflator (see p. 3).

Figure 7: Maize real prices, 1979–98 (naira/ton)



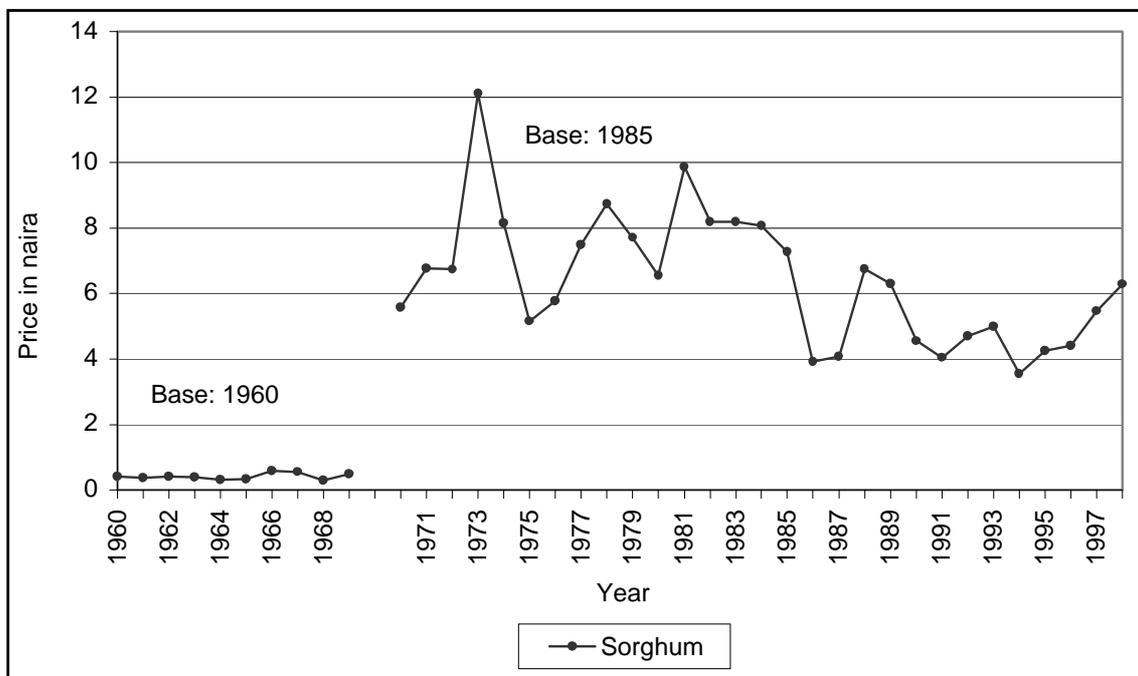
Base: Base year of deflator (see p. 3).

Figure 8: Millet real prices, 1960–98 (naira/ton)



Base: Base year of deflator (see p. 3).

Figure 9: Sorghum real prices, 1960–98 (naira/ton)



Base: Base year of deflator (see p. 3).

3 THE GRAIN TRADE IN METROPOLITAN KANO AND SELECTED BULKING RURAL MARKETS

3.1 CHARACTERISTICS OF THE GRAIN TRADERS

Gender, tribe and level of education

All the 60 traders interviewed in the three Metropolitan Kano markets and in the rural bulking markets of Gezawa, Bindawa and Rogo were Hausa males. Only two of the 30 traders in the three urban markets had any formal Western education, and that was up to secondary level. In the rural bulking markets, three of the 30 traders interviewed had secondary education and a third had some post secondary training in teacher education. The dominance of the Hausa in grain trading is not surprising as it follows the general pattern in Nigeria where indigenous men and women dominate the trade in commodities that are produced in their locality or region, or sourced by their own people. The preponderance of males in the grain trade also follows the pattern in the Moslem communities of northern Nigeria.⁵

Trading experience and size category

The sample selection process was biased in favour of those with long trading experience. Those traders with longer experience in the grain trade are concentrated in the Metropolitan Kano markets, especially Dawanau and Kurmi, where five of them had between 16 and 20 years of trading experience and 11 had over 20 years. The majority of the traders in the rural bulking markets have six to 15 years of experience.

All ten traders selected in Dawanau and four of those selected in Kurmi markets were large scale traders with a turnover of about four to six trailer loads of grains a week in the peak period. The remaining traders from Kurmi and Abubakar Rimi markets were medium scale traders whose turnover did not exceed two trailer loads of grains a week in the peak season. With the exception of three large scale ones, all the traders in the rural bulking markets fall into the medium scale category.

3.2 SOURCES OF CAPITAL

Source of the start-up capital

The grain traders identified three main sources of their initial capital: personal savings from other activities, loans from friends and relatives and gifts, also from friends and relatives. The most important of these sources, which 23 of 30 indicated as their primary source, is loans from friends and relatives. These loans are in the form of cash advances to purchase grains for delivery to the lender for a commission, or to be repaid in cash, usually without any interest charged.

The traders in rural bulking markets rely slightly more than urban traders on personal savings (26 of 30 compared with 23 of 30 urban traders), but urban traders have better access to loans (six of 30 compared to three of 30 rural traders).

⁵ However, at the intern-household level, secluded women may engage in grain trading on a significant scale (Hill, 1972).

Sources of capital to expand the grain trade

The urban-based traders have access to more diverse sources of capital to expand their activities, especially institutional or formal loans, than rural traders. These sources are the Government, banks and companies. Eight of 30 urban traders indicated that they derive some of their capital to expand their business from these sources. All the traders, urban and rural, indicated that they plough back some of their profits or personal savings into their business. Loans from friends and relatives are still important for expansion. In this respect, eight urban and three rural traders indicated that they derive expansion capital from this source.

3.3 ORGANISATION OF THE GRAIN TRADE TODAY

Sources of information on grain supply and demand

Sources of information on supply and demand areas are four: (1) radio, (2) other traders, (3) farmers and (4) government bulletins. While all the 30 urban traders claimed to derive information from other traders, all 30 rural traders relied more on farmers. The significance of sources (2) and (3) derives from the fact that other traders serve as a link between rural and urban markets, while farmers play the same role between the rural markets and village producers, especially those farmers who are part-time traders. The radio (1) and government bulletins (4) were mentioned by only a few of the traders interviewed.

Price fixing

Four key considerations go into determining the prices of grains, according to the traders. These are: (1) an ability to haggle, (2) prices at the last market day or week, (3) rainfall in the last and current year, and (4) the supply and demand condition for each commodity. While buyers would like to offer prices very close to the previous market day's prices, sellers take into consideration the likely supply and demand situations in the very short term, say a week to one month, the rainfall condition of the current year and general price trends in fixing food commodity prices.

Most urban (26 of 30) and rural (23) traders indicated that supply and demand conditions is the most important factor in fixing the price each market day. Rural traders put rainfall as the second most important, while their urban counterparts regarded prices on the previous market day as second in importance. Haggling is considered an essential skill by both urban (16 traders) and rural (21) in arriving at the final price during a transaction.

Membership of grain trade associations

Urban markets: The traders interviewed at Dawanau, Abubakar Rimi and Kurmi markets all belong to two traders' associations. The first is an umbrella association (e.g. *Dawanau Market Development Association*) which serves as the link between the traders and the Government, and whose main function is to negotiate on taxes, market infrastructure and security. The second is the farm produce traders' association for a specific commodity, such as the yam traders association (Hausa = *Kunjiyar masu saida doya*), or a group of commodities, such as the cowpea and grain traders' association. The function of the association is to promote co-operation among local traders and with traders from other parts of Nigeria. Through it, information on supply, demand and

prices is disseminated, and business transactions and grain deliveries in designated places are facilitated.

In support of the grain traders' associations, members attend meetings and pay annual levies, and make financial contributions to assist members in times of difficulty. The benefits they derive include: market information, security of stores, links with other traders, and a peaceful atmosphere in which to conduct their businesses.

Rural markets: None of the 30 traders interviewed indicated membership of any traders' association. However, the markets are organised spatially along commodity lines, and all the traders in each section recognise a leader. The grain traders' leader arbitrates disputes among them. No regular dues are levied on rural traders, but they assist one another when necessary. The local government provides the market infrastructure and maintains security in these markets. The traders pay a fee to officials every market day. The amount a trader pays depends on his capacity rating.

3.3.1 Organisation of the sourcing and selling of grains

Rural bulking markets: The organisation of the grain trade in the rural markets has not changed very much with the passage of time (Chapter 1, Section 1.3.1). Rural assemblers, who are part-time farmers and traders, dominate the supply. More than 50 percent of the traders interviewed in Gezawa, Bindawa and Rogo procured their supplies from the assemblers, while 36–44 percent bought from farmers.

Urban markets: We found that changes in the sourcing and selling of grains in the three Metropolitan Kano markets were in line with the pattern described by Meagher et al. (1995) in Dawanau (Chapter 1, Section 1.3.1). Major dealers in the urban Kano markets now match buyers and sellers for a commission. Between 84 and 100 percent of the grains traded by those interviewed in the Metropolitan Kano markets were supplied by independent traders and 5–16 percent by rural agents.

Geographical patterns

Although the urban and rural traders were able to identify the main sources of their grain supplies, they could not ascertain the quantities of each type that came from specific sources over the years. The sources are indicated in Figure 4 (see Chapter 1, Section 1.3.1). The dry areas of east, west and north Kano State and Niger Republic are the primary sources of cowpeas, millet and groundnuts. Maize and sorghum come mainly from the more humid guinea savannah areas to the south of Kano, especially southern Katsina, northern Kaduna and the southern Plateau States. In years of drought and lower output in the dry belt, Kano's urban traders reach much further south to Benue and Niger States for grains, especially maize, sorghum and even millet.

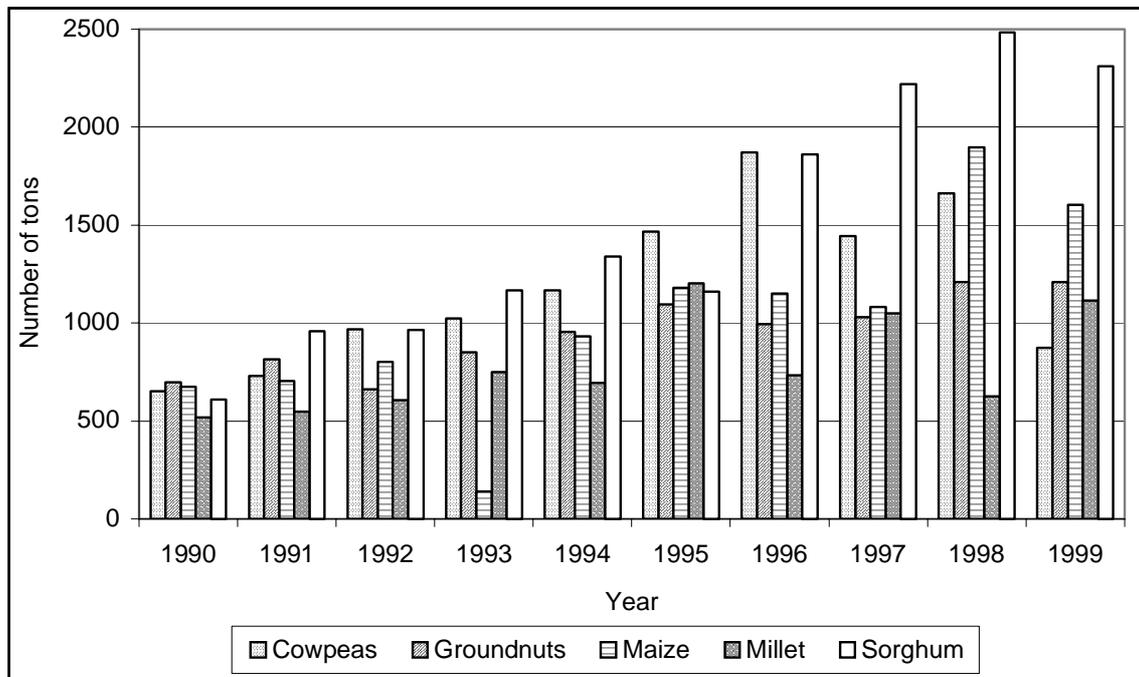
The traders interviewed in this study confirmed, as we observed in Chapter 1, that the spatial pattern of the food trade was set a long time ago. The changes that have taken place are in the volume and varieties traded. The improvement in road transportation has allowed traders to bring more varied and larger quantities of food commodities into Kano to feed its rapidly growing urban population. Food commodities from southern Nigeria such as processed cassava and yams from the guinea savannah region now flood urban Kano markets, though it should be noted that owing to cultural preference they

are only partial substitutes for cereal grains.

Distribution of grain sales

Buyers fall into three categories: (1) companies or manufacturing industries, (2) other grain sellers, and (3) consumers. Sales to companies were recorded only in Dawanau, where 70 percent of traders’ sales of maize and sorghum, and 20 percent of cowpeas, groundnuts and millet were to manufacturing industries in northern and southern Nigeria. In the Kano markets, 65–95 percent of cowpeas, 60–100 percent of groundnuts, 30–85 percent of maize, 80–100 percent of millet and 30–100 percent of sorghum were sold to other sellers. In the rural markets, traders in Gezawa and Rogo sold 70–100 percent of their grains to other sellers, and the balance to consumers (3). In Bindawa, however, except for groundnuts (90 percent), traders sold 30 percent or less to other traders. The bulk of their sales went to consumers, including those who processed their purchases into other products before selling to the final consumers.

Figure 10: Quantity of grains sold by 60 traders in six markets, 1990–9



3.4 VOLUMES AND PATTERN OF THE GRAIN TRADE

Quantities of grains traded over time

The quantities of grains sold by the 60 traders interviewed in the six markets were summed to arrive at the volume of grain they traded annually between 1990 and 1999, expressed in the numbers of 100 kg bags (Figure 10). The quantities of grains traded in 1999 did not represent the total for the year as our survey was conducted in the months of October and November, that is, before the farming year was over. It is not possible, using recall methods, to reconstruct traded quantities before 1990. The quantities sold of all the five grains tended to rise from 1990 to 1999.

Sorghum was consistently handled (by these traders) in larger quantities than millet. As a major staple, sorghum is heavily traded in the Kano region just like millet. Fluctuations from year to year are due to a combination of factors, including drought, and changes in demand from industries as well as private consumers. Buoyant demand encourages additional supplies from distant places.

Geographical allocation of grains from the six markets

The destinations of traded grains were categorised as follows: Metropolitan Kano, the Kano region, southern Nigeria and Niger Republic. The Kano region includes destinations in Kano, Kaduna, Katsina, Sokoto and Jigawa States. It includes local destinations in the areas surrounding the three rural markets.

Common reasons given by the traders for fluctuations in their turnover and allocations were droughts (which occurred with varying severity in 1991–3, 1995 and 1997), the political crisis of 1993–4 (which curtailed shipments to Lagos and south-western Nigeria) and a glut in the market in 1998 and 1999.

Cowpeas: The traders in all six markets allocated a large proportion of their cowpeas to (3) southern Nigeria – over 50 percent, except in 1993 (Figure 11). Cowpea is a major staple and source of protein in south-western Nigeria, Metropolitan Kano (which recovered about a third) and the Kano region (which received the balance).

Groundnuts: Metropolitan Kano received over 50 percent of the traded groundnuts, the Kano region about a third and southern Nigeria rather less (Figure 12). The larger share received by Metropolitan Kano and the Kano region is due to the consumer preference for groundnut oil and to the demand from oil processing mills in Kano.

Maize is another grain that is heavily traded with southern Nigeria. Between one third and half of traded maize went to southern Nigeria, to industries mainly. Metropolitan Kano received between a quarter and a half, and the Kano region took about a quarter (Figure 13). Maize has been sent to Niger Republic for some time, but these respondents became involved only in 1995. The amount they allocated between 1995 and 1999 was quite small – less than 2000 bags per year.

Millet being the major staple food of the Kano region, most of the quantities traded were consumed within it (Figure 14). A small quantity was also allocated to Niger Republic between 1992 and 1999.

Sorghum is also a staple, with Metropolitan Kano and the Kano region absorbing 70–90 percent. Metropolitan Kano alone took over 50 percent (Figure 15). Sorghum also featured as an important food commodity allocated to Niger Republic. The quantity sent reached 2,000 bags (100 tons) in 1993 and 2,400 bags (120 tons) in 1997.

Figure 11: Quantities of cowpeas traded by year and destination (60 traders)

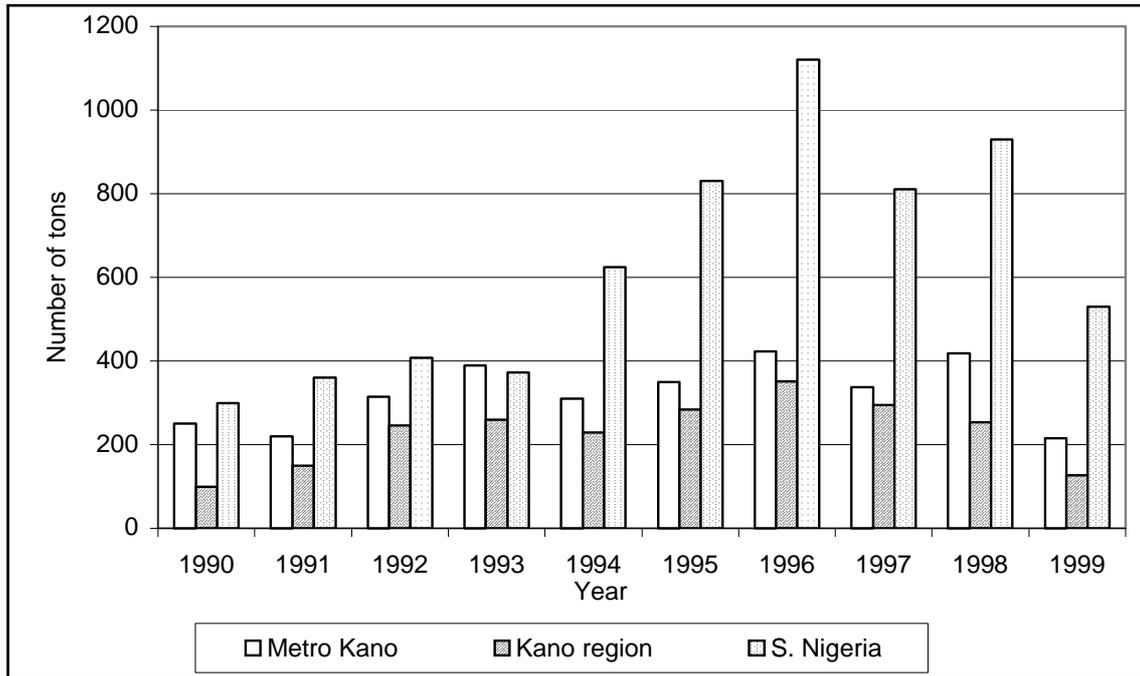


Figure 12: Quantities of groundnuts traded by year and destination (60 traders)

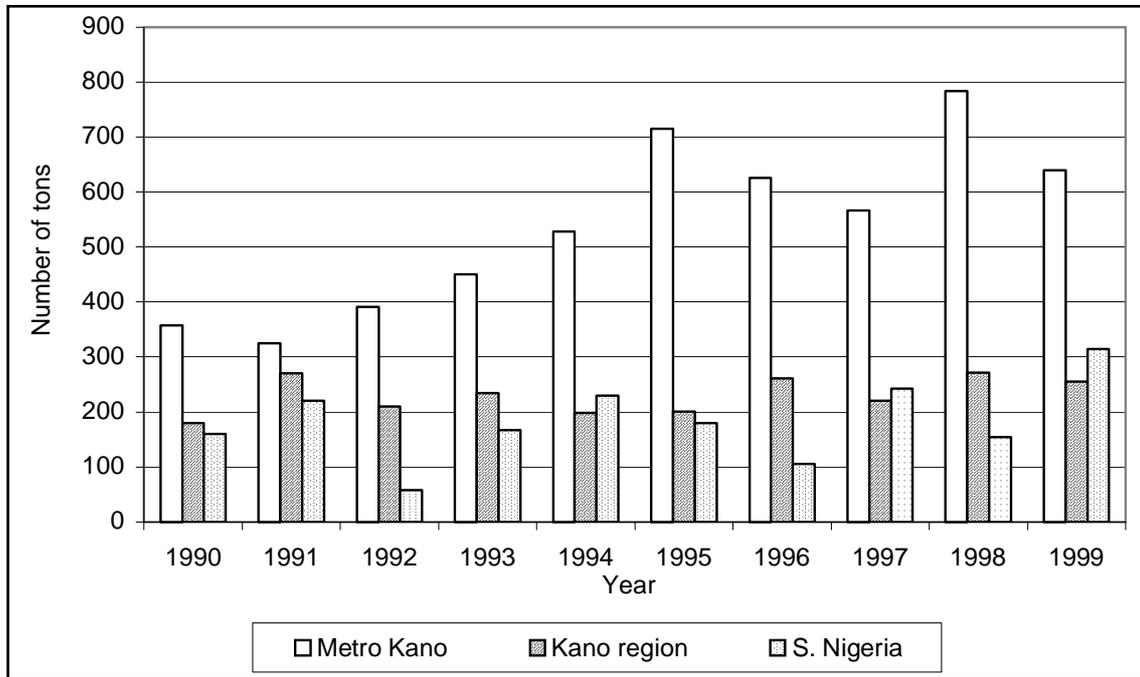


Figure 13: Quantities of maize traded by year and destination (60 traders)

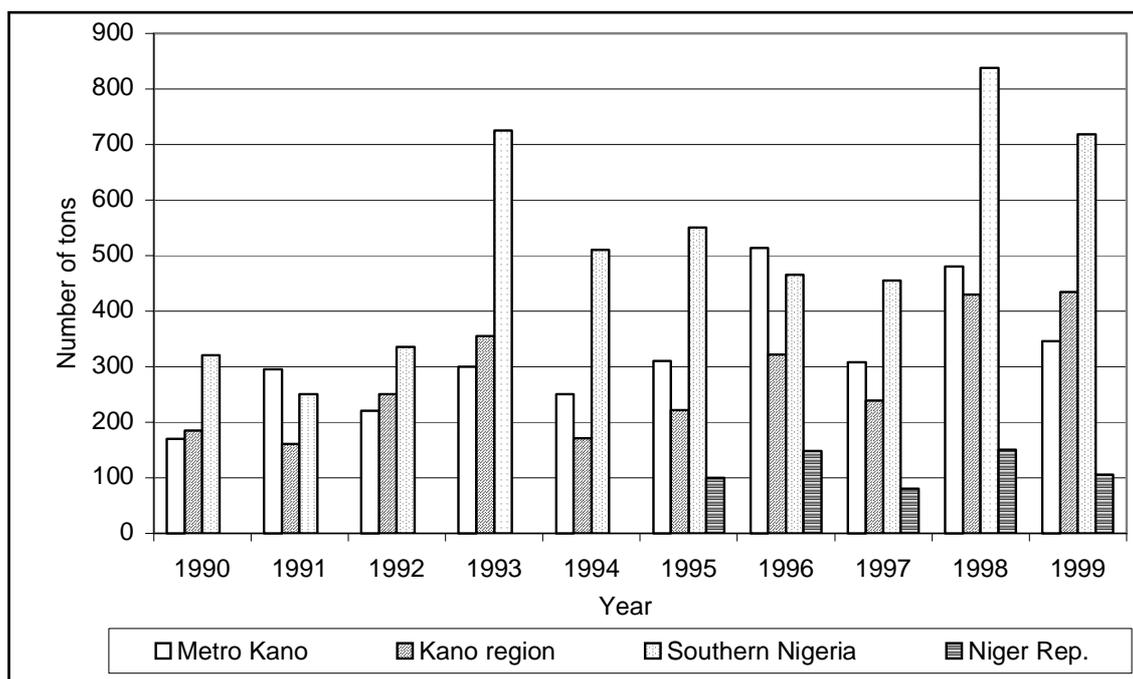


Figure 14: Quantities of millet traded by year and destination (60 traders)

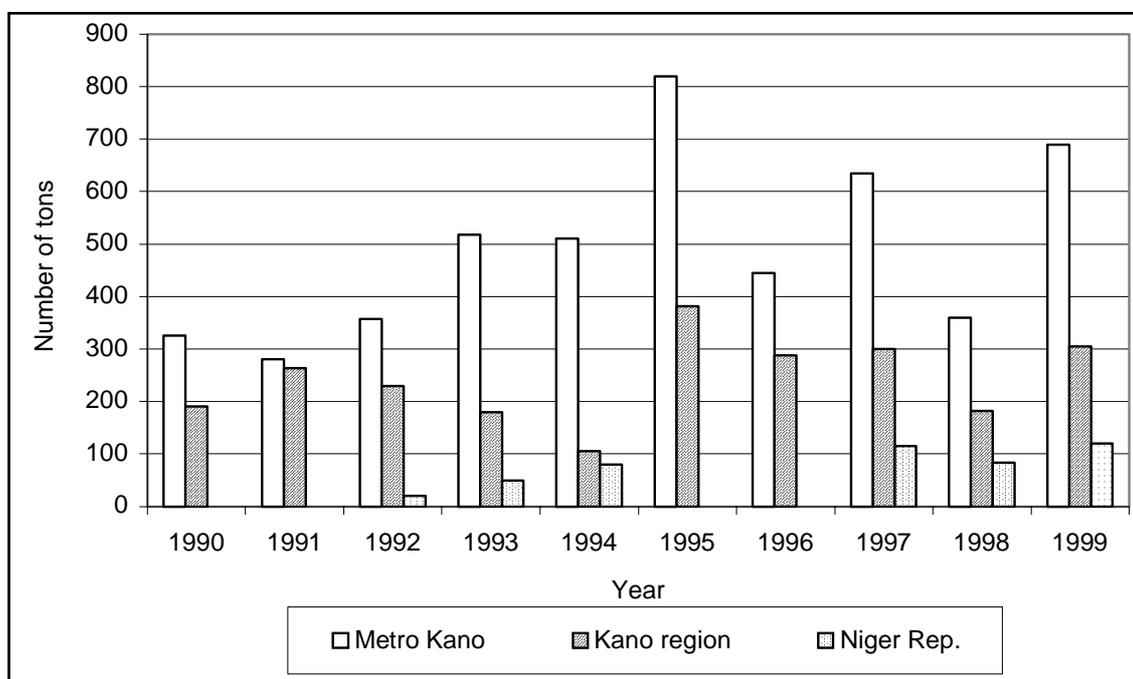
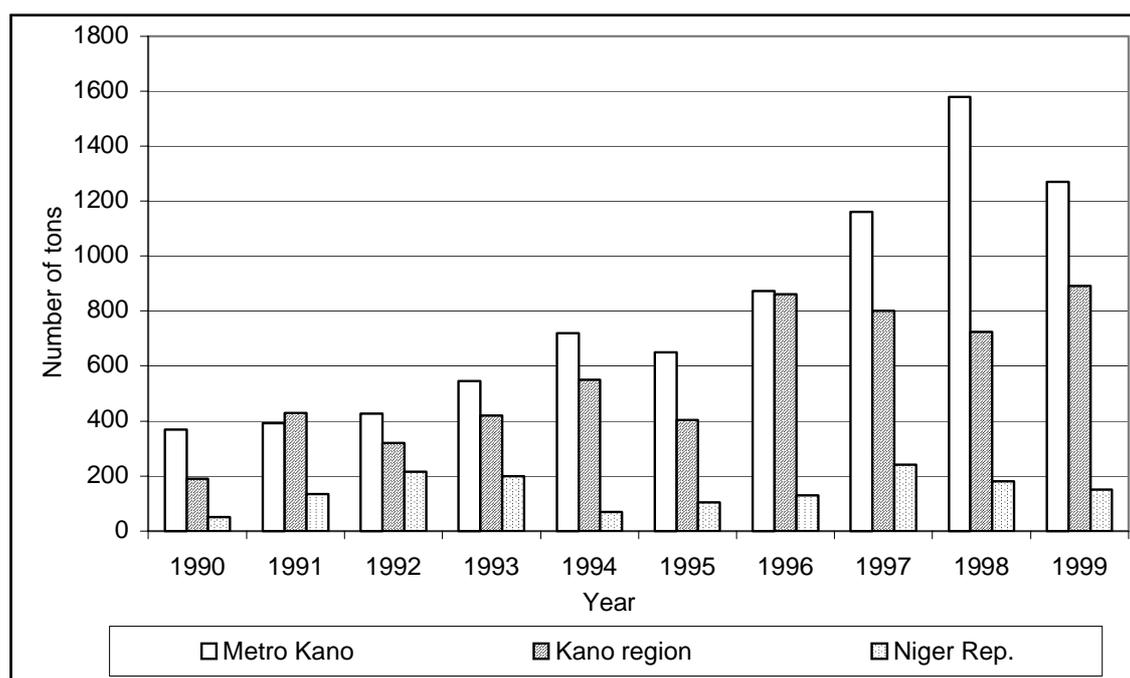


Figure 15: Quantities of sorghum traded by year and destination (60 trades)



Cost and selling price differentials

We use the term ‘cost and selling price differentials’ to shadow the profit margins of the traders, because of our inability to determine precisely the trading expenses of those we interviewed. From the interview it was obvious that trading expenses vary so often that any generalisation derived for the current year (i.e. 1999) could not meaningfully be applied to previous years. To arrive at the price differentials, the mean annual cost and selling prices for each crop were obtained for the urban traders as a group, and for each of the rural markets separately. The difference between the mean annual cost and selling prices were then expressed as a percentage of the cost price.

Table 1: Minimum, maximum and average cost selling price differentials in Metropolitan Kano markets, 1990-9 (as a percentage of cost prices)

Crop	Min.	Year	Max.	Year	Average
Cowpeas	21	1999	33	1995	27.0
Groundnuts	17	1999	36	1992	26.5
Maize	19	1999	33	1995	25.5
Millet	17	1999	36	1992	26.5
Sorghum	16	1999	36	1995	25.8

Source: Field surveys, October–November, 1999.

The method yielded a pattern of cost and selling price differentials that is not too far from the expected. Table 1 shows the average percentage cost and selling price differentials for the five grains over a ten-year period in Metropolitan Kano markets. It

is clear that the cost and selling price differentials vary from a minimum of 16 percent for sorghum to a maximum of 36 percent for sorghum, millet and groundnuts. On the average, however, over the ten year period, the cost and selling price differentials were low and about the same for all crops. Cowpeas have a higher price differential because they were traded within the Kano region and to southern Nigeria. The other crops are traded more within the region of production and therefore feature lower cost and selling price differentials. The years when maximum differentials were recorded (1992 and 1995) were dry years, when supplies were low, contributing to higher grain prices.

The same pattern of small variations in the cost and selling price differentials among crops and also between markets was encountered in the rural bulking markets of Gezawa, Bindawa and Rogo (Table 2).

Table 2: Minimum, maximum and average cost and selling price differentials in selected rural bulking markets (1990–9)

Crop	Market	Min.	Year	Max.	Year	Average
Cowpeas	Gezawa	16	1999	36	1993	26.2
	Bindawa	18	1999	35	1993	25.9
	Rogo	19	1999	38	1993	27.6
Groundnuts	Gezawa	18	1998–9	30	1992	24.1
	Bindawa	19	1999	29	1993	23.8
	Rogo	15	1999	26	1991	22.7
Maize	Gezawa	17	1999	28	1995	23.7
	Bindawa	19	1998	30	1995	22.9
	Rogo	18	1996	27	1993	22.1
Millet	Gezawa	15	1999	30	1993	22.8
	Bindawa	18	1999	30	1993	24.0
	Rogo	18	1999	30	1993	23.9
Sorghum	Gezawa	9	1999	38	1995	22.6
	Bindawa	11	1998–9	32	1995	22.0
	Rogo	13	1998	34	1995	22.6

Source: Field surveys, October–November, 1999.

In general and within each year, however, there was little variation in the cost and selling price differentials among the five food commodities. A downward tendency in differentials after 1996 reflects improved rainfall in those years, reduced household deficits in rural areas and reduced demand for trade grain in the Kano region.

The similarity in the magnitudes of the cost and selling price differentials among both crops and markets indicates that the markets are highly integrated and competition is keen among the numerous participants in the commodity trade. This has been facilitated

by the improved road transportation that the region and the country in general have witnessed since the end of the civil war (1970). The high degree of integration of the markets also means that profit margins may not be as high as reported by Gilbert (1969) and Hays (1975), because the imperfections in the market, especially as they concern information about grain supply and demand, have reduced. This should however be regarded as a tentative conclusion as we have considered only the cost and selling prices of the grains in each market without including the marketing costs.

Seasonal and rural-urban price variations

Prices of all the grains tend to be highest during the rainy season (*damina*), peaking in June–July. Prices begin to come down with the appearance of early crops in mid- to late August, especially in the southern part of the region. Prices of some of the crops tend to be higher in rural than in urban markets in the planting season (*bazara*). This is because many farmers who have sold off their grains during the harvest (*kaka*) and dry (*rani*) seasons begin to buy in the rural markets in the planting season, forcing up rural grain prices. Meanwhile what they sold to the urban traders during the harvest season keeps prices relatively low in the urban markets.

On the direction of rural-urban food price differentials, a majority of the traders interviewed in this study were of the opinion that grain prices are *often* lower in the urban Kano markets than in the rural markets. Although only 14 of 60 (or 23 percent) held the view that food prices are *sometimes* lower in urban than rural markets, their response is probably the most accurate because of the seasonal price variations we noted above. Food commodity prices are certainly lower in the rural markets during the harvest season, and lower in the urban markets sometimes during the planting season.

Years of high food prices remembered by traders

Eight traders remembered the severe drought years of 1972 and 1973 as a time of high prices. Nearly half of them attributed the high prices they observed in 1982–4 to drought and to a growing demand for food, especially in the urban areas. More than half also identified 1987–8 as a period of high prices, also due to drought, and general price increases in the country, which were due to government policies of economic deregulation. All the 60 traders associated the period 1993–8 with high food prices caused by drought (1993, 1995, 1997) and the high cost of fertiliser, fuel and transport.

More of the rural traders highlighted drought as a cause of price increases, especially in Gezawa. The period 1987–8 was remembered as one of significant price increases, coinciding with the effects of the Government's structural adjustment programme that was introduced in 1986. The application of this programme was intensified in the 1990s, and the removal of subsidies on agricultural inputs and fuel impacted severely on food prices.

The traders were asked to explain why scarcity or high prices of grain often remain or even increase when old stock is available. Old stocks, according to them, are those whose prices remain high even when newly harvested grains are appearing in the market. This is because the old grains are very dry while the new ones have a high moisture content, and will shrink and lose weight with time. The new grains are therefore priced lower than the old stock. In addition they explained that when planting is late, or a long dry spell occurs and there is a fear of crop failure, the prices of

available stocks tend to rise.

Grain disposal and storage

The traders interviewed would prefer to sell their grains on a daily basis, since buying and selling is their business. However, they take two factors into consideration in deciding when to sell. The first is price. They tend to wait until prices afford them an acceptable profit margin over and above the cost of the grains plus other incidental expenses. They also sell their grains when there is a threat of spoilage. When such threat is real they usually sell, even when prices have not increased appreciably.

Quantities stored and reasons for storing: Grain storage appears to be a practice peculiar to urban markets, because the traders in the rural markets indicated that they were not storing grains at all. They said that the only time when storage becomes necessary is when there are no lorries to transport the grains to the urban market. Arrangements are usually made to move the grains away, not keeping them for longer than the interval between one market day and another.

The quantities of grains the urban traders reported storing for two to three months are shown in Annex 2 (Table A2). There is more storage in Dawanau than in Kurmi and Abubakar Rimi markets. Indeed the dominance of the traders interviewed in Dawanau market in grain storage is quite obvious in Annex 2B, which shows them responsible for over 70 percent of the cowpeas, maize, millet and sorghum and over 60 percent stored in most of the ten years (see Annex 4 for details). Although urban traders may store grains for a few months, there are no large barns or silos which a visitor to the market can see as physical evidence of large-scale storage. Traders here store their grains in their own (or rented) stores within the market, or in their compounds.

The main reasons the urban traders give for storing grains are purely economic. They store grains in anticipation of higher prices at a future date, and to ensure stocks in order to remain in business. Some of them also store in order to build up stock for a large scale buyer, or sufficient to provide a payload for a lorry.

Hoarding: The urban traders do not accept that they hoard grains in order to make excessive profits. According to them, hoarding (Hausa = *kamei*) implies buying up whole supplies and storing them for a long period in order to make a massive profit. Rather they are of the view that storage becomes hoarding only when grains are available in a trader's store and the store is locked up, so that prospective buyers have to go through intimate associates of the grain owner to get the grains released, usually at odd hours. In other words, as long as the traders are willing to sell in the open market, regardless of how high the asking prices might be, it is not hoarding. No trader could remember any instance of grain hoarding in any of the six markets.

Stored grains may be sold at any time the trader finds a buyer who offers an attractive price. Generally, however, and depending on the type, the preferred period for selling stored grains is between April and September, that is, the period of growing scarcity when higher prices can be charged.

The traders have adopted several strategies to protect themselves against storage losses. They treat the grains with chemicals before storage, and constantly inspect the stored grains for signs of spoilage. A repeat chemical treatment of the stored grains is carried

out if, on inspection, they show signs of spoilage. Stored grains are sold off at less than the expected profit margin if the extent of spoilage is great.

Some of the traders interviewed indicated that they would not sell their stored grains if they have alternative sources of income, but would wait until prices improve. But they would sell stored grains at a loss, or at prices lower than anticipated, if they had no alternative sources of income, their creditors would not wait for a longer period to get their money back, or the grain could not be stored much longer before going bad. Some traders, on the other hand, regard a sudden fall in prices as one of the risks in any business and should, therefore, be accepted as the will of God. The traders do not identify any specific way of compensating for tied capital which they regard as a normal part of trading. They indicated, however, that they always pray for protection of their stored grains, and for higher prices before the next harvest, so that they can dispose of them.

3.5 EFFECTS OF LOW RAINFALL ON THE GRAIN TRADE

The traders adapt to poor harvests and grain supplies in times of low rainfall in three main ways. Some of them patronise distant sources of supply in the northern states where rainfall has been adequate and grain supplies plentiful. They also penetrate deeper into the middle belt states such as Niger and Benue. There is more personal involvement in the rural bulking markets in the middle belt states, because competition for supplies is usually stiffer when rain has failed in the north. Some traders, however, reduce the volume of their transactions when supply is low, and obtaining grains from distant supply areas becomes more costly.

3.6 DISTRIBUTION OF PROFIT FROM THE GRAIN TRADE

An attempt was made to determine how the interviewed traders usually distribute their profits, in order to gain an insight into the effects of the business on their livelihoods. Traders in the three markets in Metropolitan Kano and in Rogo indicated that they normally spend over 50 percent of their receipts on personal and family consumption. All the traders in all six markets indicated that they usually invest 32–40 percent of their profits in refinancing trading activities. It is interesting to note that rural traders save more of their profits (5–11 percent) than urban traders (3–5 percent), as well as spending more on gifts and *Sakata* (7–12 percent compared with 5–6 percent).

3.7 EFFECTS OF GOVERNMENT POLICIES ON THE GRAIN TRADE

This analysis is based on the responses of the traders interviewed, which are summarised in Table 3. The objective is to understand the traders' perceptions of the effects of public policy interventions on their business.

Price control measures under the marketing board system

The Northern Nigeria Marketing Board was established in 1954 in order to stabilise the prices of export commodities and to guarantee regular and predictable prices and therefore incomes for farmers (Northern Nigeria, 1954). The system remained in place

until 1986. Groundnuts alone (among the commodities of interest to this study) were regulated by the board. Only eight traders (13 percent) were familiar with the period. Of these eight, five said that supply remained unchanged, and all eight maintained that price control did not affect their turnover in the unregulated groundnut market. They were of the opinion that the price of groundnuts continued to fluctuate in the open market after its abolition. None were sure if their turnover changed as a result of the abolition.

Effects of policies on maize, rice and wheat imports, and bulk purchases of grains by government, 1974–94

The majority of the 60 traders interviewed (82 percent) thought that unrestricted importation of these commodities in 1974–86 kept food prices low in the country. A majority (78 percent) also believed that food importation had no effect on the supply of domestic food commodities to the markets. As many as 80 percent considered that food importation *did not* affect their volume of sales of domestic food. It is most likely that importation from the early 1970s to mid-1980s kept food prices from rising as steeply as would otherwise have been the case, given the flow of money into the economy from the oil boom and massive public expenditure of that period.

The majority of the traders interviewed could not recollect the effects of the ban on grain importation in 1986. About 22 percent speculated that the ban might have caused some increase in sales, thanks to less competition from imported grains. It appears that the ban on the importation of maize, rice and wheat had little effect on the market.

The majority of the traders (75 percent) indicated that the lifting of the ban on the importation of maize, rice and wheat in 1997 had no effect on prices of domestic grains and 82 percent indicated that the lifting of the ban did not affect the supply to the market, while seven percent said that it increased and 12 percent said that it decreased the supply. On the traders' turnover, 82 percent indicated that their turnover remained the same. The overall impression is that the ban (and the lifting of it) on the importation of maize, rice and wheat had little effect on the grain trade. This is most likely due to the uncontrolled smuggling into the country of the banned grains that flooded the urban markets. The official lifting of the ban, therefore, had little effect on prices, supplies of, and trading in domestic food grains such as cowpeas, groundnuts, maize, millet and sorghum.

Devaluation of the naira

All 60 traders agreed that the devaluation of the naira has resulted in ever-increasing prices of grains. On grain supplies to the market, 72 percent said that supplies had increased, due to price increases, which gave an incentive to producers and traders alike. A majority (68 percent) also indicated that the volume of their sales had increased as a result. That grain supplies and turnover (volume of sale) decreased or remained the same during the period (as reported by some traders) can be attributed to fluctuations in the volume of these traders' transactions, which may be due to other reasons besides price increases. It is not possible to reconstruct volume of sales for the whole period since 1986, owing to limitations in traders' recall (see Figures 10–15).

Devaluation of the FCFA (1994)

None of the 60 traders interviewed could pinpoint a major effect of the devaluation of

the Niger Republic's currency, the FCFA, on grain supplies, prices and their own turnover. While this had effects in Niger (Hamadou, 2001) it had little effect in Kano, as Niger is only one of many sources of supply.

Withdrawal of subsidy on fertiliser

It was agreed by all 60 traders that the withdrawal of subsidy on fertilisers and their consequent high costs resulted in increasing grain prices. Farmers were paying more for the same, and in some cases, smaller quantities of fertiliser. But a majority (70 percent) took the view that high fertiliser costs did not affect the supply of grains to the markets. This could be because maize was the only crop reported to require heavy doses of fertiliser, and because farmers were turning more to the use of organic manure. Again a majority (73 percent) indicated that the increasing cost of fertiliser did not affect the volume of their sales. The grains under study are often inter-cropped, and with farmers using more manure instead of chemical fertilisers, the high cost and reduced use of fertilisers may not have affected the output of grains very much, except perhaps maize. This implies that to some extent increased costs of production were passed on to consumers.

High fuel prices

All 60 said that high fuel prices and consequent high costs of transport pushed up the prices of the grains under study. In the same way, however, the majority (90 percent) said that the high prices of grains have not affected the supply of grains to the markets, or their own turnover (83 percent). This could again imply that the increased costs are passed on to consumers, who have no choice, because the grains in question are the staple food commodities in the region.

Summary of the responses

The devaluation of the naira, withdrawal of subsidy on fertiliser and high fuel prices were the policies most frequently said by the traders to have had effects on the grain trade. While the devaluation of the naira pushed up prices and increased the volume of grains sold by about 68 percent of the traders, the hike in the price of fertiliser and that of fuel also pushed up grain prices, but had little effect on the supply of grains or the turnover of the traders. The traders just passed the cost increases on to the consumers.

Table 3: Traders' responses on the effects of government policies on the grain trade (summary of the six markets, percent of 60 traders)

	Effects on prices			Effects on supply			Effects on turnover		
	<i>Stable</i>	<i>Fluctuating</i>	<i>Increase</i>	<i>Decrease</i>	<i>Same/no effect</i>	<i>Increase</i>	<i>Decrease</i>	<i>Same/no effect</i>	
Price control measures under the marketing board system	3	10	-	5	8	-	-	13	
Abolition of the marketing board system	-	13	5	-	8	-	-	13	
	<i>Increase</i>	<i>Decrease</i>	<i>Same/no effect</i>						
Importation of grains (rice, maize and wheat)	8	10	82	7	15	78	7	13	80
Ban on importation of grains	8	-	-	8	-	92	20	-	78
Lifting of the ban on the importation of grains	-	25	75	7	12	82	10	8	82
Devaluation of the naira	100	-	-	72	8	20	68	8	15
Devaluation of the FCFA	-	-	100	-	-	100	-	-	100
Bulk purchase of grains by government	100	-	-	-	-	100	-	-	100
Withdrawal of subsidy on fertiliser	100	-	-	10	20	70	17	10	73
High fuel prices	100	-	-	-	10	90	-	17	83

Source: field surveys, 1999.

4 FARMING AND GRAIN TRADING AT THE VILLAGE LEVEL

The decision to examine grain marketing at the village level reflects the fact that the village is the production level of the food commodities under study, and the choice of farmer-traders as the principal informants was based on the premise that the farmer-traders, who dominate the markets at this level, straddle both the food production and marketing sectors. They should be able to draw from their experiential knowledge in both farming and trading to offer insight into the factors which influence food production and marketing in these dry areas. The lessons to be learned from them are valuable for policy formulation, especially with respect to creating an enabling environment for sustained food production, and for diversification of opportunities to generate income.

As expected, many of the farmer-traders interviewed (64 percent) had no formal education. Quranic education is the most common form of learning, in which 50 percent of the respondents had participated. Among those (37 percent) with some formal education, 28 percent had full primary education, six percent had full secondary and only one person had some post secondary education. Private ownership of land is the most widespread form of tenure among the farmer-traders. Some 78 percent of the respondents were operating farms, of which 61–100 percent were inherited or bought outright. Pledged, borrowed or rented lands accounted for a very small percentage of the lands being cultivated by farmer-traders.

The sample selection was biased intentionally towards long experience, so 14 percent had 20 years or more of trading experience, 25 percent had 11–20 years experience, and 17 percent had 5–10 years. For these men, trading has long been a way of supplementing farming incomes. They not only have direct access to markets for their own production, but also have (in their trading profits) a source of investment funds for their farming. Their farming activities therefore provide an indicator of trends in the more capitalised and market-oriented sector of small-scale crop production. The data collected for this study allow these trends to be reconstructed during the period 1992–9. In the two following sections, we shall first review investments in farming by the farmer-traders, and second, the organisation of grain trading.

4.1 INVESTMENT IN FARMING

In general the investment per farmer-trader has been on the increase (Figure 16). Details of these investments are highlighted below.

4.1.1 Fertiliser and manure

The use of fertiliser by the 35 farmer-traders in the three markets surveyed (Tumbau, Sibdawa and Jajaye, see Figure 17) tends to reflect the ecological variations among them. The farmer-traders in Jajaye, a more humid environment, tend to use more fertiliser than those in Tumbau and Sibdawa. Farmers in Tumbau, a drier area, use the least amount of fertiliser. On the whole, the farmer-traders surveyed use small quantities of fertiliser each year. Those small quantities declined significantly between 1992–9.

Quantities of manure used by the farmer-traders were recorded in *mangala* (116 kg) and

were later converted into tons. The farmer-traders in Sibdawa led in the use of manure, followed by those in Jajaye and Tumbau. An increase in the use of manure shows how manure is being substituted for the more costly chemical fertiliser (Figure 18).

Figure 16: Farmer-traders' total investment in farming, by year and market (in naira, 35 farmer-traders)

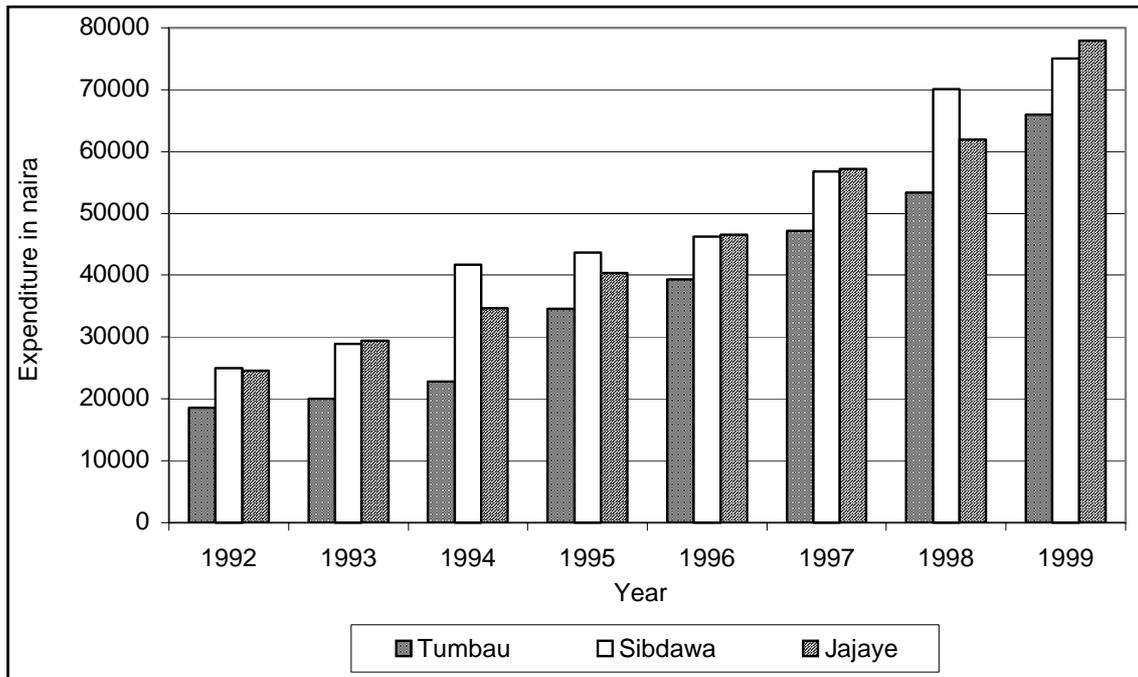


Figure 17: Quantity of fertiliser used, by year and market (in 50 kg bags)

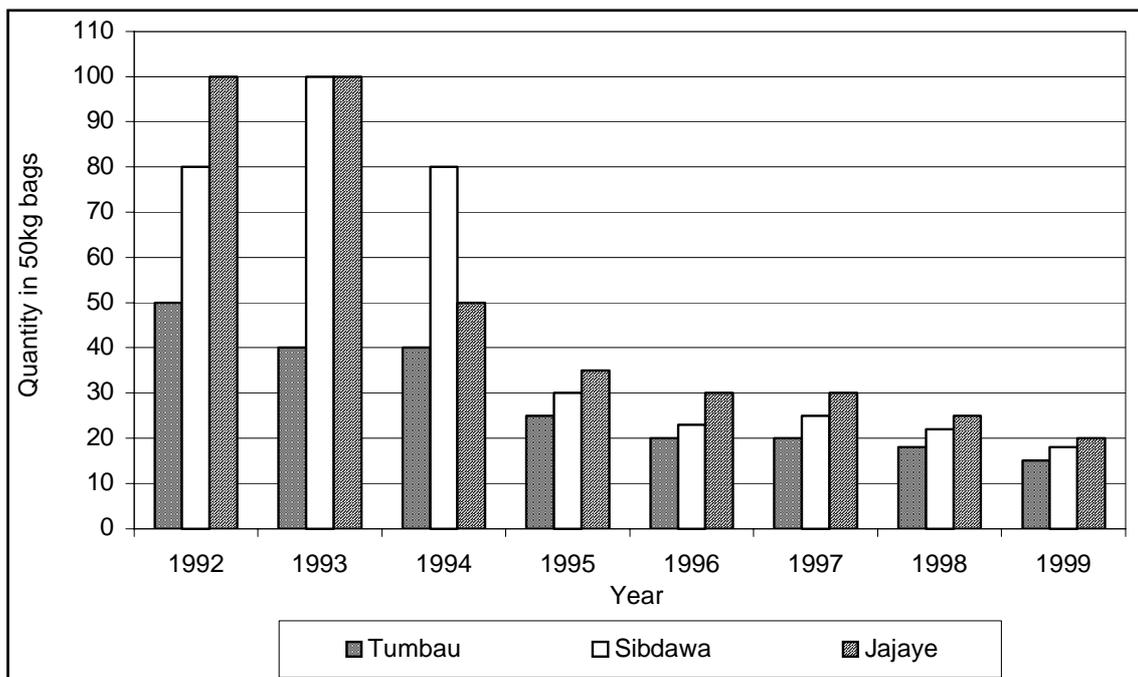
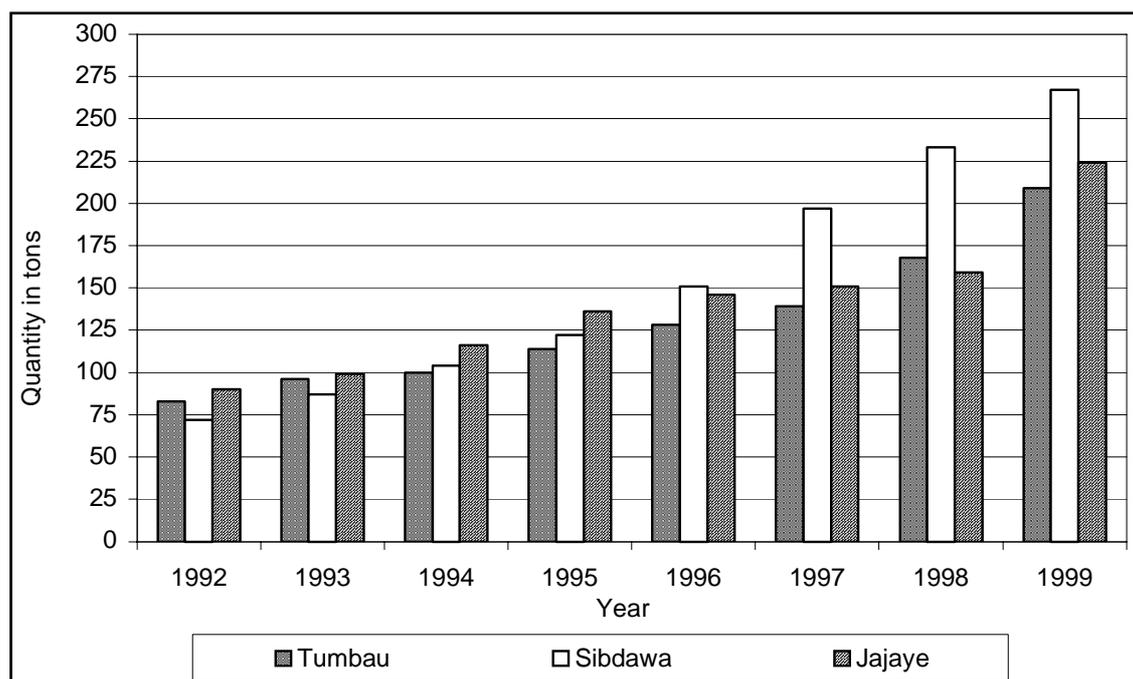


Figure 18: Quantity of manure used, by year and market (in tons)



Although there was a decline in the quantity of fertiliser used, there was an increase in the amount spent. In 1995, a 50kg bag of NPK cost ₦566, ₦570 and ₦557 in Tumbau, Bindawa and Jajaye respectively, and in 1999, ₦1278, ₦1706 and ₦1690⁶ (Figure 19). Expenditure on manure has also been rising, more than threefold since 1992 (Figure 20).

4.1.2 Labour

Family labour is a principal source of labour. Nineteen farmer-traders (53 percent) rely on one to two members of their family for their farm work. The remaining 17 (47 percent) had three to six household members working on the family farms.

But their second main source is hired labour. Farming operations were categorised into land clearing, ridging, weeding, manuring and fertilising, harvesting, threshing and bagging. The farmer-traders were then asked to indicate the proportion of each farm operation that was normally carried out with the aid of hired labour. Their responses showed that, on average, hired labour is used more for weeding (64 percent of the operation), land clearing (56 percent) and ridging (53 percent). A further breakdown of their responses revealed that 14 percent used hired labour to carry out 1–20 percent of their farming operations, from 6–22 percent engaged it for 21–40 percent, and 14–36 percent used it for 41–100 percent of their farm work. Hired labour is therefore a significant input factor among the farmer-traders.

Average expenditure per farmer-trader on hired labour also took an upward trend since

⁶ This increase was probably greater than the rate of inflation, though the CPI for 1999 is not available (Annex 1, Table A1).

1992. However, unlike fertiliser, for which the average expenditure rose sharply in 1992–5, labour expenditure increased more sharply in 1996–9 (Figure 21).

Figure 19: Expenditure on fertiliser, by year and market (in naira)

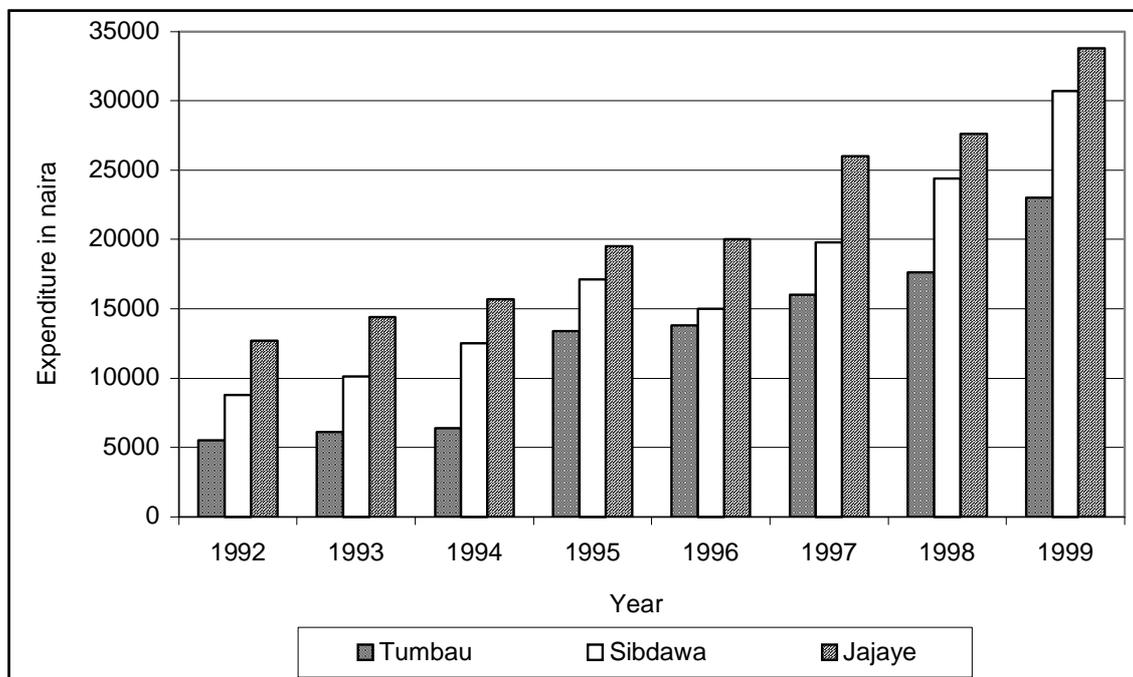


Figure 20: Expenditure on manure, by year and market (in naira)

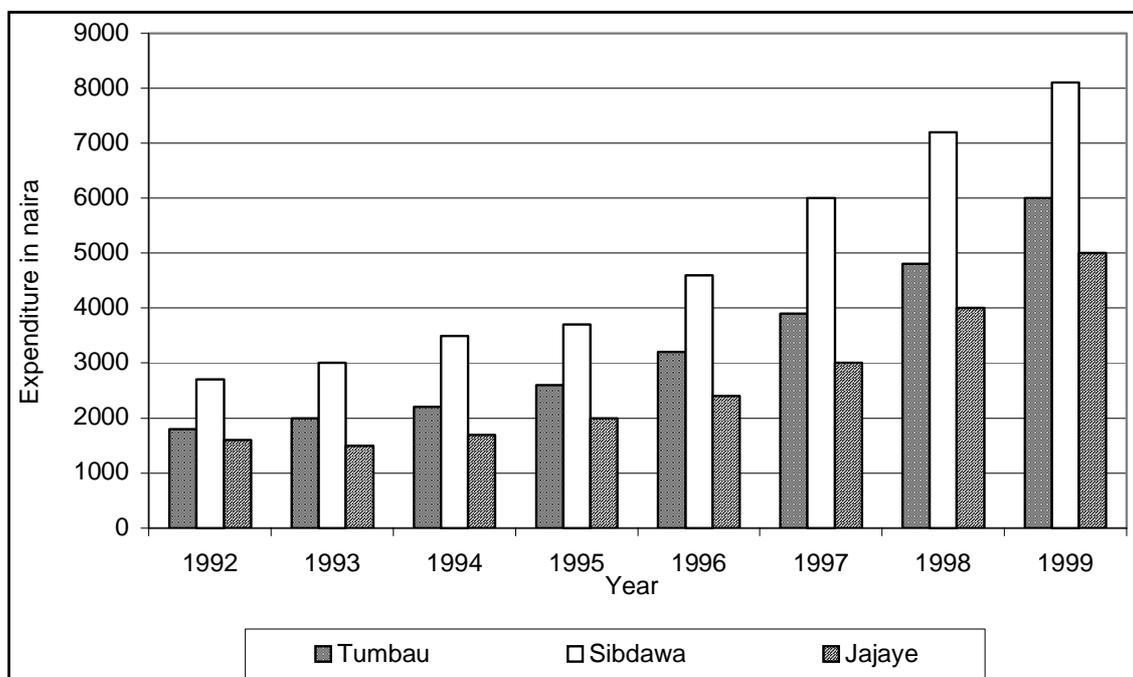


Figure 21: Expenditure on labour by year and market (in naira)

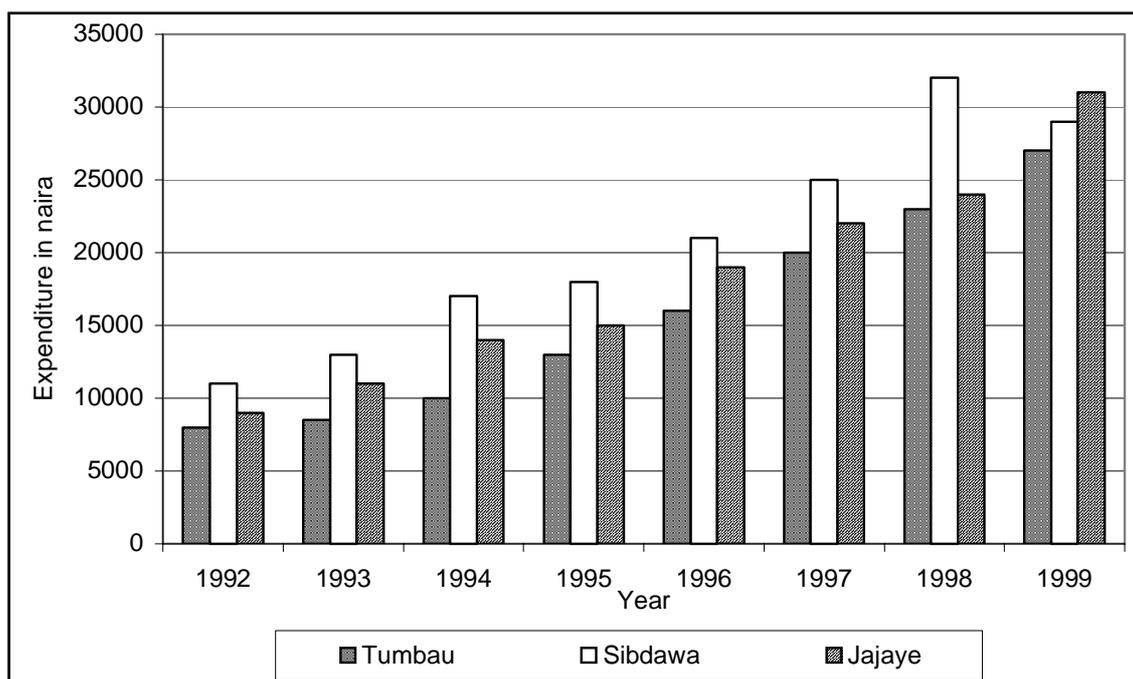
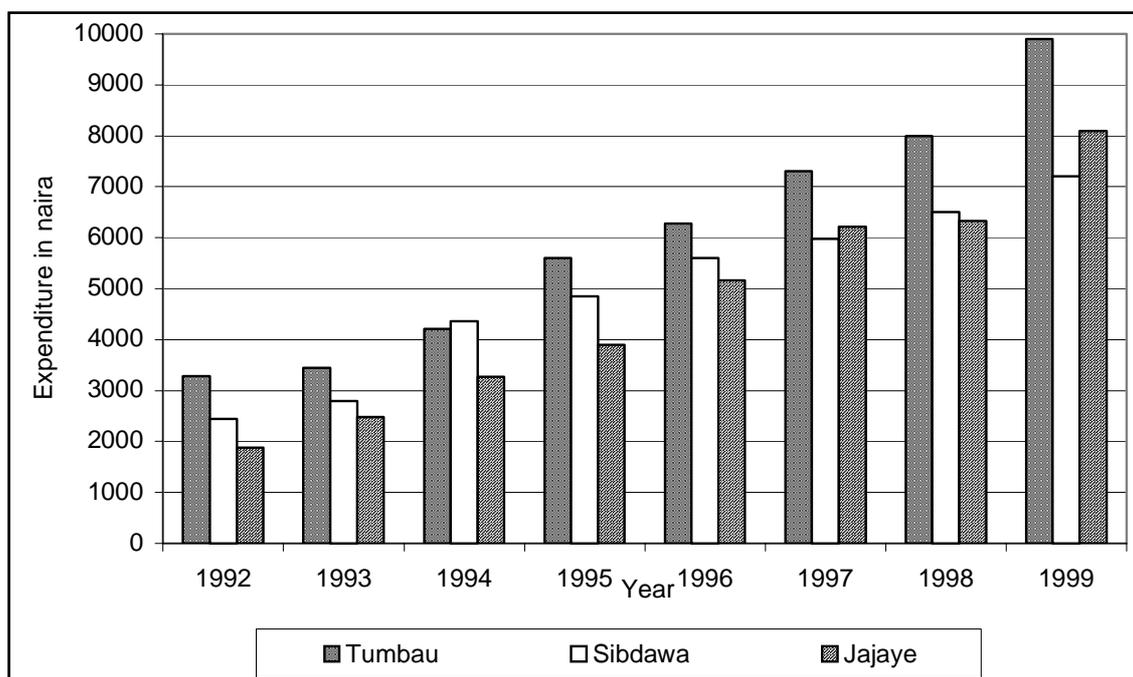


Figure 22: Expenditure on transport, by year and market (in naira)



4.1.3 Transport

Expenditure on transport (Figure 22) increased significantly from 1993, a year in which official prices of petroleum products rose by as much as 56 percent. The transport expenditure pattern reflects that of fuel scarcity and cost in the three rural markets.

4.1.4 Use of farm machinery

The farmer-traders could not quantify their expenditure on farm machinery. But the type of access enjoyed (ownership or hire) provides insight into the magnitude of this form of investment (Table 4). A pair of young bulls costs about ₦30,000, and a plough costs ₦3-5,000. A 20-litre hand sprayer costs about ₦12,000. It costs about ₦500 to rent a pair of bulls for an hour, and ₦250 to rent a sprayer for one day. The investment of farmer-traders who make use of these machines is, therefore, quite considerable.

Table 4: Access to farm machinery by the farmer-traders

<i>Equipment</i>	No. of respondents by type of access					
	<i>Owned</i>	<i>%</i>	<i>Rented</i>	<i>%</i>	<i>No access at all</i>	<i>%</i>
1. Plough	9	25	25	69	2	6
2. Sprayer	5	14	7	19	24	67

4.2 GRAIN TRADING

4.2.1 Sourcing of capital

The farmer-traders identified four sources of start-up capital with which they began their trading activities. These were (1) personal savings, (2) loans from relatives and friends, and (3) gifts. Of these sources, personal savings were the main source of start-up capital for 86 percent of them. Loans from relatives were next in importance (31 percent). Loans from friends, and gifts, were less significant.

Profits from trading, livestock sales and farming are the main sources of expansion capital (81 percent, 44 percent and 42 percent respectively). Eighteen or 50 percent of them also indicated loans from friends and relatives as a sources of their expansion capital. There is a strong indication here that the farmer-traders usually plough back into their trade a significant proportion of the profits they realise.

4.2.2 Trading relations

Assembling

In terms of volume, the farmer-traders are generally small-scale traders. As we have noted above, the quantities of grain they sell from their own output are a small proportion of their total sales. They are assemblers who acquire additional grain from other farmers. Although farmer-traders generally reside in the villages where they carry on their trade, they also patronise nearby periodic markets. They acquire their supply in three ways: (1) by going from door to door to purchase grains from other farmers; (2) having farmers deliver to them directly in their homes; and (3) by buying in the market from farmers who take their grains there. The trading paraphernalia of the farmer-trader includes a small amount of money to buy a few bags of grains, a government-approved measuring bowl and some sacks in which to pack the purchases.

Services to other farmers

Farmer-traders perform services for other farmers in return for their patronage. Such services include cash advances, temporary storage of farmers' grains before they are shipped out of the village, and taking farmers' grains on credit in times of low demand. The service farmer-traders usually perform for the farmers has led to the emergence of a strong bond of friendship between the two groups, such that farmer-traders may exercise preferences favouring their own customers when selling grain.

Relationship with urban traders

The trade relationships noted above are not limited to the farmers in the villages. Some of the farmer-traders encountered in this study have also developed a trade relationship with urban-based traders, either by selling grains directly to those who come to the rural markets or by acting as agents for them with other traders in the rural bulking markets.

Remuneration for services rendered

The farmer-traders are remunerated for the services they perform for other farmers and urban traders in several ways. When farmer-traders act as agents for the urban traders they receive a commission for the quantity of grains they turn over. The farmers also allow their farmer-trader to buy grains from them on credit at lower prices. In fact some of the farmer-traders interviewed indicated that credit buying, or delayed payment, is a major means by which they finance their trade.

Factors affecting farming and trading decisions

The farmer-traders usually base their decisions on which crop to grow and sell from year to year on three factors: (1) the amount and duration of rainfall, (2) the demand for the crops they can grow, and (3) the amount of capital available to invest in farming and trading. Their concern about rainfall is understandable. The environment is dry, prone to severe rainfall variability and none of them had any access to irrigation facilities. The demand for specific crops, and the availability of capital, are economic factors, the one affecting crop prices and their degree of attractiveness as trade commodities, the other affecting the individual's capacity to farm and trade. As small operators in the farming and trading sectors, the farmer-traders have very little capacity to take risks, so they weigh these factors carefully, especially the rainfall and demand conditions, in deciding what to do each year, in order to avoid or minimise losses.

Grain storage

The farmer-traders indicated that they normally store very little grain. Only what is reserved for home consumption is stored in their personal barns or stores, and preserved by chemical treatment, thorough drying and sometimes by leaving the grains in their pods (especially cowpeas and groundnuts).

4.2.3 Grain production and sale

The total sales represent what farmer-traders sell of their own production plus purchases from other farmers. Details are shown in Figures 23–27. The relatively small volume of output and sales is a reflection of the fact (noted earlier) that these are small-scale operators in the farming and trade sectors. But in terms of number and geographical spread, they dominate the food production and marketing landscape of northern Nigeria.

If the grain output and sales for 1999 are ignored (because the field survey was conducted before all the grains were harvested that year), one notices a gradual increase in the volumes of output by the farmer-traders as well as in the quantities they sold.

Figure 23a: Quantities of cowpeas produced by 35 farmer-traders, by year and market

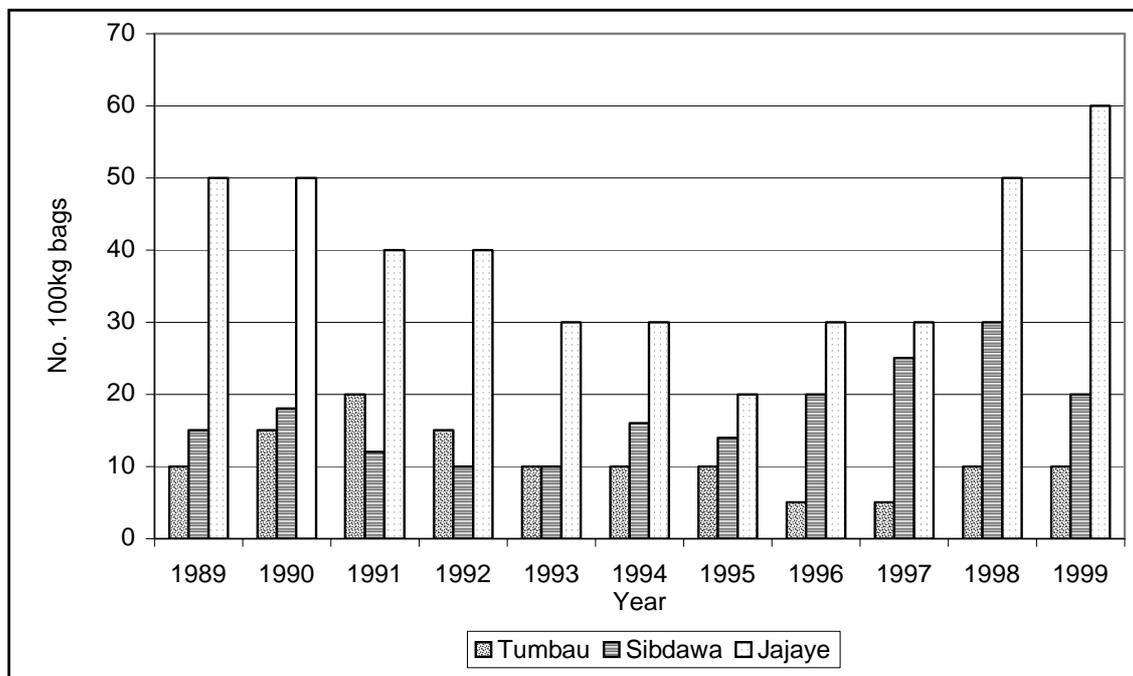


Figure 23b: Quantities of cowpeas sold by 35 farmer-traders, by year and market

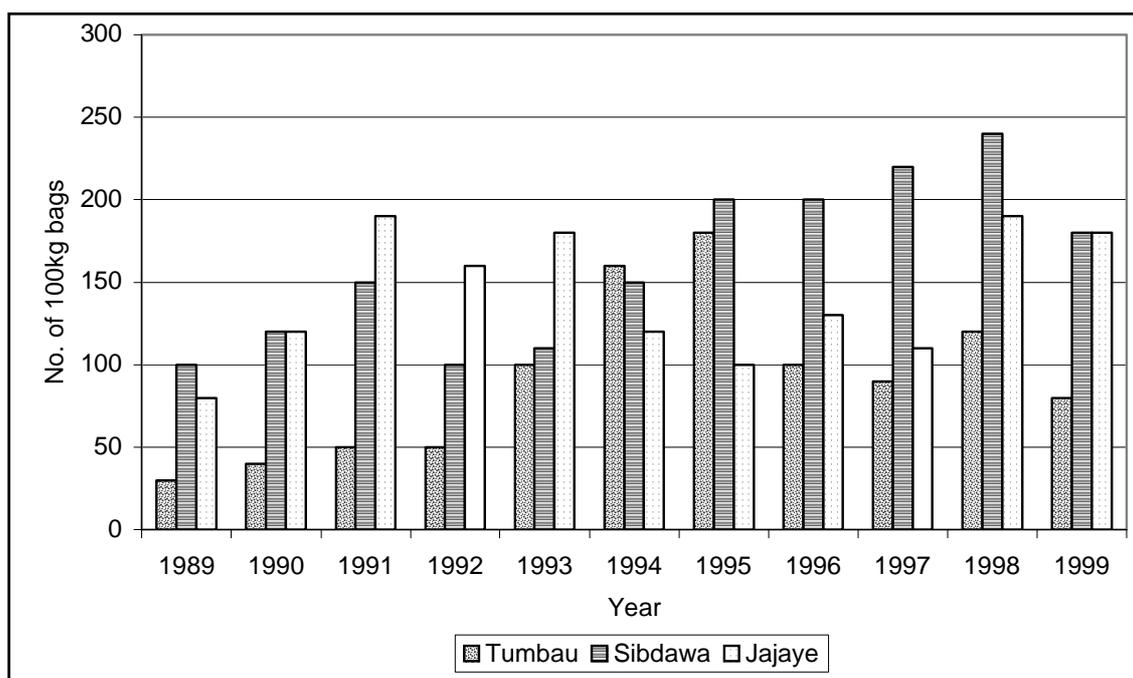


Figure 24a: Quantities of groundnuts produced by 35 farmer-traders, by year and market

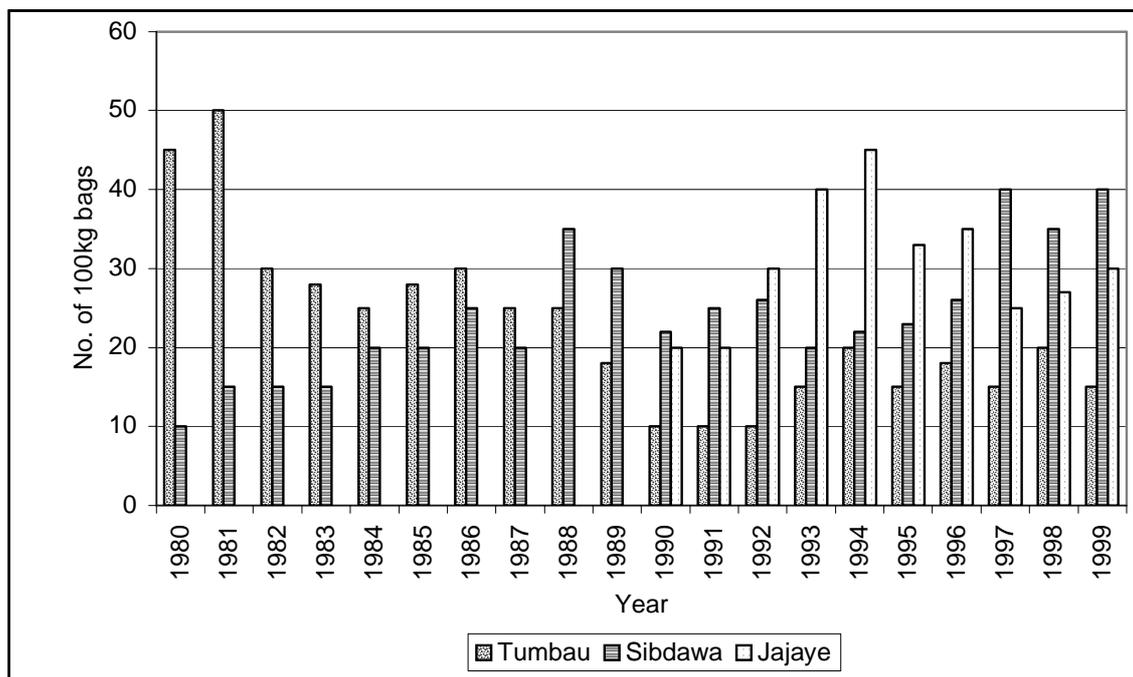


Figure 24b: Quantities of groundnuts sold by 35 farmer-traders, by year and market

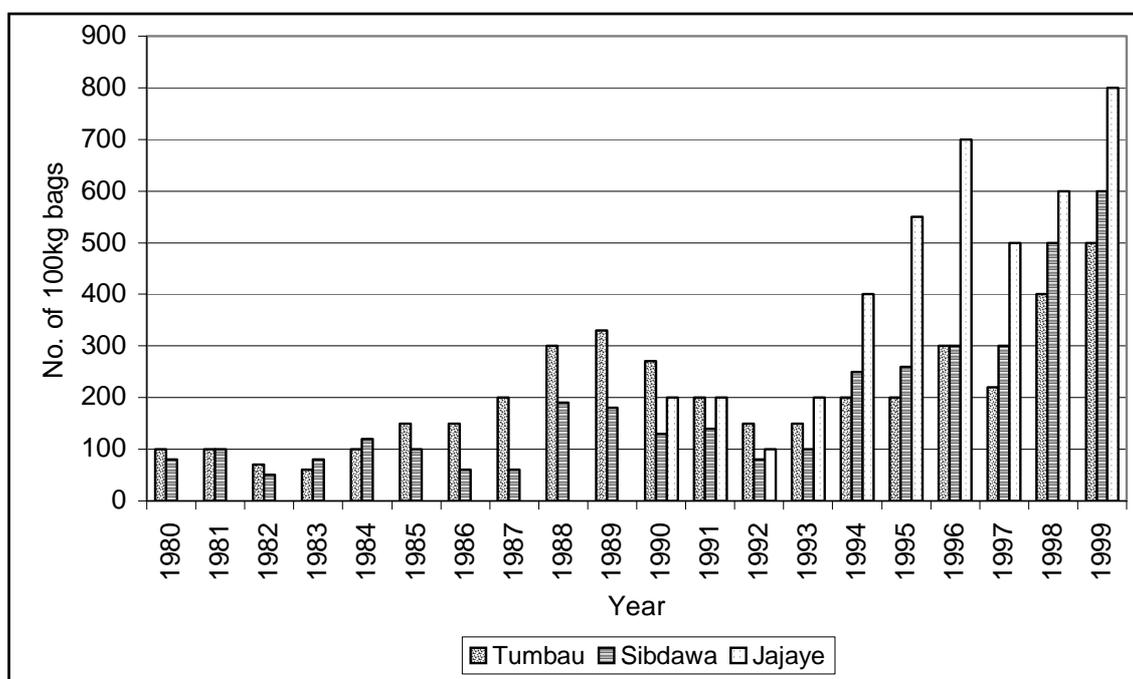


Figure 25a: Quantities of maize produced by 35 farmer-traders, by year and market

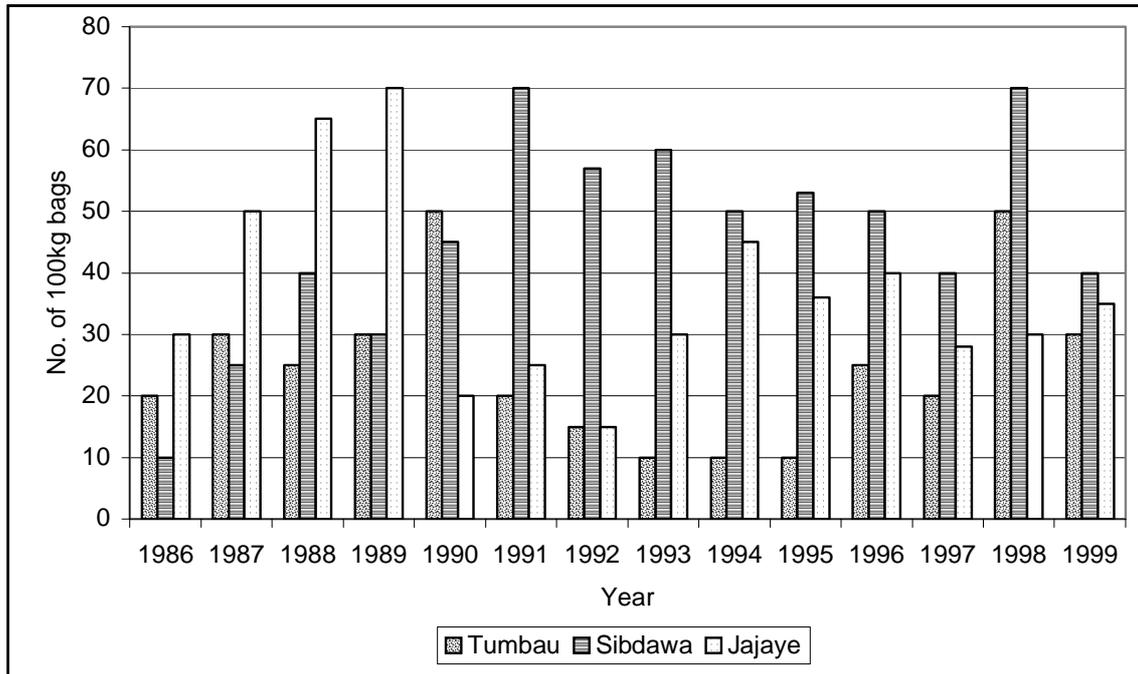
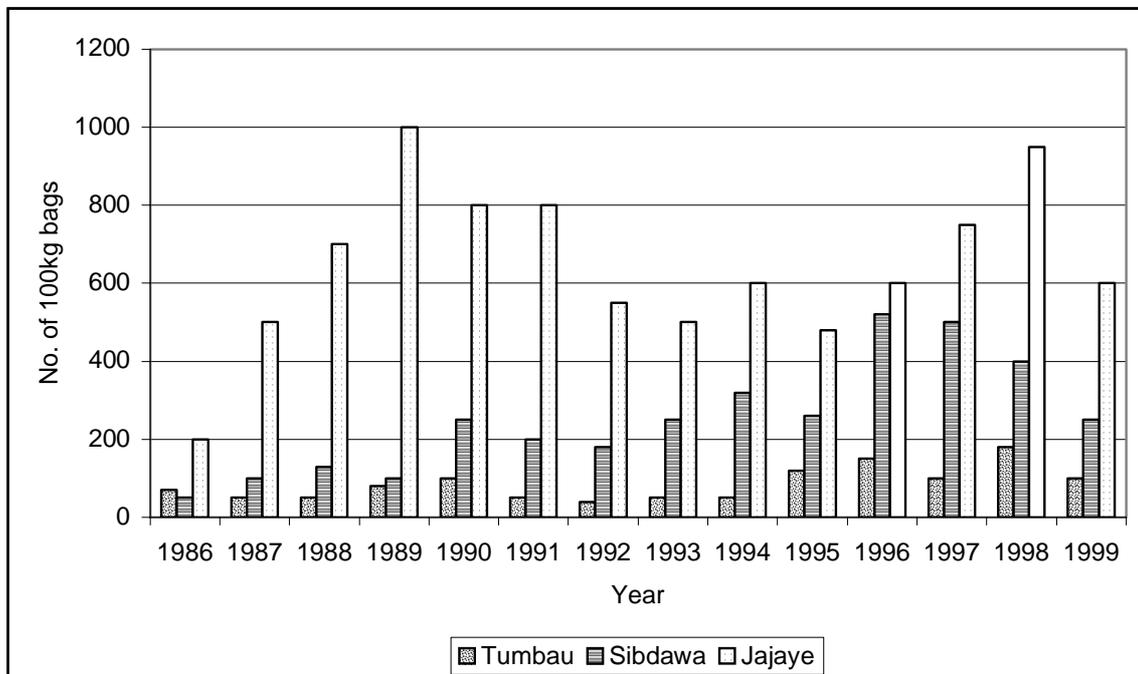


Figure 25b: Quantities of maize sold by 35 farmer-traders, by year and market



Cowpeas: The farmer-traders interviewed in Jajaye produced the largest amount of cowpeas between 1989 and 1998, followed by those in Sibdawa and Tumbau (Figure 23a). But in terms of total sales Sibdawa farmer-traders took the lead, followed by Jajaye and Tumbau (Figure 23b). The low output of cowpeas in Tumbau and Jajaye, especially between 1993 and 1995 could be attributed to the low rainfall in those years.

Groundnuts: The farmer-traders in Tumbau and Sibdawa were able to recall their groundnut output and sales as far back as 1980. During this period Tumbau led Sibdawa in groundnut output until 1987 and in sales until 1992. But from 1990 to 1998 the Jajaye group was clearly leading in output and sales. The fall in output in Tumbau between 1990 to 1992 was attributed to insufficient rainfall and disease infestation in the area at the time.

Maize: Between 1988 and 1998 Sibdawa farmer-traders produced more maize than the other two groups, while Jajaye farmer-traders sold more of the commodity than their counterparts in the other two markets. It would appear that the Tumbau farmer-traders recovered somewhat from the drought effects of 1993 and 1995 and produced more maize between 1996 and 1997. Sibdawa's leadership position in maize production is intriguing considering the fact that it is a drier area than Jajaye. And the location of Jajaye closer to some southern-oriented rural bulking markets like Makarfi, Giwa could be the reason why there is more intensive trading in maize here than in Sibdawa, which produces more of the commodity (Figure 25b).

Millet: Jajaye farmer-traders produced and sold more millet than those of Tumbau and Sibdawa between 1987 and 1998 with years of a minor decline in between (Figure 26a and b). Sibdawa and Tumbau farmer-traders were in distant second and third places. Farming and trading activities in millet increased substantially in Jajaye from 1993. This development was attributed by the farmers-traders to a shift in emphasis from maize to the less input-demanding millet.

Sorghum: Output and sale of sorghum was highest in Sibdawa, followed by Jajaye and Tumbau between 1986 and 1999 (Figures 27a and b). The increase in output and sale of sorghum is not as dramatic as with millet, especially by the "leading" farmer-traders of Jajaye. This has also been attributed to the preferential position millet occupies in this period of expensive farm inputs and unreliable rainfall.

The general pattern of grain output and sale among the farmer-traders strongly reflects the ecological variation among the three rural markets. The farmer-traders in the more humid southern part of the Kano region (Jajaye) tend to produce and sell more grains than those in the drier northern parts (Sibdawa and Tumbau). Even in regard to millet, which is seen as a crop of the dry zone, farmer-traders in the more humid Jajaye environment tend to put more emphasis on its production because of its relatively low input requirement and the greater probability of adequate rainfall for a good harvest of millet when other crops might not do so well. Another regional significance of the trend in grain production and sale is that the farmer-traders in the three markets sell far more grains annually than they produce, confirming that trading is major occupation of this group of rural dwellers.

Figure 26a: Quantity of millet produced by 35 farmer-traders, by year and market

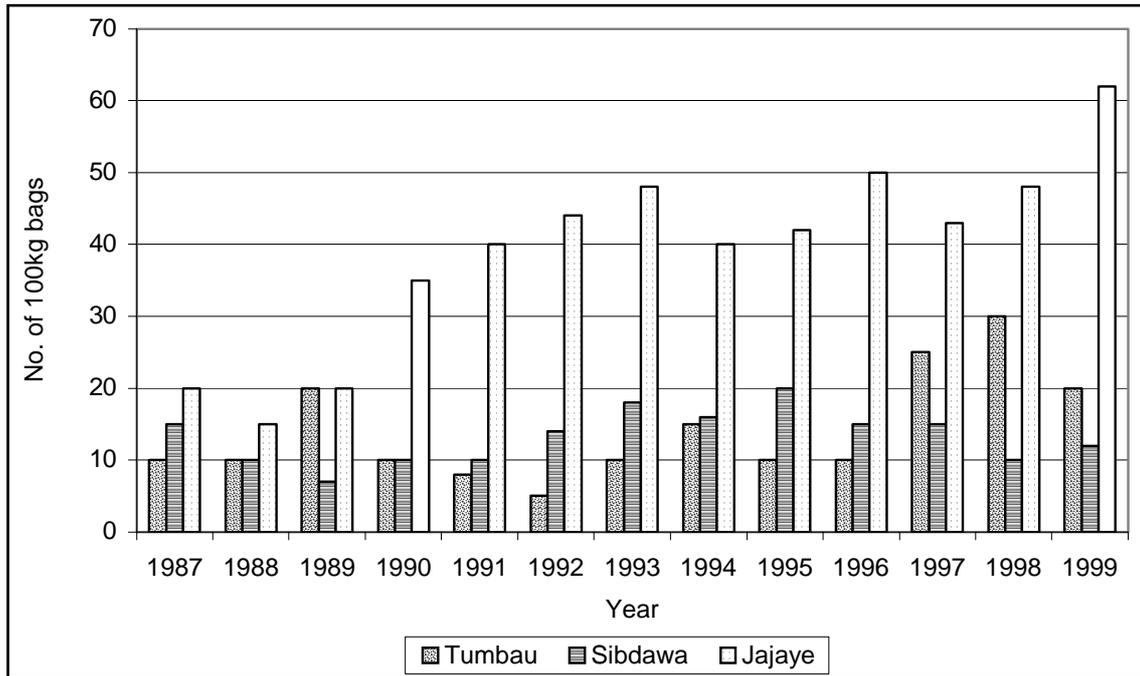


Figure 26b: Quantity of millet sold by 35 farmers, by year and market

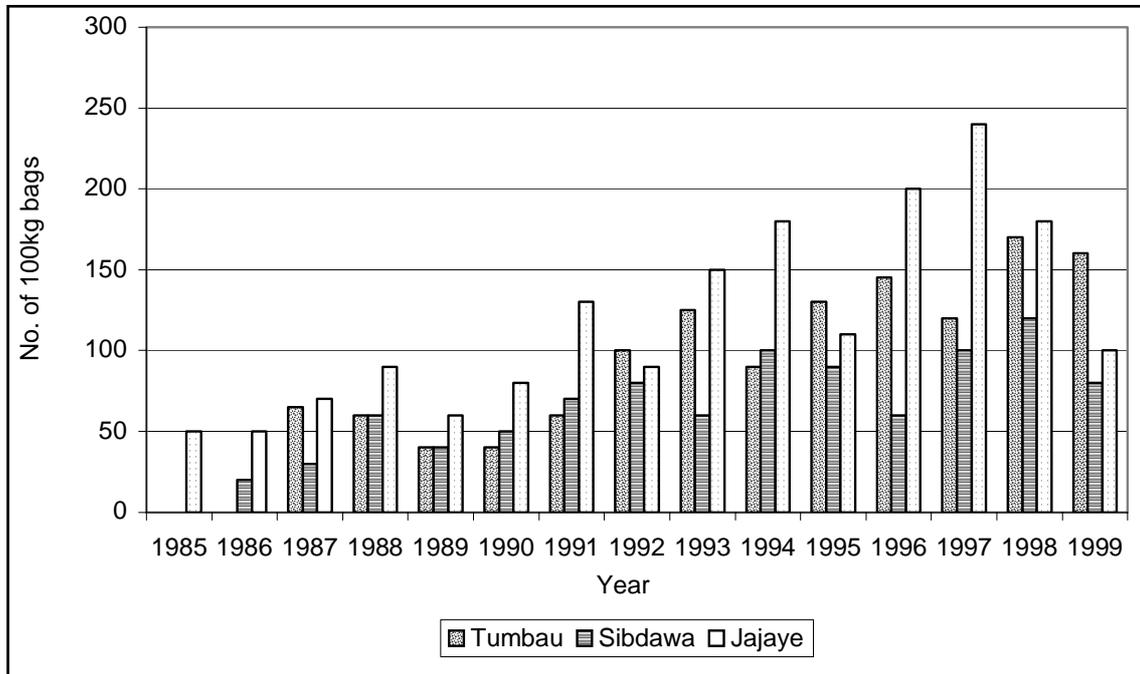


Figure 27a: Quantity of sorghum produced by 35 farmer-traders, by year and market

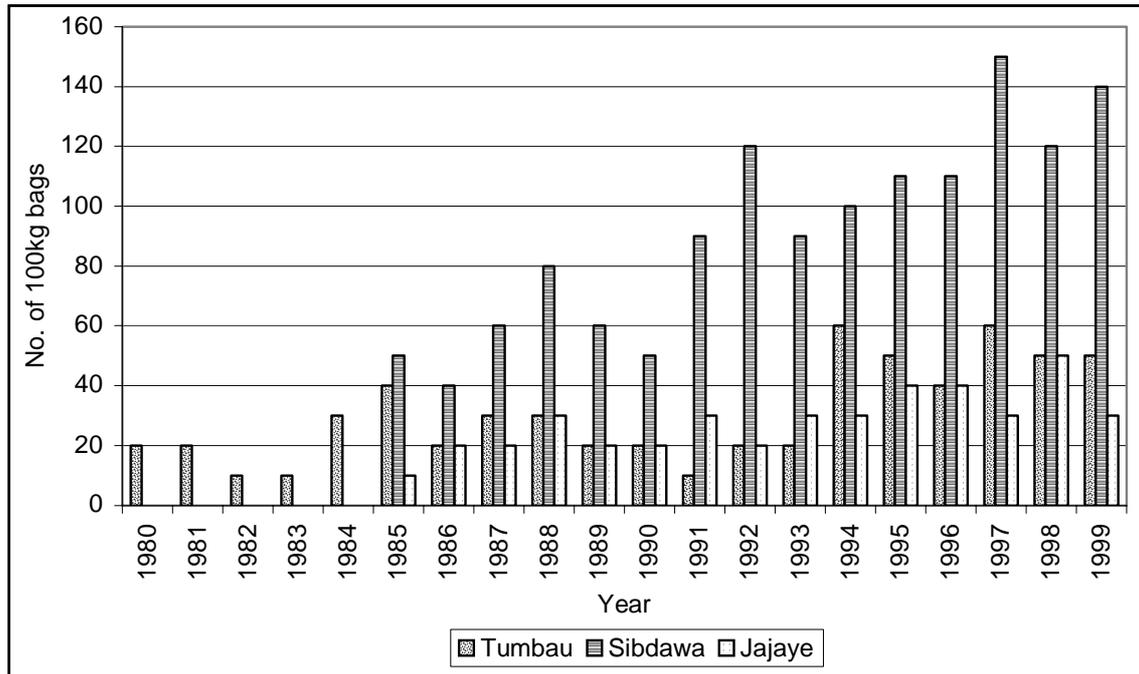
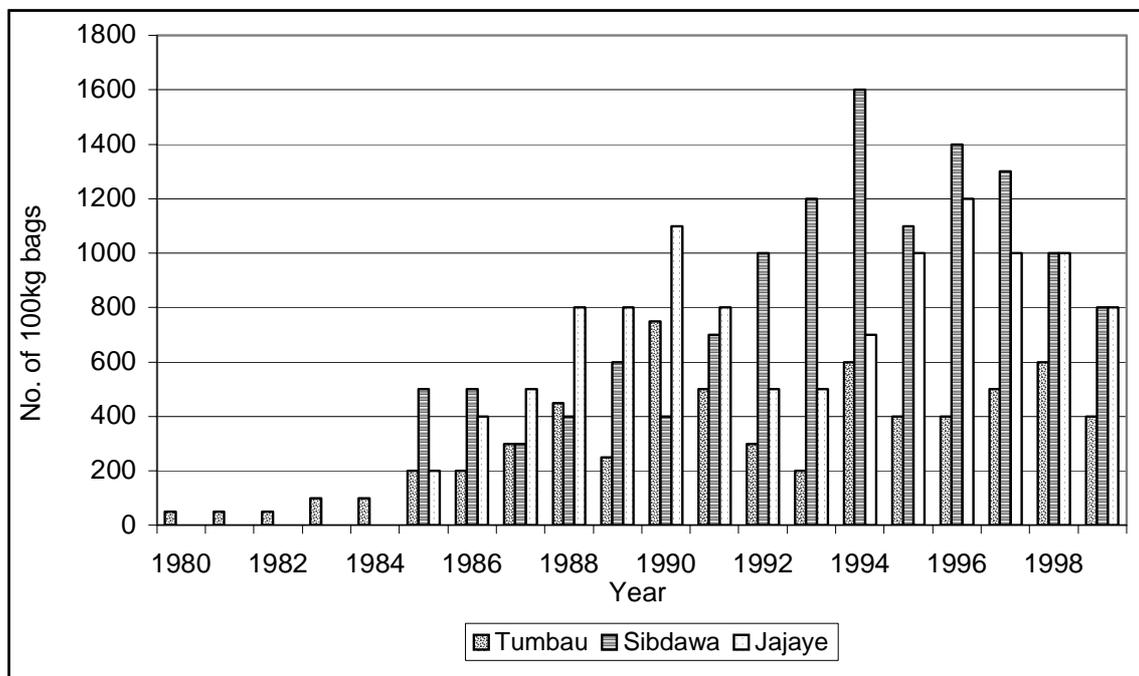


Figure 27b: Quantity of sorghum sold by 35 farmer-traders, by year and market



4.2.4 Effects of severe rainfall variability on grain output and sale

Because the three study areas are prone to severe rainfall variability and drought, we sought to find out how the people perceive the effects of these environmental conditions on their farming and trading activities. The years 1972–3, 1983, 1987 and 1995 were identified as drought years. However, only nine (or 25 percent) of the 36 farmer-traders interviewed remembered clearly the severe drought of 1972–3. In general, more of them remembered the more recent droughts of 1987 and 1995. And it would appear that the droughts were more severe in the drier, more northerly Tumbau and Sibdawa because more of the farmer-traders in these two villages remembered more drought years than those in the more humid southerly Jajaye.

According to the farmer-traders, droughts have always resulted in lower grain output, higher food prices and reduced grain trading. This view is borne out in Figures 23–27, in which grain output and sales were generally lower in 1995 and 1997 (also a drought year) than in the previous or subsequent years. When low rainfall resulted in low grain output farmer-traders responded by diversifying their activities, trading in livestock and manufactured goods in addition to grain trading. They also took a cautious approach to farming in the year following a drought because of uncertainty of rainfall.

4.3 PERCEIVED EFFECTS OF GOVERNMENT POLICIES ON FARMING AND TRADING

Although there are numerous government policies which affect farming, trading and other economic activities, we highlight here only the policies about whose effects the farmer-traders interviewed were quite definite. These policies are: (1) the devaluation of the naira; (2) the withdrawal of subsidy on fertiliser; and (3) higher fuel prices. All 36 indicated that devaluation of the naira caused domestic food prices to increase, owing to increasing prices of inputs, labour and manufactured goods. The withdrawal of subsidy on fertiliser, they indicated, resulted in a sharp increase in fertiliser prices and higher grain prices, especially of maize that is heavily dependent on chemical fertiliser. The frequent hikes in official fuel prices since 1993, and its scarcity in the northern states, has pushed up transport costs, resulting in higher grain prices, and one may add, the prices of other commodities as well.

The farmer-traders have also evolved ways of coping with these effects. For example, 78 percent of them indicated that they now use more manure as a substitute for chemical fertiliser, which has become very expensive. More than half of them also indicated that they now patronise distant markets less frequently because of high transport costs. While 78 percent indicated that they would continue to grow grains as long as the rainfall conditions allow, they also had become more focused on producing to meet their families' needs. When asked to indicate the factors that would generally determine their continued participation in farming and trading, the amount of rainfall, amount of capital available and the demand condition for food commodities were the main responses given by 50–83 percent of the farmer-traders.

5 LIVESTOCK TRADING

5.1 INTRODUCTION

The livestock of interest in this study are cattle, sheep and goats. The 36 sampled traders could not recollect precisely the number of bulls and cows they sold, so we have lumped all these sales together as *cattle*. In any case there are always many more bulls than cows in any herd of cattle on sale or being transported from one market to another. As in all commodity trades in northern Nigeria, the livestock traders we interviewed in this study were all males and the majority of them (31, or 81 percent) are of 41–60 years of age. In terms of trading experience, 30 had been in the livestock business for 15–30 years.

The livestock markets in Metropolitan Kano are held daily, while those in the regional markets and their surroundings are periodic, held every week. Because only a few animals are brought to each regional market at any one time, the field survey was extended to a few other nearby markets, in order to cover all the types of livestock of interest, and to meet traders with long experience in livestock trading. In Metropolitan Kano, livestock traders were interviewed in Dawanau, Sabon Kara and Yanawaki livestock markets. They were interviewed in Gezawa, and in Tumbau, Sara and Balare village markets in Gezawa area. In Bindawa area, livestock traders were interviewed in Bindawa, Sibdawa, Dallaje and Rujin Baushi village markets. The traders interviewed in the Rogo area came from Rogo and Jajaye village markets.

5.2 SOURCES OF CAPITAL

The livestock traders interviewed in this study had access to three sources of start-up capital: (1) savings from farming profits were the principal source for 86 percent of them; (2) credit buying was utilised by 28 percent; (3) gifts from relatives were used by 28 percent. These three sources also provided the capital the respondents utilised to expand their trade: 92 percent used personal savings, 78 percent considered credit buying as important, and only 19 percent used gifts from relatives. Two traders, who had access to bank loans to expand their business, were picked up at Dawanau. Like the grain traders, the livestock traders in the study area rely heavily on their personal resources to start and expand their trading activities.

5.3 LIVESTOCK MARKET STRUCTURE

The livestock market structure consists of the following five transaction levels:

- farmsteads;
- village markets;
- urban/distant markets;
- village/urban meat distributors' level;
- village/urban meat retailers' level.

Livestock may be brought to the village market for sale by the producers themselves (Fulani nomad herders and farmers) or by petty itinerant traders who go to the farmsteads to buy a few animals for resale in the village market. At the village market

the sale of livestock is always brokered by commission agents (Hausa = *dillali*, singular; *dillalai*, plural). Three categories of itinerant traders are involved in the livestock trade at the village market level. The first are essentially brokers, matching buyers and sellers for a commission. This type of trading in which no personal capital is involved is called *baranda* in Hausa, that is, buying goods to sell but not paying for them until the resale is effected. The second category are the traders who buy a few animals in the village market with their own money and take them to the urban market for resale (Hausa = *mai sari rakama*). The third category consists of traders who buy many animals, usually from a number of village markets, and take them to urban and distant markets for resale (Hausa = *mai sari baba*).

At the urban and distant markets are resident commission agents (*dillalai*) who broker the sale of livestock between traders who bring the animals for sale and buyers – mainly those want to fatten them for resale in future (Hausa = *mai kiwo*) and meat distributors (Hausa = *mai yanka*). The meat distributors slaughter and divide the animals they have purchased into large pieces for sale to meat retailers (Hausa = *mahauci*). This explains why most urban meat markets are located close to abattoirs. The retailers take the meat they have purchased at the abattoir to the market for sale to the final consumers. Except at the farmstead level, therefore, *dillalai* are involved at every other level of the livestock market structure. A major function of *dillalai* in livestock markets is that they serve as witnesses to the transactions and guarantee that the animals being sold are not stolen.

5.4 ORGANISATION OF THE LIVESTOCK TRADE

5.4.1 Membership of trade organisations

The livestock traders in the rural markets, like the grain traders we interviewed, did not belong to any association. In fact there were no such associations in any of the markets. Every trader is however registered, and carries receipts of payment of government levies which are payable every market day.

Traders in the three livestock markets in Metropolitan Kano indicated that they were members of the livestock associations established in the markets. Their contribution to the associations include payment of annual membership dues and special levies, and attending meetings of the association. They also indicated that they derive benefits that are similar to those obtained by grain traders in the urban markets: security of animals left in the market, assistance in cash and kind to members in need, and negotiation with transporters over fares on long distance haulage. A respondent in Dawanau livestock market indicated that he once took a loan from the livestock association in the market.

5.4.2 Sources of information on livestock supply and demand

Most of the traders indicated that they rely on other traders for information on livestock supply and demand, especially after being absent from the market for several weeks. As a general practice, however, the traders indicated that they go to the market and wait for prospective sellers to bring their livestock to the market. Sometimes, prospective sellers contact traders directly about animals available for sale at locations away from the market. In such cases the trader would either link the sellers with prospective buyers, and mediate prices between them for a commission, or buy the livestock himself and

bring them to the market for sale to other buyers. Large-scale traders amass livestock for shipment to distant markets, using such commission agents who are closer to livestock traders in the surrounding villages.

5.4.3 Sources of livestock supply

The principal sources of supply to the Metropolitan Kano markets are the major livestock markets in Kano, Katsina, Jigawa and Yobe States and Niger Republic. Such major markets include Garko, Wudil and Dambatta in Kano State, Potiskum in Yobe State and Maigatari and Sara in Jigawa State. The main sources of livestock supply to the regional periodic markets in Gezawa, Bindawa and Rogo are their surrounding villages. These periodic markets also receive supplies, especially bulls, from the major livestock markets that supply Metropolitan Kano markets.

The main sources of supply appear not to have changed significantly over time. Only one of the traders interviewed in Dawanau market hinted that Potiskum in Yobe State has ceased to be a major source of cattle to Metropolitan Kano. Sharp fluctuations in supply are experienced from time to time, however. The main reasons the traders advanced for these fluctuations are transport difficulties, which may delay supply for a period, and political problems or civil unrest, which may temporarily restrict long distance haulage.

5.5 VOLUME AND PATTERN OF THE LIVESTOCK TRADE

5.5.1 Volume of livestock trade by year and market

Figures 28–30 show the volume of each type of livestock traded in each market between 1990 and 1999. The combined turnover in the three Metropolitan Kano markets was understandably far greater than the combined turnover of the traders in the three regional markets. Except in 1994, the traders interviewed in Bindawa and a few markets in the surrounding villages traded more cattle than those in Gezawa and Rogo. Gezawa led the other regional markets in the number of sheep traded from 1990 to 1992, while Bindawa took over the leadership from 1996 and 1999. The differences in the numbers of sheep traded among the three markets between 1993 and 1995 were not great. The three regional markets also did not differ significantly in the number of goats they traded between 1990 and 1999.

The volume of cattle traded in Metropolitan Kano markets rose steadily from 1990 to 1994, and began an equally steady decline in 1995. The number of sheep and goats traded in the Metropolitan Kano markets, on the other hand, increased during the same period, reaching a peak in 1996. The fluctuations in the volume of livestock trade between 1990 and 1999 in the six markets have been associated by the traders with drought conditions, political problems and diminishing purchasing power of the people. As we have observed before, adverse climatic conditions such as drought reduced the supply of grains and livestock coming into the market, political crisis disrupted long distance trade, and lower purchasing power reduced the demand for the food commodities. The livestock trade was not spared by these adverse conditions.

Figure 28: Number of cattle sold by 36 traders, by year and market

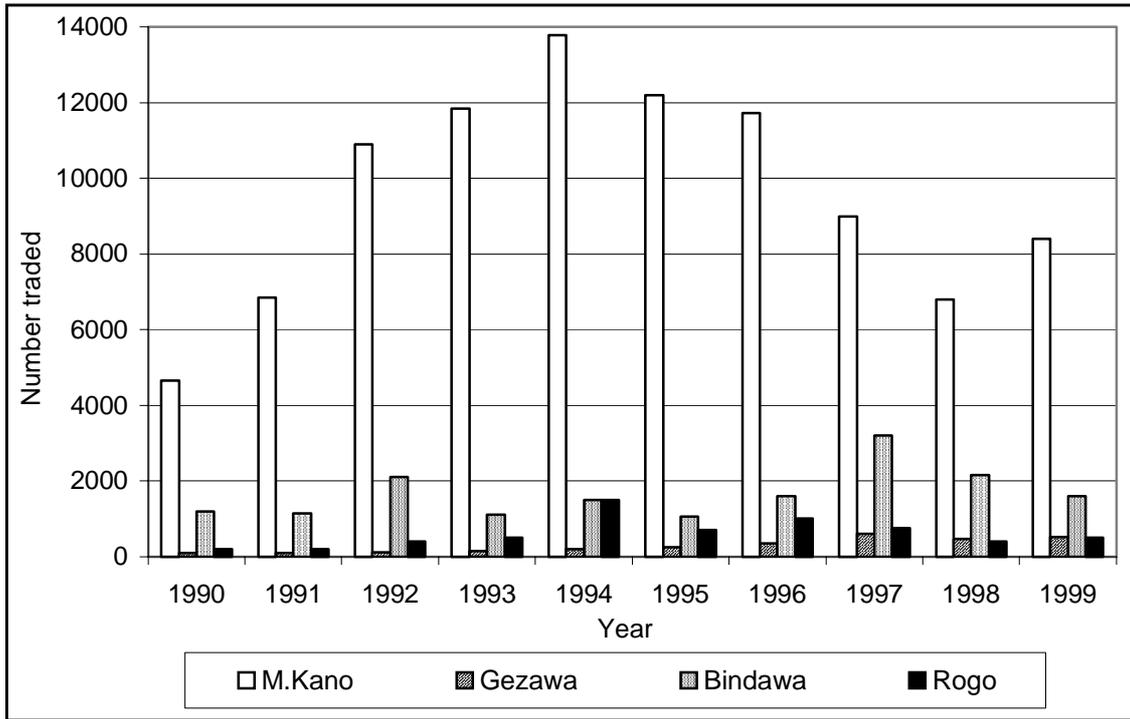


Figure 29: Number of sheep sold by 36 traders, by year and market

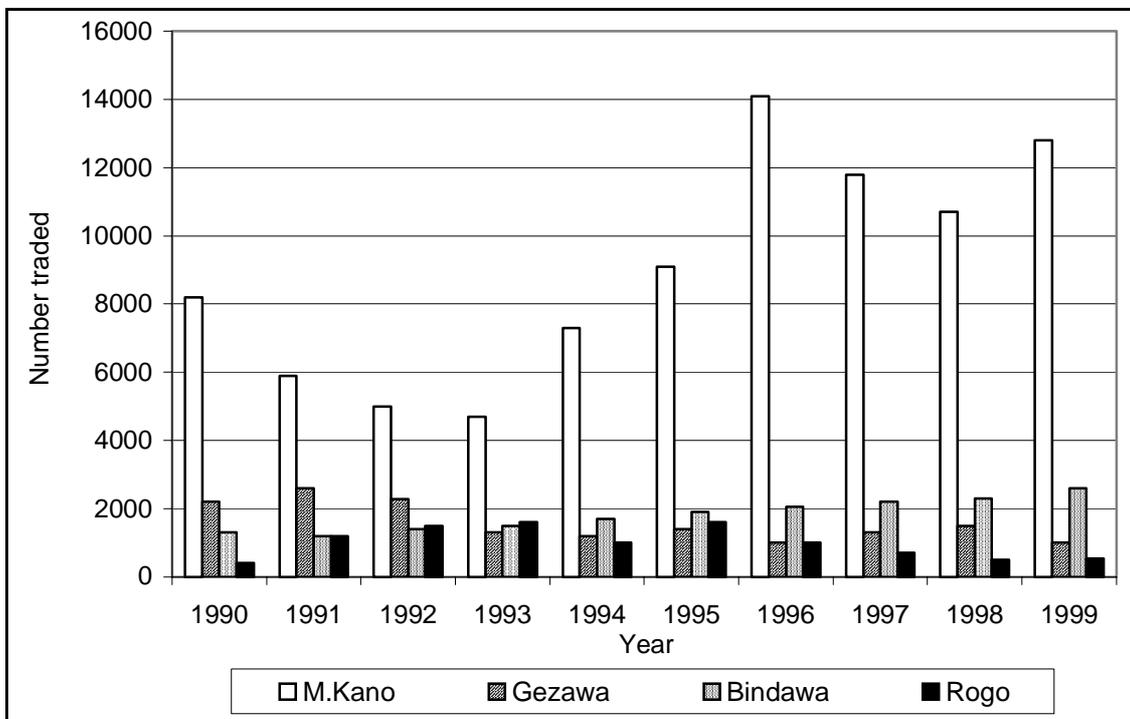
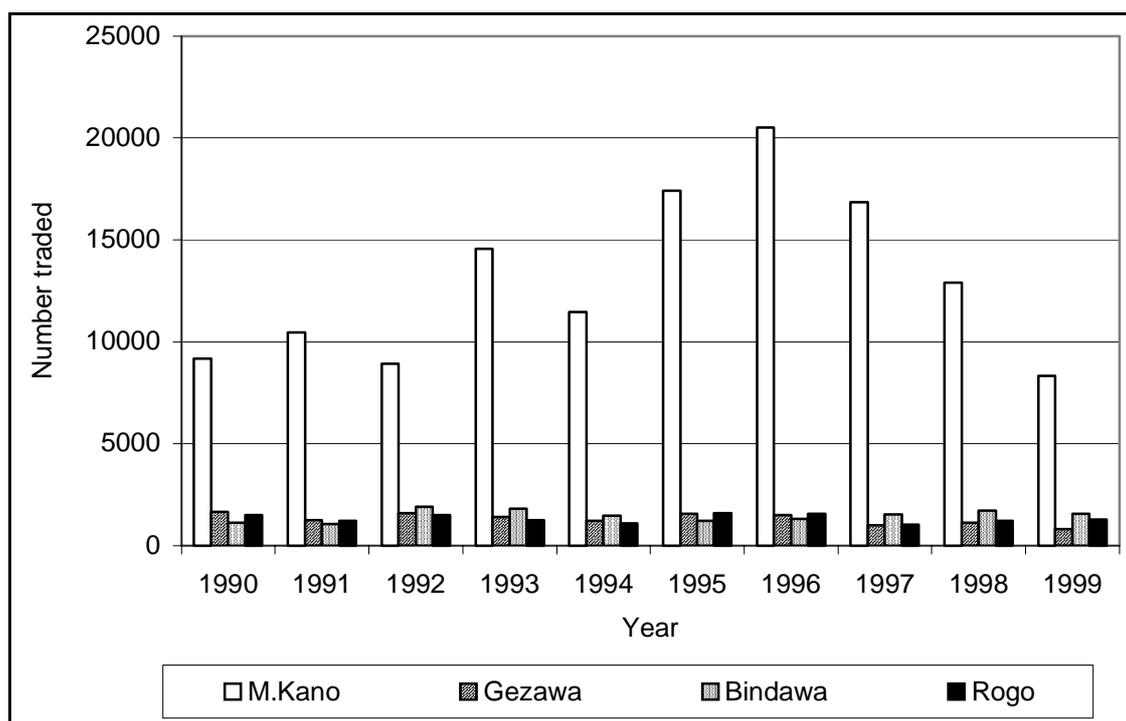


Figure 30: Number of goats sold by 36 traders, by year and market



5.5.2 Distribution of the livestock traded

On the assumption that the sampled traders are representative of their respective markets, the general pattern of regional distribution of trade livestock can be observed from Figures 31–33.

Cattle

Lagos took a larger share of the combined cattle trade of the six markets under study from 1990 and 1993, followed by western Nigeria, the Kano region and eastern Nigeria in a distant fourth position (Figure 31). In 1994 a lot more cattle were traded to the Kano region than to either Lagos or western Nigeria. Thereafter, the Kano region continued to take a large, though declining share (with an exception in 1997). Allocations of cattle to Lagos and western Nigeria went up in 1999, but this cannot be taken as conclusive, because the survey was carried out before the end of the year. The graph shows clearly that Metropolitan Kano markets are as important as conduits channelling cattle to the south of the country as they are in supplying local demand. The political crisis which followed in the wake of the annulment of the 1993 presidential election was more severe in Lagos and western Nigeria whence the assumed winner of that election came. During the few years the crisis lasted, trade between northern and south-western Nigeria was frequently disrupted, which accounts for the fluctuation in the volume of livestock traded with that region from Kano.

Figure 31: Number of cattle traded, by year and destination

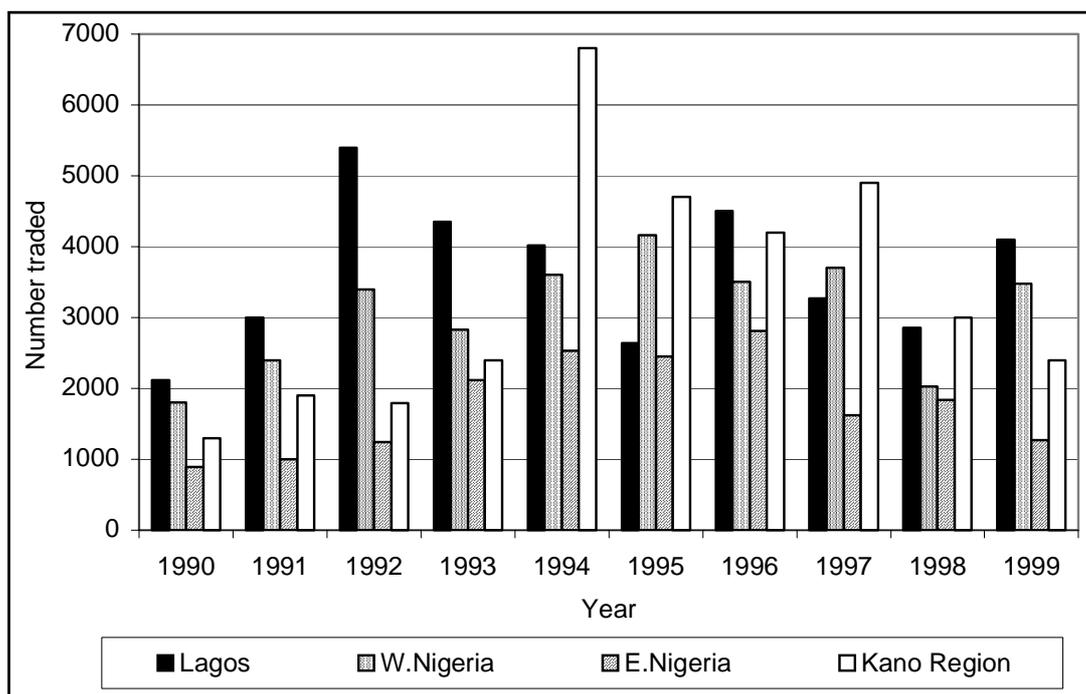


Figure 32: Number of sheep traded, by year and destination

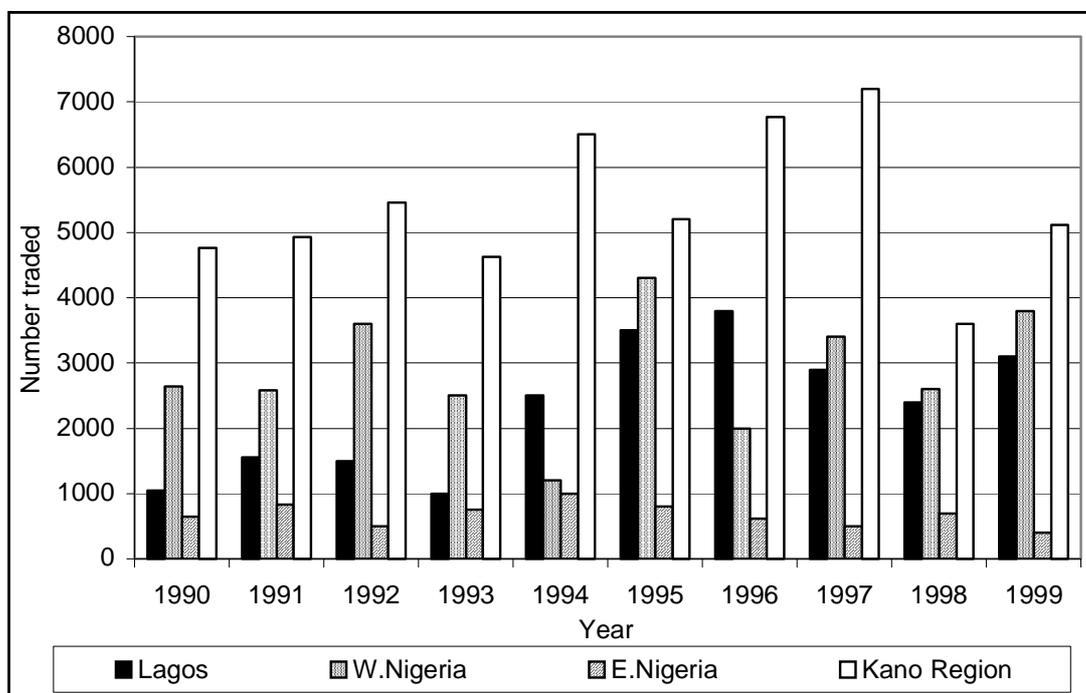
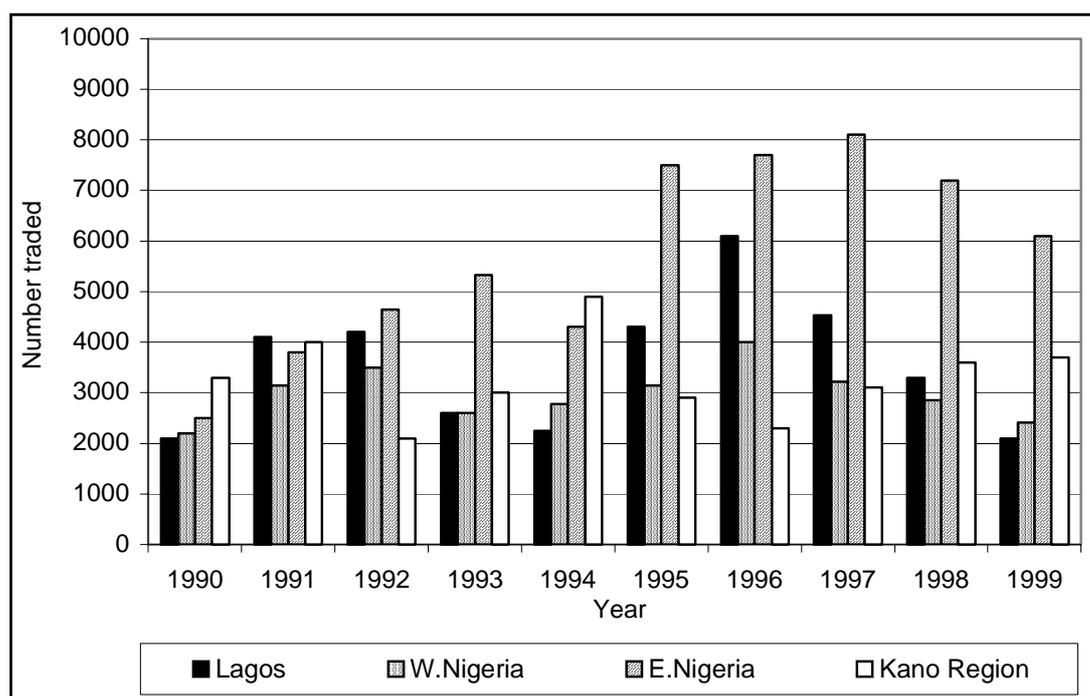


Figure 33: Number of goats traded, by year and destination



Sheep

The Kano region received the largest proportion of the sheep traded in the six markets in every year from 1990 to 1999, maintaining a stronger dominance than in cattle. It was followed by western Nigeria, Lagos, and eastern Nigeria in that order in most (though not in all) years (Figure 32). While sheep (especially rams) are a highly valued source of animal protein in Hausaland, the demand for them is strongly seasonal in western Nigeria where there are many Moslems who slaughter rams on the occasion of *Id-el Kabir*. As with cattle, there were sharp fluctuations, including dips in 1993, 1995 and 1998.

Goats

Eastern Nigeria received the largest proportion of the goats traded in the six markets followed by Lagos, while the Kano region and western Nigeria exchanged third and fourth positions from year to year (Figure 33). Eastern Nigeria's position as the largest destination of goats reflects the preference of its people for goat meat. The large concentration of people of eastern Nigerian origin in Lagos may also explain why Lagos absorbs a large proportion of the goat trade.

The fluctuations in livestock allocations to the major destinations reflect the reasons we advanced for the fluctuations in the volume of livestock traded in each market. The political crisis which resulted from the annulment of the presidential election in 1993 restricted the shipment of livestock and other food commodities from northern Nigeria to Lagos and western Nigeria, in both 1993 and 1994. The recovery in the livestock trade, which began in 1996 (as reflected in the increase in livestock allocated to the various destinations), could not be sustained as a result of very high inflation rates, which eroded the purchasing power of the people from 1997.

5.6 LIVESTOCK PRICES

Although the nominal prices of livestock continued to rise throughout the period for which data are available (1990–8), their real prices actually declined, between 1992 and 1995, and remained relatively constant from then to 1998 (Figures 34–36). While there were significant inter-market differences between 1990 and 1993, they became much narrower after 1994.

The changes in livestock prices are due to the same causes as the changes in the volume of trade – vagaries of the weather, political crisis and high inflation that has reduced the purchasing power of the people. There were droughts in the Sahel region in the early 1990s which reduced the volume of livestock traded, and these combined with a substantial increase in fuel prices to force up the price of livestock. The political crisis of 1993–5 restricted long distance trade in livestock, especially to south-western Nigeria, and contributed to the fall in the real prices of livestock. Then the low demand for livestock occasioned by the growing poverty among the people may have caused livestock prices to appreciate very insignificantly in real terms after 1995.

Seasonal variations occur in livestock prices, for several reasons. Prices tend to be generally lower in the rainy season (*damina*) because supplies are highest, which is due to farmers selling their animals to raise money for farming inputs, and to avoid disease infestations that are highest during this season. On the other hand livestock prices tend to be highest in the harvest season (*kaka*), especially in years of bumper harvests, when farmers do not have to sell their animals, and farming profits are invested in livestock.

Figure 34: Real prices for cattle per head, by year and market

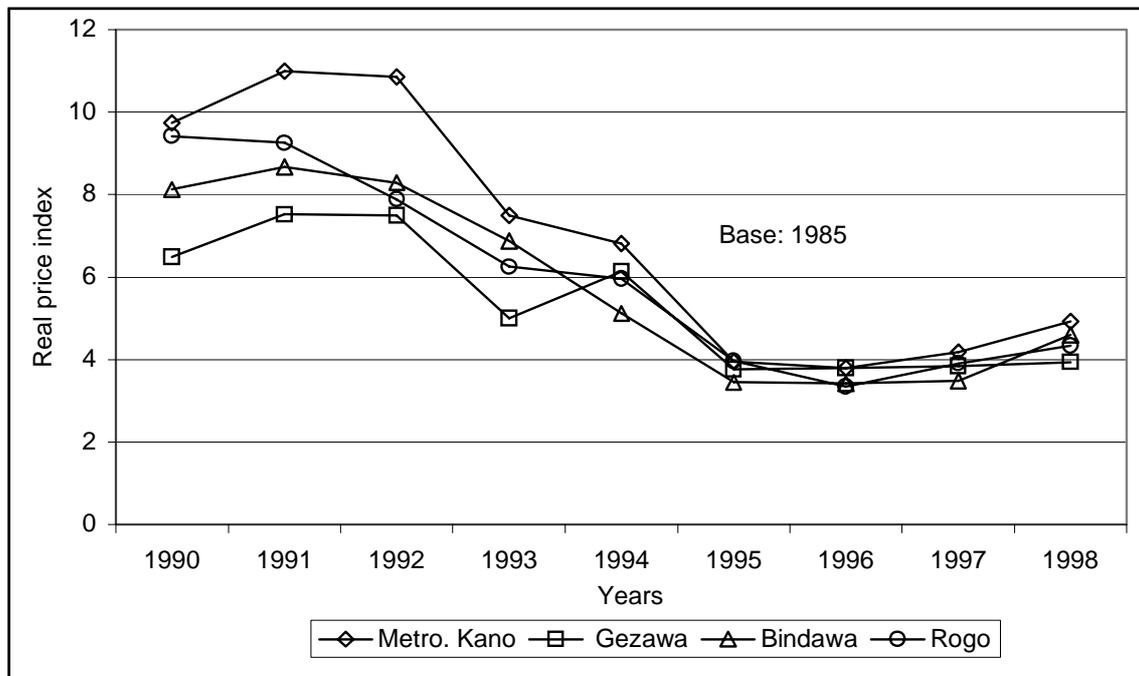


Figure 35: Real prices for sheep per head, by year and market

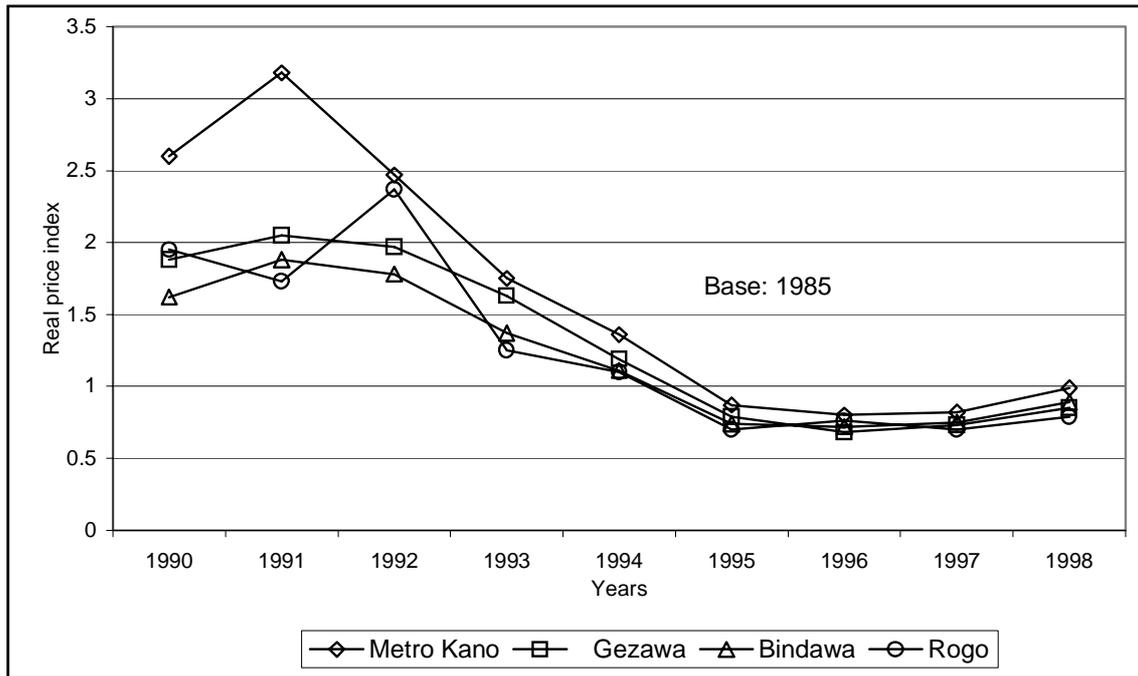
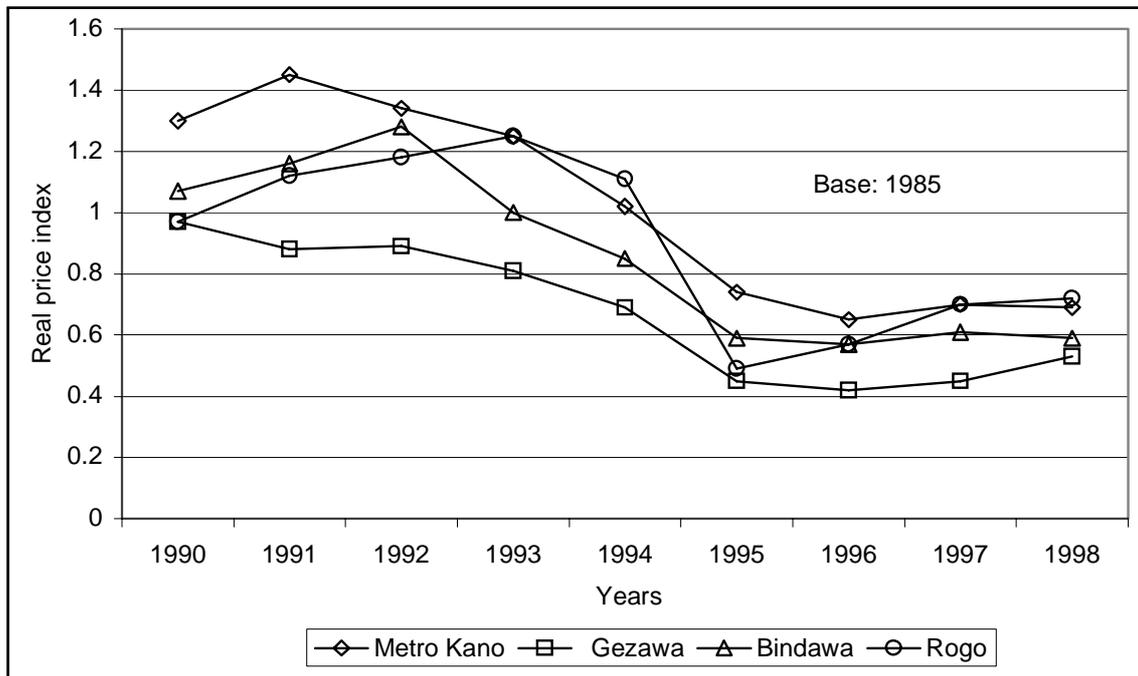


Figure 36: Real prices for goats per head, by year and market



5.7 EFFECTS OF GOVERNMENT POLICIES ON THE LIVESTOCK TRADE

The responses of the 36 livestock traders interviewed in the six markets are summarised in Table 5. The four policies about which the respondents expressed views are the devaluation of national currency (the naira), high fuel prices, importation of livestock

products and the devaluation of the FCFA. All the 36 traders indicated that the devaluation of the naira and high fuel prices caused livestock prices to rise, but the supply of livestock and the traders' turnover remained the same. Ten urban traders indicated that the importation of livestock products between 1974 and 1986 depressed the prices of domestic livestock very slightly. The same traders indicated that the devaluation of the FCFA had little effect on the market, either because there is such a high level of integration between Nigerian and Nigerien livestock traders, such that most of the transactions are in naira, or the traders covered in this study do not patronise livestock traders from Niger republic.

The narrow range of government policies that livestock traders perceive to have affected their business may be connected with the fact that livestock rearing and trading in Nigeria involve very few officially subsidised inputs. Perhaps the livestock breeders themselves are in a better position to identify and assess a wider range of government policies that affect their business.

Table 5: Effects of government policies on the livestock trade (number of respondents by type of effects)

	Effects on prices			Effects on supply			Effects on turnover		
	+	-	=	+	-	=	+	-	=
<i>Importation of animal products</i>	-	10	-	-	10	-	-	10	-
<i>Devaluation of the naira</i>	36	-	-	28	-	6	4	6	26
<i>High fuel prices</i>	36	-	-	2	4	30	2	6	28
<i>Devaluation of the FCFA</i>	-	-	10	-	-	10	-	-	10

Key

+: Increase

- : Decrease

=: Same

6 CONCLUSION

6.1 SUMMARY OF MAJOR FINDINGS

The long-term trends of the grain prices in urban Kano markets reflect quite closely the macroeconomic policy regimes Nigeria passed through between 1960 and 1998. The relative policy consistency of the 1960s up to the early 1970s resulted in hardly perceptible changes in real prices of the food commodities during that period. The only exceptions were minor increases which occurred during the civil unrest of 1966 that preceded the outbreak of the civil war in 1967, and in the severe drought of 1972–3, that resulted in higher real prices in those few years. Significant changes in food prices were witnessed between 1975 and 1987 as a result of high wage increases in the public sector, massive public expenditure in infrastructural development and the strong interventionist posture of the Government in the economy. These policies fuelled inflation and rural-urban migration that pushed real prices quite high.

The reversal of past government interventionist policies, which began in 1986 and are still being intensified, resulted in an upward spiral of the prices sorghum, millet, maize and groundnuts, and food prices in general appear to have stabilised at levels higher than those of 1975. Although the Structural Adjustment Programme and reduced imports appears to have stimulated prices between 1987 and 1991/92, these increases could not be sustained, due to economic mismanagement and hyper-inflation, which crippled the industries and reduced their demand for food raw materials, as well as reducing the purchasing power of the people.

The study has also revealed that food commodity traders – grain and livestock traders alike – derived their investment capital mainly from personal savings and adjusted their trading activities appropriately to cope with the dictates of various policies, political developments as well as environmental hazards. They responded positively by expanding their trading activities when opportunities presented themselves, and contracted them when conditions were not favourable. This flexibility is best demonstrated by the farmer grain-traders who, in addition to being self-reliant in capitalising their business, switched to using more manure when chemical fertilisers become very expensive, and combine trading and farming as a way of diversifying their sources of income generation.

There is evidence, too, that the long-established trade area of Kano has not changed very much since 1960, as most of the grains and livestock still come from the traditional supply areas. But improvements in road transportation have so much integrated the markets that the price differentials between them are not large. The study has not yielded any evidence to support the popular belief that traders hoard grains to create an artificial scarcity and force prices up. What we found was that traders in urban markets build up their stocks to fill lorry loads before transporting them away. The traders were ready to sell their grains whenever the prices offered left them a reasonable profit margin, because they are usually small operators and need a constant turnover.

There is also evidence that there has been improved access to profitable markets in large population centres in the country and the traders have developed a closely knit network linking the three market levels – urban, rural bulking, and village markets. Thus

information about food supply, demand and price conditions are easily circulated around the markets, resulting in quite small price differentials among the markets.

All things considered (including a six-fold increase in the population of Metropolitan Kano, and a decrease in average rainfall of 25 percent or more during our period), the study demonstrates the power of a largely unregulated food commodity market, dominated by small-scale actors, to match the requirements of producers with those of consumers against a backdrop of economic and policy uncertainty. This finding deserves to be taken seriously by policy-makers.

6.2 RECOMMENDATIONS

Two major policy issues, illustrated by the findings of this study, can be used to suggest interventions for long-term change. These relate to the price mechanism and infrastructural facilities, both of which interact intimately to create a positive or negative investment environment in an economy. The spontaneous response of the traders to macroeconomic policies suggests that the market via the price mechanism can be used to stimulate the rural economy (Trimmer, 1994). Policies to stabilise prices in general are, therefore, a key to long-term positive change. Price stability makes investment less risky in agriculture and other sectors of the economy. It creates widespread confidence and raises the productivity of farmers, industrialists and traders.

This is not advocating a return to price control and subsidised production. What is required instead is the creation of macroeconomic conditions favourable to all sectors of the economy so that positive externalities flow out from one sector to another for the overall development of the nation. In this regard the dismal rate of the naira vis-à-vis the major world currencies is a major source of inflation which requires serious attention. Related to this is the high rate of interest that makes raising capital for industrial expansion very expensive. The twin problem of double-digit inflation and interest rates affects all sectors of the economy; it has reduced the purchasing power of the people and crippled the manufacturing sector. Strengthening the naira and lowering the interest rate are policies that will restore price stability and create an environment conducive to investment in all the sectors of the economy. In addition, Nigeria's nascent democracy should be nurtured so that the nation's potentially huge market will remain open for the free flow of goods and people.

The Kano region has witnessed great improvements in road transportation and water supply since 1970. The trading by farmers addressed in this study is only one of a host of rural non-farm activities, the growth of which is immensely constrained by the lack of electricity in many rural areas. In addition to improvement in water supply, road transportation and veterinary services, the region needs more widespread development of electricity in order to create the opportunity for the growth and development of non-farm economic activities. This will provide the much-needed vent for the dense and growing population to find alternative gainful employment, either on a full or part-time basis.

ANNEX 1: CONSUMER PRICE INDICES

A major problem in the attempt to determine food commodity price movement in this study was finding a price deflator, i.e. a consumer price index (CPI) with a single base for the entire 40-year period. This is because the Office of Federal Statistics (OFS), the only credible source of CPI in Nigeria, has revised several times the composition of the basket of goods which makes up each expenditure category, and set a new base year whenever such a revision was carried out. In relation to this, OFS materials are difficult to access because it does not publish regularly. We had to resort to the CPI sourced from OFS by other institutions which publish more regularly, especially the Central Bank.

We are therefore faced with three food composite (combined rural and urban) consumer price indices, two of them overlapping as shown below. We settled for A and C as the deflators of the nominal prices of the grains under study. For each commodity the price trends of the two base years are shown separately on the same graph (Figures 5–9). A, we hope, should reveal relative price stability in the 1960s when there was consistency in macroeconomic policies. On the other hand, C tells the story for a much longer period – 1970 to 1998. With 1985 as base, C makes it possible to compare the effects of SAP and pre-SAP policies as well as environmental and political factors on food prices.

Table A1: Consumer price indices

	(A)	(B)	(C)
Year	1960–9 CPI	1960–76 CPI	1970–98 CPI
Year	(1960 = 100)	(1960 = 100)	(1985 = 100)
1960	100.0	100.0	
1961	109.8	109.8	
1962	118.0	118.0	
1963	106.7	106.7	
1964	105.7	105.7	
1965	110.5	110.5	
1966	133.1	133.1	
1967	120.1	120.1	
1968	112.6	112.6	
1969	133.9	133.9	
1970		164.4	9.0
1971		211.4	11.6
1972		216.6	11.8
1973		224.7	12.2
1974		258.9	14.1
1975		367.7	20.1
1976		466.3	24.5
1977			29.3
1978			34.5
1979			37.4
1980			40.1
1981			50.2
1982			54.6
1983			67.3
1984			96.2
1985			100
1986			100.1
1987			108.7
1988			196.3
1989			298.1
1990			308.0
1991			345.9
1992			506.8
1993			800.21
1994			1174.6
1995			2017.7
1996			2630.7
1997			2864.2
1998			3044.4

Sources: (A) Nigeria, FMI, 1971; (B) Nigeria, FMI, 1977; (C) Nigeria, CBN, 1998.

ANNEX 2: QUANTITIES OF GRAINS STORED

Table A2: Quantities of grains stored by 30 traders for 2–3 months in Metropolitan Kano markets (tons)

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<i>Cowpeas</i>										
Dawanau	90	200	170	175	300	320	180	250	300	160
A. Rimi	20	20	20	20	20	40	10	10	25	10
Kurmi	50	20	60	50	30	30	30	30	55	20
<i>Groundnuts</i>										
Dawanau	40	60	60	55	50	100	200	200	280	130
A. Rimi	-	-	-	-	10	12	10	8	5	10
Kurmi	20	50	350	25	20	40	50	70	180	200
<i>Maize</i>										
Dawanau	130	320	550	500	700	885	500	300	480	200
A. Rimi	-	-	-	-	1	2	2	3	4	1
Kurmi	50	100	100	53	72	104	108	106	112	500
<i>Millet</i>										
Dawanau	20	20	50	30	30	65	130	100	60	20
Kurmi	5	14	15	10	5	19	25	25	100	10
<i>Sorghum</i>										
Dawanau	150	150	120	150	260	160	260	400	400	350
Kurmi	50	50	500	75	80	100	50	50	60	50

Source: Field surveys, Oct-Nov, 1999.

Table A3: Dawanau market's share of grains stored by 30 traders in Metropolitan Kano markets (percentage)

	Cowpeas	Groundnuts	Maize	Millet	Sorghum
<i>Year</i>	%	%	%	%	%
1990	56	67	72	80	75
1991	83	55	76	59	75
1992	86	63	85	77	63
1993	71	69	90	75	68
1994	86	63	91	86	72
1995	82	66	81	77	62
1996	79	77	80	84	84
1997	86	72	69	80	89
1998	80	60	76	75	87
1999	84	60	85	67	75

Source: Annex A2.

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