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NIGER MARKET TOWN DEVELOPMENT STUDY

FINAL REPORT

Peter L. Doan

Blane D. Lewis

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Research Triangle Institute
Research Triangle Park
North Carolina
U.S.A.

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I. EXECUTIVE SUMMARY

After several decades of sector specific development initiatives with narrowly oriented spatial objectives ("rural" development or "urban" development), policy-makers are increasingly concerned with broader development strategies with broad regional impacts. The concern with market towns on the part of donor agencies is not necessarily new (see Johnson, 1970 and Rondinelli and Ruddle, 1978), but recently it has begun to attract attention from a variety of decision-makers representing a diversity of sectoral approaches. In West Africa interest has been expressed in market towns by both the A.I.D. mission staff and the Regional Housing and Urban Development Office (RHUDO) in Abidjan. This study reflects the convergence of these interests in Niger.

The A.I.D. mission in Niamey is concerned with finding alternative ways of supporting agricultural development in the face of climatic fluctuations that wreak havoc with harvests every few years. The desire to better understand the role of market towns in supporting agricultural production and in providing alternative means of diversifying income for rural people is a natural outgrowth of this concern. RHUDO's interest in market towns is to support urban development in the region. Market towns are at once the lowest level in the urban hierarchy and crucial points in the transmission of regional economic growth throughout the urban hierarchy.

This study incorporates both objectives and focuses on the characteristics of market towns in Niger. A methodology grounded in the Urban Functions in Rural Development (UFRD) approach developed for USAID by Dennis Rondinelli and others and incorporating basic concepts on rural-urban linkages was developed for the study and is described in brief in an Appendix.

GON Goals and Strategy

The Government of Niger (GON) has formulated a broad plan of spatial development in the 1987-1991 Five Year National Development Plan. The principal objectives of the spatial policy seem to be (1) to slow the out-migration of rural people to the largest centers, which lack sufficient holding capacity and (2) to stimulate a balanced pattern of socio-economic growth and development in the country.

The strategy for accomplishing these goals, according to the Plan, is the adoption of policies, in particular investment policies, that favor selected regions within each department, and selected centers within those regions. The centers are to serve as growth points for regional development, stimulating farm and off-farm production and delivering social services to town and hinterland populations. The improved standard of living in rural areas will obviate the need for residents to seek employment elsewhere, thus minimizing migration to larger centers, it is believed.

In addition, GON foresees the implementation of a plan of administrative, financial, and political decentralization to support economic growth and development. The GON hopes to deconcentrate certain administrative and financial responsibilities to regional and sub-regional levels of government and to engender a broader base of citizen participation in the development process thereby incorporating valuable local-level knowledge in decision making.

Objectives of the Market Town Study

This study considers issues pertinent to national goals and strategies in two departments: Dosso and Maradi. Within each department the major economic sub-regions were identified with the help of staff members from the Service Arrondissement du Plan. Rather than focussing broadly on the entire department, the study focussed on several sub-regions, comprising a key market town and the subsidiary markets in its hinterland. In Dosso the arrondissements of Dosso and Dogon-Doutchi were selected. In Maradi three arrondissements were selected including Tessaoua, Mayahi, and Aguie.

The broad objectives of the study are:

- to describe and analyze the present and potential role of market towns as growth centers in sub-regional and national economic development (Sections Two and Three below);
- to describe and analyze the potential role of government decentralization in the development process (Section Four);
- to consider the impact of donor efforts in the above social and economic development (Section Five), and
- to suggest a national strategy for the promotion of market towns, concentrating on the identification of certain policy and infrastructural problems (Section Six).

The Approach

The research approach is based on a description and analysis of the agricultural and non-agricultural sectors and the economic linkages between the two. An analysis of these intersectoral and spatial linkages provides the means for understanding how income is earned and multiplied in a region. At the same time, it provides insight into how policies either support or constrain the income generation process.

An overwhelming percentage of the population in Niger is engaged in farming and the raising of livestock. Perhaps as much as 90 percent of the population is engaged in activities related to the agricultural and livestock sectors, which provide the economic base for growth

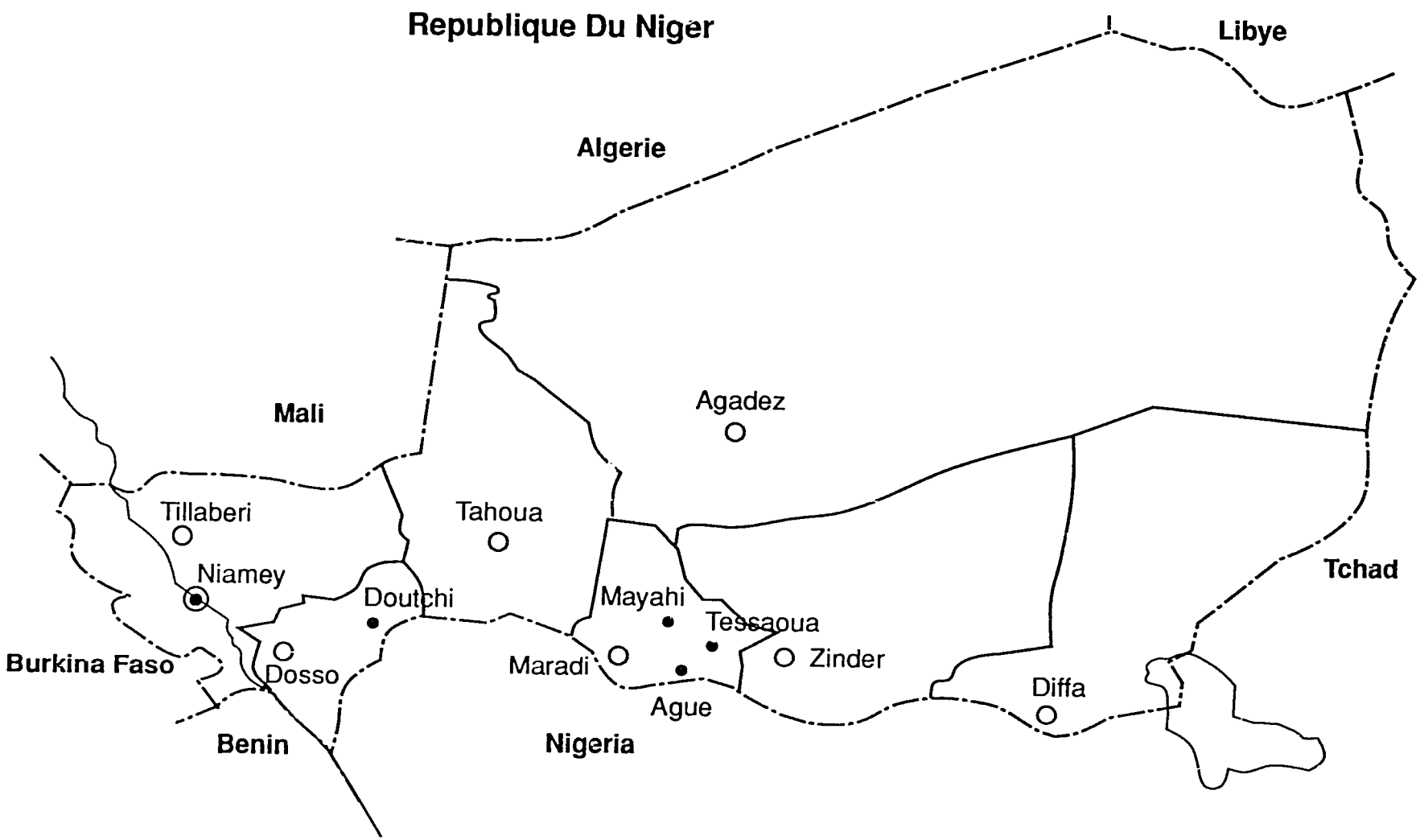
Republique Du Niger
Libye
Algerie
Mali
Agadez
Tillaberi
Tahoua
Niamey
Doutchi
Mayahi
Tessaoua
Zinder
Burkina Faso
Dosso
Maradi
Ague
Diffa
Benin
Nigeria
Tchad

Figure 1.

2a

and development in the various regions of the country. Together they contribute close to 50 percent of the Gross Domestic Product.

The principal crops are millet, sorghum, cowpeas, and manioc which are grown both for household consumption and for sale. Approximately 20 percent of agricultural production is commercialized. The vast majority of farrning is rainfed and only about 50,000 hectares are under modern irrigation. Next to uranium, livestock is the most important foreign exchange earner. Earnings are difficult to estimate as much of such trade goes through "parallel" markets to Nigeria. Our analysis below concentrates on agricultural production, agricultural input use, livestock production, and other natural resources in the two departments.

At present only about 16 percent of the population of Niger is urbanized. The urban population is growing at a relatively quick rate, however, with most estimates running about seven percent. The urban population is distributed among some 39 different centers.

The number of urban centers in Niger appears insufficient and their spatial distribution inadequate for supporting wide scale economic production activity. Given the upper end of the nation's urban hierarchy, one would expect a much greater number of smaller urban places, dispersed throughout the country to a much greater extent. Given the population of Niamey at approximately 400,000, and assuming the size distribution of places is lognormally skewed, one might expect as many as 200 towns and cities with populations above 2,000 instead of the current 39.

Production in urban centers is at rather low levels. At the national level the manufacturing sector accounted for only about 1.2 percent and of GDP in 1987, for example. Employment in the modern sector is only about two percent of the working age population. Most urban production and employment is found in the informal sector. Below we consider the size distribution and urban functions of settlements in the two departments as well as the structure of urban production.

Sections Two and Three conclude with an examination of the primary spatial linkages between rural areas and urban centers. The principal economic linkages include production linkages (that is, the flows of intermediate goods and services, including agricultural commodities destined for processing and farm inputs), consumption linkages (flows of final demand or consumer products), and income linkages (flows of labor and capital income). The latter provide an opportunity to consider, in particular, the off-farm wage and investment income opportunities of farm households which in this case are surprisingly limited. The examination highlights the income generation and multiplication process and policies supportive or inhibitive of that process.

Other spatial linkages are also considered in analyzing the interrelationships between market towns in the hierarchy. The movements of traders between various markets, the origin and purchase points for goods and services, and the flows of livestock in selected markets indicate the strengths and weaknesses of distribution networks in each department.

The analysis of the process of decentralization in Section Four expands these themes with a concrete analysis of the role of local governments in the development process. Measures to stimulate development at the market town level are best administered at the local level since the constraints in rural-urban linkages in each region must be addressed with site-specific measures. The results indicate that greater autonomy in budgetary matters would make local governments more able to meet local needs in a timely and responsive fashion, however with this autonomy must come further capacity-building and training measures to ensure that decisions are made and implemented efficiently.

Recommendations

While it is not within the scope of this report to dictate the dimensions of a national urban strategy for Niger, there do appear to be a number of specific policy areas that need special attention. They are highlighted here for the purpose of illustrating the types of issues that should be addressed by policies within the context of a national urban strategy. The adoption of programs and investments in these areas would strengthen rural-urban linkages and support the development of both the agricultural and the non-agricultural sectors.

Transportation Infrastructure

Better infrastructure in the form of roads and storage facilities would aid the distribution of farm inputs, particularly fertilizer where there are currently a number of problems. Technical staff in Dogon Doutchi, for example, complained that although farmers in the region were accustomed to applying fertilizer, poor roads and storage facilities were an important constraint in making such inputs readily available to them.

In addition, better roads in regions that are currently isolated enclaves would facilitate the marketing of farm produce and provide an incentive for increasing production and specialization. Fadama in Dogon Doutchi Arrondissement provides a classic example of a relatively rich agricultural area where poor farm output supply routes stymie commercialization and specialization of production. Other sites include Dogon Kiria in the northern part of thie same Arrondissement and numerous contre-saison production sites in Tessaoua and Aguie Arrondissements.

Finally better transportation infrastructure might facilitate farmer access to town-based sources of income. Many villages are effectively cut-off from urban places further up the hierarchy. Poor access to these centers constrains the ability of farmers to garner wage and investment income which might be used to improve agricultural productivity.

Market Facilities

The most frequent demand for assistance expressed by local government officials was for improved market facilities. Such facilities would consist primarily of an open air hangar constructed of permanent materials such as a concrete foundation, a steel superstructure,

and a tin roof. A partial case for this kind of facility can be made on the grounds of improving public health and sanitation. However, since such investments are likely to have little direct productivity-enhancing consequences, another indirect yet important benefit should be considered. Market taxes are an important source of local revenue, but most merchants already complain that taxes are too high. With improved market facilities it was stated that it would be possible to raise market taxes without causing widespread dissatisfaction with local authorities. Other market facilities requested include: play areas for children, sanitary facilities, drainage systems, and potable water sources in the market area.

An additional possibillity for exploration would be the construction of warehouses in the market area owned by the collectivité that could then be rented to traders who frequented the market. This would both raise local revenues, but also provide an important service to merchants needing temporary or semi-permanent storage facilities for their wares.

Construction of Taxi Stations

A similar rationale was expressed by local officials for the construction of taxi stations (autogares). If a collectivité can build a taxi station, it can collect fees from each truck or taxi that picks up or discharges passengers in the town. In larger towns and in towns located on the paved highway, this can be an important source of revenue.

Credit

Subsequent to the failure of the Caisse Nationale de Credit Agricole (CNCA) the lack of credit for farm inputs is an acknowledged problem. The Ohio State study of rural credit options paints a bleak picture for a rapid re-vitalization of this key component. The authors do cite a variety of informal channels for acquiring capital in the rural areas, including savings associations, money-holders, and the ability of at least some individuals to buy on credit from retailers who have in turn received credit from larger wholesalers. In this study it was not possible to document with any greater precision these informal networks, however the lack of money for investment in tools, equipment, or increased inventory was one of the most widely cited problems in our survey.

While recognizing that individuals at the local level consider credit as a giveaway program rather than a loan--which makes them eager to request such programs, the economic importance of a functioning credit program for encouraging private investment in needed infrastructure and equipment can not be over-stressed. It would not only allow those farmers interested in purchasing fertilizer to do so, when it is available, but it would permit entrepreneurs engaged in town business activities to expand production of needed intermediate goods. Other investors could, in turn, purchase much needed capital and intermediate inputs where they cannot now afford them. However, given recent donor experience a large scale effort by foreign donors does not appear appropriate at this time, but innovative strategies to provide alternative credit sources at the local level should be encouraged.

Business Incentives

Tax and other incentives for the investment in and operation of small scale manufacturing and service production activities might help to expand town economic production, generate employment, and multiply income earning opportunities for rural and town households. Examples of such incentives include tax incentives for lowering the start-up costs and operations of new firms and tax incentives or for the relocation of existing firms. In pursuing such a strategy, careful consideration must be given to evaluating the trade-offs between the additional revenue and economic activity generated by the tax incentives and the loss to local treasuries due to the reduction in taxes. However when appropriately applied such measures can create important new investment incentives.

In addition the provision of small scale or artisanal "industrial estates" might promote alternative investment opportunities in important secondary activities. By encouraging small scale manufacturers to locate in proximity to each other, economies of scale could be realized for the group purchase of inputs, sale of outputs to larger dealers, and even the extension of small business training programs and credit.

Building Administrative Capacity at the Local Level

The lack of adequately trained manpower at the arrondissement level appears to pose a considerable constraint to decentralization prospects and to the ability of market towns within those arrondissements to provide the basic services needed to stimulate more rapid economic development. Given the key role of the Service Arrondissement du Plan (SAP) in the planning and budgetary process, additional training for cadres in these areas seems essential. The head of the SAP should, in theory, function as the arrondissement equivalent of the Secretaire Génerale Adjointe (SGA) at the department level who is the head of the Direction Départmentale du Plan and at teh same time is a key advisor to the Préfet. In reality the lack of trained cadres at the arrondissement level prevents the smooth functioning of this kind of relationship. At least one Sous-Prefet that we interviewed stated that he needed a well trained assistant to help him oversee the variety of development projects in his jurisdiction. Careful consideration should be given to the expansion of technical training assistance at this level.

Other technical training needs include better revenue collection and tracking systems, especially for market related taxes and patantes. We were surprised to learn that in many arrondissements, the secretary who functions as the comptroller could not give us a detailed breakdown of revenues by market towns, since the preceptors (tax collectors) keep receipts for several markets in the same book, making it impossible to track collections by individual markets. This poor fiscal management could be alleviated by in-country or regional training programs designed to improve revenue collection efficiency and the management of fiscal data to aid in that task.

Increasing Local Fiscal Control

In addition, arrondissements have only a limited ability to impose new taxes or user fees without getting clearance from the department level or higher. This makes it difficult for arrondissements with particularly costly needs to finance these projects from their own budgets, creating a dependence on outside sources of funding. Along with the authority to establish their own budgets, this level of government should be given greater authority to establish the levels of revenues needed for a given year and to set user fees and/or taxes to finance them.

When revenues are likely to be insufficient, collectivités have the option to borrow money from the Caisse des Prêts des Collectivités Territoriales (CPCT). However at least one mayor admitted that they preferred not to go into debt to finance infrastructure or development projects. While it is not a good idea to increase debt levels without developing appropriate financial management capabilities, it should be recognized that increased debt levels are going to be necessary to finance the substantial urban investments required by collectivités in the next few years.

II. ANALYSIS OF RURAL-URBAN LINKAGES IN DOSSO

Agricultural Production System and Resource Availability

The agricultural production areas in the Department of Dosso are classified by distinct ecological zones with their respective agricultural production systems. In the center of the department is the Plateau Region, comprising most of Dosso Arrondissement and Loga Arrondissement with sandy soils and occasional infertile laterite sections. To the extreme west and east of the department are two dry river beds known locally as dallols (Dallol Bosso to the west in Boboye Arrondissement and Dallol Maouri to the east in Dogon-Doutchi Arrondissement). The hydro-morphic soils of these areas are richer than elsewhere in the department and the water table is substantially higher, permitting a wider variety of agricultural production activities. The southern portion of Dosso Arrondissement and most of Gaya Arrondissement comprise a third distinct zone in close proximity to the Niger River. This area receives the most rainfall in the department and has the best potential for agriculture production, especially for off-season gardening.

Agricultural Production

In Dosso Department millet, sorghum, and cowpeas are the dominant crops, and they are often inter-cropped (see Figure 2, Map of Market Towns and Arrondissements in Dosso Department). Peanut production is of declining importance, but where peanuts are cultivated they tend to be grown in separate or pure cultures. In all arrondissements but Gaya, cowpea production has replaced peanut production as the cash crop of greatest importance. Gaya in the river zone has the greatest diversity of production with 10% of its cultivated area going to diverse production activities (including rice, manioc, and off-season production activities). Dogon-Doutchi is the only arrondissement which produces substantial amounts of Voandzu, because it is a specialized legume important to the local diet.

The production figures shown in Table 1 are rather higher than usual because 1988 had significantly better rainfall than previous years, resulting in high levels of production. Total millet production in the Department rose from 213,481 tons in 1987 to 299,711 tons, while total cowpea production rose from 13,691 tons in 1987 to 20,129 tons in 1988.

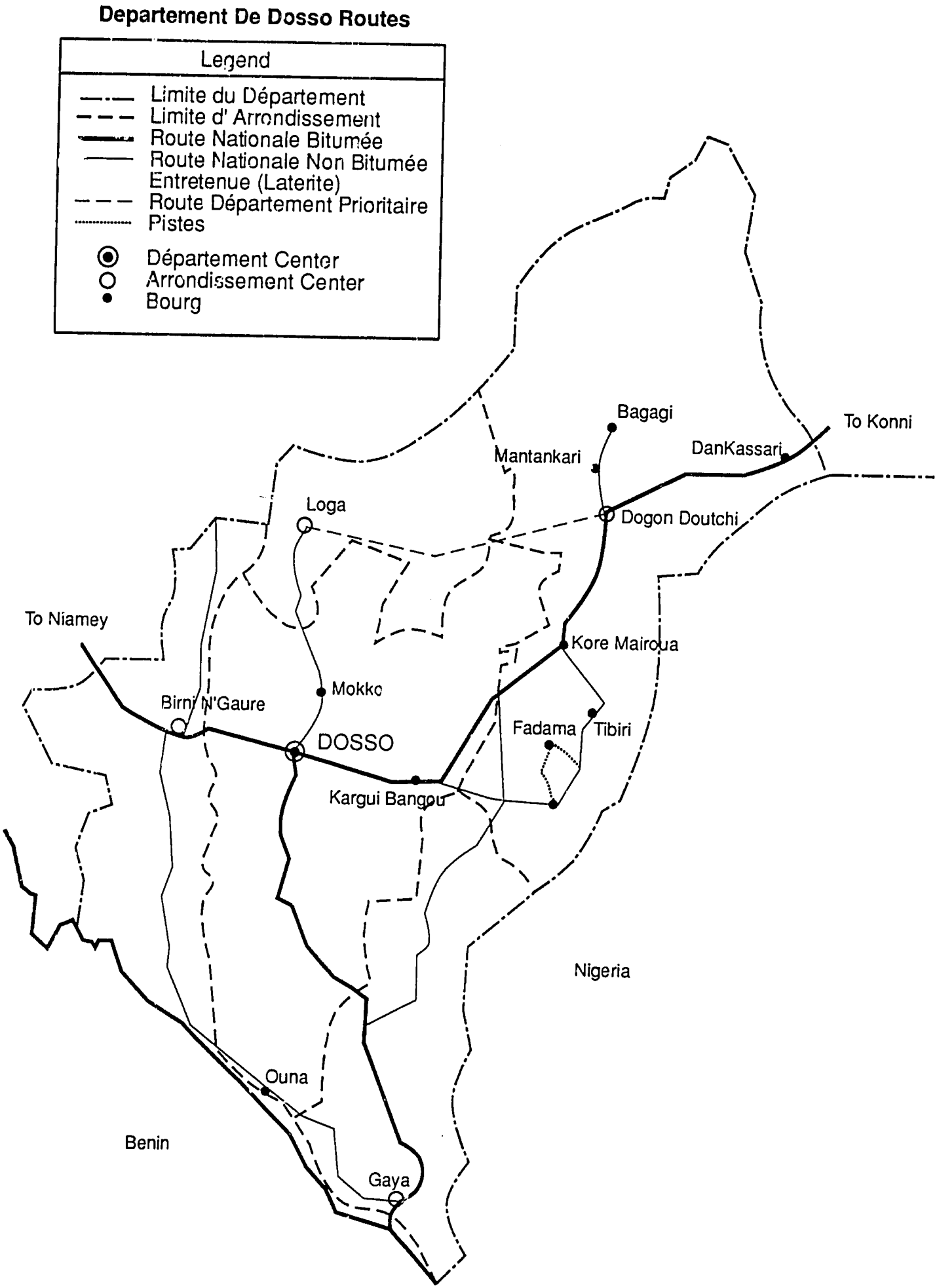

Figure 2. Map of Market Towns and Arrondisssements in Dosso Department

TABLE 1
CULTIVATED AREA BY Arrondissement
AND PRODUCTION IN TONS BY CROP TYPE for 1988

	Boboye	Dosso	Doutchi	Gaya	Loga
Cultivable area	215,440	346,978	993,660	290,780	332,200
Cultivated area	144,345	207,569	220,145	100,965	73,405
Percent	67%	50%	22%	35%	22%
Millet prodn.	61,526	58,999	101,150	46,564	31,472
Sorghum prodn.	5,830	13,505	7,303	9,488	1,095
Cowpea prodn.	6,072	2,076	9,723	1,539	729
Peanut prodn.	19	380	1,355	3,677	224
Voandzu prodn.	6	776	5,296	90	

Source: *Tableau de Bord*, 1988. DDP, Dosso

Agricultural Input Use

In spite of these relatively high production figures, agricultural productivity in the Department remains rather low. Evidence regarding the use of fertilizer in the area presents a mixed picture. A 1981 study conducted by the Integrated Rural Development Project (PDRI) in Dosso found that 69% of the farmers in the Dallol Maouri (Doutchi Arrondissement) used roughly three sacks of fertilizer on a regular basis. Some of this fertilizer was obtained through official sources and some was obtained through private channels, imported from Nigeria. However the folding of the Caisse Nationale du Credit Agricole in 1984 and the recent transfer of the input delivery operations of the Centrale d'Approvisionnement to the National Cooperatives Union have had deleterious effects on the availability of agricultural inputs from official sources.

The 25% increase in the price of fertilizer because of the removal of government subsidies between 1985 to 1988 is illustrated by the marked decline in use of centrally provided fertilizer between 1985 and 1987 in Table 2. This Table also shows a small increase in fertilizer use in 1988 which coincides with the larger than usual rainfall because farmers prefer to apply fertilizer only after the rains have come. In 1989 fertilizer use has likely dropped because subsidized fertilizer from Nigeria is no longer widely available due to recent moves by the Government of Nigeria to prevent fertilizer from moving across its northern border. In our market studies in the Dosso Region we saw only one sack of Nigerian fertilizer for sale in Fadama and no signs of any other fertilizer in any market.

TABLE 2

FERTILIZER USE FROM OFFICIAL SOURCES IN DOSSO: 1985-1988

Type of fertilizer	1985	1986	1987	1988
UREA	104,230	33,400	36,000	70,308
SUPER SIMPLE	46,350	178,350	62,050	110,283
15-15-15	406,018	48,300	35,900	51,203
SUPER TRIPLE	55,000	122,350	44,600	127,588
OTHER	225,840	89,619	149,955	103,389
TOTAL	837,438	472,019	328,505	462,771

Source: *Tableau de Bord*, 1988; DDP, Dosso
N.B. These figures do not include fertilizer obtained privately from local or Nigerian traders.

In a meeting with the Sous-Prefet in Doutchi the representative of the Union Sous-regionale des Cooperatives (USRC) stated that the cooperative had a real shortage of storage space for fertilizer and was constrained by the limited transportation equipment at the disposal of the cooperative in Dosso. The Report of Cooperative activities for 1987-89 indicates that of ten trucks belonging to the Union Regionale des Cooperatives (URC) in Dosso only two are in working order. This creates a severe constraint in the ability of the URC and the USRC to provide necessary agricultural inputs.

The use of other agricultural inputs has apparently stagnated in recent years both because of the lack of credit and due to problems in the distribution system. Pesticide use has shown a marked decrease falling from 49,033 treated hectares in 1986 to 15,307 treated hectares in 1988. In Dosso in spite of the presence of the Centre de Développement de l'Artisanat Rural et du Machinisme Agricole (CDARMA) which produces agricultural implements for animal traction and animal carts for transportation, very few of these implements have been sold to farmers in the last year resulting in large stocks in the central warehouse. A Department of Commerce study conducted in Dosso cites the closure of the CNCA as the major factor in this sudden inactivity. Data from the National Union of Cooperatives indicates that Dosso Department sold only five animal-drawn carts and no implements for plowing or cultivation in 1988. In Maradi, by contrast, in the same period over three hundred implements of various types were sold (Tableau 7, *Rapport d'Activités Union Nationale des Cooperatives*; 1987-88).

Livestock Production

Livestock production in Dosso Department can be divided into two principal modes of production, nomadic production and production by settled agriculturalists in the region. Nomadic production is limited to the Fulani herders living in the region and to other itinerant groups that move through the region along the north-south migratory routes formed by the Dallol regions. However as agriculture production extends into previously unfarmed regions the area available for grazing is diminished.

A majority of settled farmers also engage in some form of livestock rearing. Approximately 79% of settled farmers had at least several goats, 65% had more than two cattle, and 59.1% had at least 3 sheep. (*Recensement Agricole*, 1980 cited in West, et al, *Préparation du Plan Quinquennal*, DDP, Dosso). In general, Loga, the northernmost arrondissement had the highest percentage of farmers with goats and sheep, whereas Boboye had the highest percentage of farmers with cattle presumably because of its proximity to the Niamey market. Table 3 indicates the distribution of livestock by type and by arrondissement in the Department. Goats are the most numerous animal, followed closely by cattle and sheep. Horses, donkeys, and camels are much less significant and are mostly used for local transportation.

TABLE 3
DISTRIBUTION OF LIVESTOCK BY TYPE AND Arrondissement, 1983

Arrondissement	Cattle	Sheep	Goats	Horses	Donkeys	Camels
Boboye	126,280	47,806	62,717	6,554	5,518	3,639
Dosso	48,814	30,371	104,181	7,018	3,256	10,962
Dogon-Doutchi	90,200	104,049	102,686	13,150	11,672	13,115
Gaya	18,520	69,741	103,089	2,725	6,685	3,369
Loga	12,941	18,896	25,130	2,148	1,697	5,225
TOTAL	296,763	270,863	397,803	31,595	28,828	36,580

Source: West, et al. Préparation du Plan Quinquennal, Dosso. 1987

Natural Resources

Other natural resources in the department include some mineral resources in the form of salt and natron which are exploited in traditional fashion and are sold in local markets. The market in Birni N'Gaure is apparently a major bulking point for the distribution of natron to other regions. This material is used in cooking and as a form of salt lick for livestock production. Production figures are not available for the region.

Palm leaves are regularly harvested in the Dallol regions and used by artisans to weave mats, baskets, hats, and other local craft articles which are sold in the local markets. Leaves of other trees and shrubs, especially the Baobab, are also harvested and used in the preparation of condiments for sauces which are dried or otherwise preserved and are sold in local markets in great quantities.

Fishing is a minor production activity in the River Zone (southern Dosso and Gaya Arrondissements) and in several permanent ponds in the Dallol Regions. The 1988 Tableau de Bord produced by the Ministry of Plan staff in Dosso indicates that 31,708 kg. of fish was sold in Dosso Arrondissement whereas 13,433 kg. were sold in Gaya.

Urban Structure of Production

Size distribution of settlements in Dosso

As noted the number of urban centers in Niger is relatively small and their spatial distribution inadequate for supporting wide spread economic production activity. The same can be said for the size and spatial distribution of settlements at the department level. The percentage of the population living in urban centers in Dosso is the second lowest in the nation at just seven percent. This modest system of urban settlements forms the basic network which distributes the intermediate inputs and collects the final products of agricultural and non-agricultural production activities from both rural and urban-based producers. Deficiencies in the urban system are thus translated into inefficiencies in the distribution of productivity-enhancing goods and services throughout the department.

The total urban population of Dosso Department is 71,847, of which 27,092 live in the city of Dosso. There are four other urban centers in the department each of which is the capital of an arrondissement: Boboye with 6,329; Doutchi with 19,914; Gaya with 14,611; and Loga with 3,901.

Population estimates and densities by arrondissement according to the Census of 1988 are presented below in Table 4. Population densities vary in Dosso from a high of 46.5 in Birni N'Gaure to a low of 23.7 in Loga Arrondissement. Unfortunately further disaggregation by arrondissement and villages is not yet available from the Census. In the course of the study Census figures will be used where available for Arrondissement totals and for urban areas. The population of other settlements discussed in the text below are based on the recent Administrative Census of 1987 which is the basis for calculating the head tax in each arrondissement.

TABLE 4
Population, Urban Population, Area, and Density in Dosso Department

Arrondissement	Population	Area Km^2	Density (pop/km^2)	Urban Pop.	Percent Urban
Birni N'Gaure	205,636	4,423	46.5	6,329	3.1
Dogon-Doutchi	317,035	11,044	28.7	19,914	6.3
Dosso	245,818	7,795	31.5	27,092	11.0
Gaya	164,022	4,044	40.6	14,611	8.9
Loga	87,486	3,691	23.7	3,901	4.5
TOTAL	1,019,997	31,000	32.9	71,797	7.0

Source: *2nd Census of Population*, Provisional Results, January 1989

Settlement Structure of Study Area

In this study two sub-regions were selected for more detailed analysis within Dosso Department. Each sub-region constitutes the effective economic zone of the two largest market towns, Dosso and Doutchi. The three markets studied in Dosso Arrondissement and their respective population sizes were: Mokko (1982), Ouna (1146), and Kargui Bangou (897). Unfortunately due to the last minute addition of Ouna at the request of the Sous-Prefet of Dosso and because of its distance from the other centers, it was not possible to conduct a complete inventory of economic and administrative functions for this place. However the team was able to visit its weekly market and evaluate its connections to other markets in the region.

In Dogon-Doutchi Arrondissement, in addition to the principal town of the same name, the team visited Matankari (15,900), Bagagi (6,499), Tibiri (5263), Fadama (3697), Kore Mairoua (2379), and Dan Kassari (1328). A total of six towns was selected in this region both because this arrondissement has the largest overall population and because each of these markets represents either an important agglomeration of population or functions as an important market within its sub-district. (See Spatial Linkage Section below.)

Scalogram Analysis of Urban Functions

An analysis of the urban functions provided by each of these markets towns reveals a distinct hierarchy that is not entirely coincident with the population hierarchy. A total of 55 urban activities were used to reveal the functional hierarchy of these settlements. Of these functions some were strictly economic activities including businesses specialized in manufacturing, distribution, and service activities. Other functions included administrative or infrastructure related functions and two private religious functions.

The results of this enumeration of functions are presented below in the Scalogram shown in Figure 3. This matrix indicates the presence of each type of function by an X in the row for the corresponding locality, graphically displaying the spatial patterns for each type of function. It should be noted that this graphical device does not indicate quantity or quality of service provided. If a settlement has a function it is given an X, if not it is blank.

The market with the most urban functions is clearly Dosso with its diverse economic activities and its dual role as administrative center for the department of Dosso and the arrondissement of the same name. It is followed rather closely by Doutchi, which is the administrative center of an arrondissement. These two relatively dynamic market towns define the highest levels in the marketing hierarchy. The major distinction between them is that Doutchi lacks some of the key financial and professional services and certain specialized retail functions which are available in Dosso.

The next level in the hierarchy consists of smaller centers that contain a variety of fixed businesses and administrative functions, but differ in the intensity of their economic activity.

The most animated town at this level is surprisingly Kore Mairoua with a population of just 2379, but which benefits from its strategic location on the paved highway 80 kilometers from Dosso and 40 Kilometers from Doutchi. Kore Mairoua offers a far less diversified local economy in comparison to Dosso and Doutchi, but it is none the less quite active for a town of its size.

The town offering the next highest number of urban functions was Tibiri which is a Chef de Poste, the administrative level below the arrondissement. Following Tibiri is Matankari which has the third highest population in the department (15,900), but much less fixed business activity than one would have expected from its size. Both of these towns are primarily administrative centers.

Both Tibiri, a lower level administrative district called a Chef de Poste, and Matankari, which has been designated as a rural commune have a variety of public sector functions such as schools, extension services, health facilities, and public telephones which are not available in other towns at their level in the hierarchy.

The lowest level of the hierarchy that we analyzed is composed of Rural Service Centers, characterized by a dynamic weekly market with a wide variety of goods for sale, but little or no economic activity on other days of the week. These smaller settlements serve as bulking areas for the sale of agricultural commodities and as distribution points for the sale of agricultural production inputs and household consumer goods. They are in order of importance: Dan Kassari, Fadama, Bagagi, Mokko, and Kargui Bangou. Of these the last four are among the most important livestock markets in the department, implying that they are supplying the larger towns with animals for slaughter and other rural towns with animals for herd multiplication and transportation. This at least in part accounts for the dynamism of the weekly markets in these places.

The scalogram can also be used to indicate the ubiquity of urban functions throughout the system. In Dosso grain mills, butchers, mixed retail sales, and mosques are found in every locality which we studied. Two of these are the primary processing activities for agricultural products, the third is the primary source of basic household inputs, and the fourth is an indication of the strong Islamic influence throughout this region.

The next set of functions appeared in five or more places and include both services provided by the government and basic economic activities. The public services include livestock extension services, schools, agricultural extension, agricultural cooperatives, medical facilities, pharmacies, and sports facilities of some kind. The economic activities include tailors, blacksmiths, carpenters, restaurants, beverage sellers, retail sales of meat, retail sales of condiments for sauces, warehouses, retail sales of shoes and clothing, laundries, barbers, and tire repair. Other more specialized activities occur in the larger and more diversified settlements.

The diversity of public services available reflect the efforts of the government to extend basic services to the lower levels of the urban settlement system. This index makes no attempt to assess the quality of these services; it simply indicates whether these services were present or absent in the places which were visited. However since the most important markets also tend to be the lower level administrative centers, "chef de poste" or "chef de canton" it is appropriate that the lowest level of administrative services would be based in these localities.

Threshold Analysis

Although threshold analysis for these functions was initially anticipated as an output of this study, it was not possible to complete this portion of the spatial analysis. During the pre-survey briefing and discussions with the AID mission in Niamey, the focus of the study was sharply curtailed to include only a limited number of market towns and their surrounding villages. As a result the sample size of 10 markets in Dosso was too small for the accurate computation of population thresholds. In standard practice calculating a population threshold using Marshall's method requires the use of all settlements within a given urban system. Use of a partial settlement system to analyze thresholds would not yield meaningful results.

Urban Production Activities in Principal Towns

As is evident from the Scalogram in Figure 3, non-agricultural production is low at all levels in the urban hierarchy but it is especially limited in the smallest places. In addition, the structure of economic production is heavily skewed toward trade activities with a concomitant lack of manufacturing and service sector enterprises, again especially in small places. Table 8, below gives the total number and sectoral breakdown of economic activities in the three centers with the highest levels of fixed business activity in Dosso Department: Dosso, Dogon-Doutchi, and Kore Mairoua.

	DOSSO 27092	DOUTCH. 19914	KORE 2379	M.MATANK. 15900	TIBIRI 5263	DANKAS. 1328	FADAMA 3697	KARGUI 897	BAGAGI 6499	MOKKO 1982	TOTAL
LIVESTOCK EXTENSION	X	X	X	X	X	X	X	X	X	X	10
PRIMARY SCHOOL	X	X	X	X	X	X	X	X	X	X	10
MOSQUE	X	X	X	X	X	X	X	X	X	X	10
BUTCHERY	X	X	X	X	X	X	X	X	X	X	10
GRAIN MILL	X	X	X	X	X	X	X	X	X	X	10
RETAIL, MIXED	X	X	X	X	X	X	X	X	X		9
RESTAURANT	X	X	X	X	X	X	X	X	X		9
RETAIL, OTHER FOOD	X	X	X	X	X	X	X		X		8
HEALTH CARE FACILITY	X	X	X	X	X	X	X			X	8
WAREHOUSE	X	X	X	X		X		X	X	X	8
AGRICULTURAL EXTENSION	X	X	X	X	X	X		X			7
TAILOR	X	X	X		X	X	X	X			7
RETAIL, SAUCES & SPICES	X	X	X	X	X		X				6
PUBLIC TELEPHONE	X	X	X	X	X						5
PHARMACY	X	X	X	X						X	5
LAUNDRY	X	X	X	X		X			X		6
BARBER	X	X			X	X	X	X		X	7
RETAIL, CEREALS	X	X	X	X							4
RETAIL, CLOTHES & SH	X	X	X	X		X					5
BEVERAGES	X	X	X		X	X					6
IRON WORKER	X	X		X		X		X			5
REPAIR, TIRE	X	X			X		X	X			5
WOOD WORKING	X	X	X			X	X				5
TAXI STATION	X	X	X								3
WHOLESALE, GRAIN (PA	X	X	X							X	4
REPAIR, VEHICLES & B	X	X	X		X						4
POST OFFICE	X	X	X								3
REPAIR, ELECTRONICS	X	X	X			X					4
RETAIL, FRUITS & VEGS.	X	X	X							X	4
POLICE	X	X	X								3
RETAIL, AUTO PARTS	X	X	X		X						4
METAL WORKING	X	X	X		X						4
RETAIL, OTHER	X	X	X								3
WHOLESALE, SKINS	X	X	X								3
MIDDLE SCHOOL	X	X		X	X						4
OTHER MANUFACTURING	X	X		X	X						4
REPAIR, SHOES	X	X				X					3
BAKERY	X	X								X	3
OTHER SERVICES	X	X		X							3
GAS STATION	X	X			X						3
HOTEL	X	X									2
RETAIL, HARDWARE	X	X		X							3
RETAIL, STATIONARY	X	X									2
CHURCH	X	X									2
PHOTO STUDIO	X	X									2
RETAIL, BUILDING MAT	X	X									2
ELECTRIC UTILITY	X	X									2
RETAIL, HH GOODS	X				X		X				3
LEATHER WORKER		X									1
JEWELRY MAKING	X										1
REPAIR, OTHER	X										1
HIGH SCHOOL	X										1
INSURANCE	X										1
AGRICULTURAL INPUTS	X										1
BANK	X										1
Total Non-zero functions	54	48	31	22	23	20	15	14	10	12	

FIGURE 3: SCALOGRAM OF URBAN FUNCTIONS IN DOSSO DEPARTMENT

TABLE 8

NUMBER AND PERCENT OF FIRMS BY SECTOR IN DOSSO DEPARTMENT

SECTOR	DOSSO CITY Number	DOSSO CITY Percent	DOGON-DOUTCHI Number	DOGON-DOUTCHI Percent	KORE MAIROUA Number	KORE MAIROUA Percent
MANUFACTURING	174	32	42	13	11	13
DISTRIBUTION	297	55	250	77	69	79
SERVICES	70	13	33	10	7	8
TOTAL	541		325		87	

Source: Market Town Survey Questionnaire, 1989

The table illustrates the following three basic points:

- First, the total number of activities is rather low even for the largest places. Dosso, with a population of 27,092 has only 541 fixed businesses and Dogon-Doutchi, with a population of 19,194 has 325. Other studies show that much smaller towns have greater numbers of fixed enterprises. Kutus, Kenya, a place of just under 5,000, had a total of 377 fixed businesses, for example.

- Second, there is a rather precipitous decline in the number of activities in moving from the larger to the smaller places, where the number of fixed enterprises is extremely limited. We would expect there to be a strong relationship between population and overall levels of economic activity, however in Dosso Department there is surprisingly little evidence of fixed business activity outside of the largest centers. Some economic activities are only likely to be found in the largest towns, but others are surprisingly absent. Kore Mairoua possesses only 87 fixed businesses, while other small centers have even fewer numbers of total economic activities. Tibiri (population 5,263) has 50, Dan Kassari (population 1,328) has 47, Matankari (population 15,900) has 38, Kargui Bangou (population 897) has 29, Fadama (population 3,697) has 28, Bagagi (population 6,499) has 21, and Mokko (population 1,982) has 11. This illustrates the lack of economic dynamism of small centers in the Nigerien context.

- Third, the economic structure is dominated by trade activities, especially in the smaller centers. This point is illustrated more clearly in Table 9, below, which lists firms by less aggregated production sectors. As can be seen from the table the percentage of total fixed businesses in manufacturing drops from 32 percent in Dosso to 13 percent and 13 percent in Dogon-Doutchi and Kore Mairoua, respectively. Service activity drops from a high of 13 percent in Dosso to 10 percent and 8 percent in Doutchi and Kore Mairoua, respectively.

This lack of a manufacturing and service base in the smaller places illustrates two facts. First, there is a general lack of income multiplication opportunity in these small towns. Other studies have shown that manufacturing and service activities in small towns have relatively high income multipliers associated with them. If a town's economic structure is dominated by trade activities with limited production and services, low income multiplication is the result.

TABLE 9

NUMBERS OF FIRMS IN MAJOR URBAN PRODUCTION CATEGORIES BY URBAN CENTER IN DOSSO DEPARTMENT

	URBAN CENTER		
PRODUCTION ACTIVITY	DOSSO 27,092	DOGON-DOUTCHI 19,914	KORE MAIROUA 2,379
AGRICULTURAL PROCESSING	31	12	4
LIVESTOCK PROCESSING	1	3	1
FABRICATION	117	27	6
OTHER FABRICATION	25	0	0
WHOLESALE/STORAGE	26	17	9
RETAIL-FARM OUTPUT	72	47	6
RETAIL-INPUTS	27	8	1
RETAIL-CONSUMER	106	106	33
BAR-HOTEL-RESTAURANT	66	72	20
REPAIR SERVICES	46	18	5
F.I.R.E.	2	0	0
OTHER SERVICES	22	15	2
TOTAL	541	325	87

Source: Market Town Survey Questionnaire, 1989

Second and partly related to the first, important processing and input supply functions vis-a-vis the agricultural sector are not being fulfilled. Agricultural processing activities appear to be of limited scale and efficiency and oriented to local consumption only (grain milling and animal slaughterhouses) with little or no orientation towards regional trade or exports. The only private retail distributor of agricultural inputs identified by the survey was located in the city of Dosso. Such processing and input supply functions, if performed by local small scale manufacturing and service firms, could result in direct stimulation of the agricultural sector and increased income multiplication in general. In the following section the analysis of rural urban linkages explores the consequences of this lack in greater detail.

Analysis of Spatial Linkages in Dosso

The framework used in this study recognizes the importance of urban-based functions in promoting efficient rural production. The interactions between urban and rural areas are conditioned by a diverse set of linkages. In this next section we will first explore the economic linkages between towns and their hinterlands and then turn to other kinds of social and administrative relationships.

Economic Linkages

Exchanges of economic goods and services promote income generation and multiplication within a given region. According to the model, elaborated above, rising agricultural productivity and rural incomes lead to the growth and diversification of the urban sector by generating increased demand for the products and services that the sector produces. Rising levels of urban production and incomes generate increased demand for urban and rural produce and allow for the absorption of surplus rural labor and capital. The increased demand for urban goods further increases urban sector productivity. And the increased demand for rural products and the rising rural labor and capital earnings from urban activities, in turn, contribute to increased agricultural productivity and incomes and the process thus continues.

The dearth of general economic activity in urban places can partly be explained by low rural incomes and the limited effective demand for urban goods. This is especially the case for the production and distribution of consumer items. Of all interviewed fixed commercial enterprises in Dosso, Dogon-Doutchi, and Kore Mairoua, 63 percent complained that lack of demand for their product was their greatest problem.

Town economic productivity is also constrained by the limited use of intermediate and capital good inputs to production. Low levels of input use result in low levels of productivity. Again, demand is low by some town activities. Many manufacturing and service businesses claim, however, that they would purchase more intermediate and capital inputs if credit were available.

Other urban entrepreneurs cite inadequate supply of quality inputs as the problem. Of all manufacturing and service activities interviewed, 45 percent cited intermediate and capital good supply bottlenecks as their greatest obstacle to expanding operations. Here, factors such as Nigerian border problems, poor quality of Nigerian inputs, and an almost total lack of local supply were most often cited as problems by local manufacturing and service businesses.

Both lack of credit and supply bottlenecks constrain urban production. The end result is a limited supply of locally produced inputs to both agricultural and non-agricultural activities, low levels of urban income and thus truncated demand for rural product, and limited opportunities for rural households to tap outside sources of labor and investment income. More will be said on the latter point below in the chapter on spatial linkages.

The above sections on agricultural and nonagricultural production have already suggested that the volume of economic exchange between rural areas and urban centers is insufficient to generate and multiply income to any significant degree. Production, consumption, and income linkages are weak in the regional economies.

Both demand and supply considerations limit the flow of intermediate and final goods and services between rural and urban areas. The dearth of such flows within the region constrains the generation and multiplication of income. Table 10 illustrates the case of weak regional production linkages. It shows the percentage of total fixed businesses in Dosso, Doutchi, and Kore that purchase inputs from other businesses located in the town and hinterland, outside the region somewhere in Niger, and outside Niger. Only 54 percent of input purchases are made within the region. The results are especially troubling for Dogon Doutchi and Kore Mairoua where only 47 percent and 42 percent of the total number of fixed enterprises purchase inputs locally. The figures demonstrate a high degree of leakage from the regions and therefore low income multiplication effects.

TABLE 10
PURCHASE LOCATION FOR INPUTS PURCHASED BY FIXED BUSINESSES
IN THREE TOWNS IN DOSSO DEPARTMENT

	PERCENT BY LOCATION			
	TOWN & HINTERLAND	OTHER DEPT. IN NIGER	OUTSIDE NIGER	TOTAL
DOSSO CITY	65	25	10	100
DOGON DOUTCHI	47	42	11	100
KORE MAIROUA	43	57	0	100
TOTAL	54	37	9	100

Source: Market Town Survey Questionnaire, 1989

Further exacerbating the situation is the fact that a very small percentage of purchased inputs are actually produced in the region. Table 11 shows where inputs used by Dosso department businesses are produced. The results are fairly even across Dosso, Doutchi, and Kore and at the aggregate level only 22 percent of fixed town businesses purchase inputs that are produced in the region. A full 50 percent of the businesses purchase inputs produced outside Niger, the overwhelming majority of which come from Nigeria. The fact that such a high percentage of inputs are produced outside the respective regions further illustrates low income multiplication effects and indicates that opportunities for generating value added are going unrealized.

TABLE 11
PRODUCTION LOCATION FOR INPUTS PURCHASED BY FIXED BUSINESSES IN THREE TOWNS IN DOSSO DEPARTMENT

	PERCENT BY LOCATION			
	TOWN & HINTERLAND	OTHER DEPT. IN NIGER	OUTSIDE NIGER	TOTAL
DOSSO	20	25	55	100
DOGON DOUTCHI	21	32	47	100
KORE MAIROUA	29	29	43	100
TOTAL	22	28	50	100

Source: Market Town Survey Questionnaire, 1989

Another set of economic linkages worth examining concerns secondary income earning opportunities for town and farm households. It has been shown elsewhere that the income diversification opportunities of town and farm households are extremely important, both in terms of survival strategies and in terms of stimulating productivity in primary activities. Below we consider three potentially important types of income linkages: profits from the ownership of other businesses, wage income, and rental income from the ownership of building stock.

The table below shows town entrepreneur secondary business and farming activity in Dosso, Doutchi, and Kore Mairoua. As can be seen from the table, town business owners are actively engaged in other income earning activities and at the aggregate level 74 percent of business owner-operators have secondary sources of income. Doutchi town business owners are especially active in this regard and 95 percent of owner operators are engaged in secondary economic activities.

Farming is by far the preferred type of secondary economic activity; 65 percent of town owner-operators are also engaged in farming. (Interestingly, in Dosso a significant percentage of secondary sources of income are also found in the manufacturing, commercial, and service sectors.) It has been found elsewhere that households primarily engaged in town businesses are frequently some of the most successful farmers as they often use town business profits to invest back in agriculture and improve farming operations.

It is also important to know to what extent those farmers whose primary activity is in agriculture invest in town economic activity and to what extent profits from town based activities encourage productivity gains in agriculture. Evidence on this question in the regions studied is sketchy but that evidence which does exist is not encouraging. In the Market Town

Survey it was not possible to conduct direct interviews of farmers, however, in the fixed business section, proprietors of town businesses were asked questions about their place of residence and their secondary investments. Table 13 shows the residential location of town business proprietors in Dosso Department.

TABLE 12

PERCENT OF TOWN BUSINESS OWNERS IN DOSSO DEPARTMENT
BY SELF-REPORTED SECONDARY INCOME SOURCES

	AGRICULTURE	OTHER	TOTAL
DOSSO	40	20	60
DOGON DOUTCHI	95	0	95
KORE MAIROUA	43	0	43
TOTAL	65	9	74

Source: Market Town Survey Questionnaire, 1989

Table 13 shows that most of the entrepreneurs interviewed are from the town itself with a small residual coming from either the rural areas within the region or from outside the region. Only 2 percent of town entrepreneurs have their residences in rural areas. This indirect evidence suggests that farmers are not participating to a great extent in town fixed business activity. It is clear that farmers do engage in secondary sources of income earning activities, but it may be that farmer investment in non-farm economic activity is restricted to less profitable rural-based trading activities. In any case this implied lack of investment in town based activities restricts the availability of derived capital with which to invest in improved technology to increase farm productivity.

Another source of urban income that can be reinvested in farming is wage income from town businesses. Farmers seem to have a distinct lack of wage earning opportunities in the regions studied. Table 14 shows employment data for town businesses interviewed in Dosso department by town. The average numbers of employees is only 2.4 at the aggregate level and the vast majority of wage laborers come from the town itself. Table 14 indicates that an average of 2.2 laborers come from town while only .2 come from the rural areas surrounding the town. Rural households it seems are supplying a very limited amount of the total demand for wage labor, at least in the small scale sector. The result again is that farmers lack extra income for reinvestment in agriculture.

TABLE 13

PERCENT OF BUSINESS OWNERS BY RESIDENTIAL LOCATION
IN THREE TOWNS IN DOSSO DEPARTMENT

	TOWN	RURAL	OUTSIDE	TOTAL
DOSSO	95	0	5	100
DOUTCHI	95	5	0	100
KORE MAIROUA	100	0	0	100
AVERAGE	96	2	2	100

Source: Market Town Survey Questionnaire

TABLE 14

AVERAGE NUMBER OF URBAN BUSINESS EMPLOYEES
BY LOCATION OF RESIDENCE IN THREE TOWNS IN DOSSO DEPARTMENT

	RESIDENCE LOCATION		
BUSINESS LOCATION	TOTAL EMPLOYEES	FROM TOWN	FROM RURAL
DOSSO	1.8	1.7	0.1
DOUTCHI	3.7	3.4	0.3
KORE MAIROUA	0.3	0.3	0.0
TOTAL	2.4	2.2	0.2

Source: Market Town Survey Questionnaire, 1989

Finally we consider urban rental income in Dosso department. Rural households do not in general receive rental income from the ownership of town buildings. Table 15 shows the percentage of interviewed town entrepreneurs that own their own building, the percentage that rent the building in which they work, and if the building is rented the percentage who rent from individuals who reside in the town and the percentage who rent from individuals who reside outside the town. As can be seen, 67 percent of the entrepreneurs own their own building while 33 percent rent. Of those that rent two-thirds rent from someone else in the

same town and one-third rent from someone who lives outside the region. The survey did not turn up any landlords from the rural areas. Again a lack of rental income implies further restrictions on opportunities to reinvest in agriculture.

TABLE 15

PERCENT OF FIRMS OWNING VS. RENTING BUILDING STRUCTURE AND RESIDENCE OF PROPRIETOR IN THREE TOWNS IN DOSSO DEPARTMENT

RENTAL PROPERTY OWNER	BUILDING OWNER	BUILDING RENTER	RESIDENCE TOWN	RESIDENCE OUTSIDE
DOSSO	60	40	75	25
DOUTCHI	74	26	40	60
KORE MAIROUA	71	29	100	0
TOTAL	67	33	67	33

Source: Market Town Survey Questionnaire, 1989

The analysis of town business ownership, wage income, and rental income suggests that farmers may have a dearth of town-based income sources. While a definitive answer is not possible using these data, a lack of diversified income sources would constrain increases in agricultural productivity by limiting surpluses available for expenditure on and investment in better current and capital farming inputs in a manner consistent with the patterns of urban and rural production previously analyzed. Part of the problem is of course, that agricultural production is low in the first instance and therefore, surpluses with which to invest in town based activities are at very low levels. Undoubtedly there are other constraints on farmer investment in town-based activities. Further research on this key question is a high priority.

Market Linkages

The physical movements of merchants between market towns within the region comprise another important set of linkages. In a system of periodic markets, such as the one studied in the Department of Dosso, the travel patterns of traders between towns illustrates the spatial connections and hierarchical relationships between these markets. Based on survey questions about trader residence and frequency of attendance at various markets, we were able to identify the following set of inter-market relationships. Table 16 shows the percentage of traders from various towns who attend a given market. (See Figure C-1, Appendix C.)

Table 16 indicates that 76% of the people attending Dosso market come from Dosso and 24% come from elsewhere in Dosso department, though not from any of the market

towns that were studied. This is surprising since one would expect that Dosso as the largest and most important center in the Department would be serving as a major transit point for bulked agricultural commodities for re-shipment to Niamey or its own consumer markets. It may be that purchasers from Dosso are so active that they buy all their products directly from rural producers in smaller markets, though traders from Dosso were evident in sizeable numbers only in Mokko (48%), Kargui Bangou (35%), and Ouna (5%), while there was virtually no attendance at other markets in the Department. (See Figure C-2, Appendix C.)

On the other hand at least a few traders from other markets in the department, from other departments (Niamey), and from other countries frequent the two markets of Mokko and Kargui Bangou. Ouna has a large percentage of foreigners attending its market because it is just across the river from Benin. All three of these markets have high percentages of traders or local producers attending their markets from other smaller villages within the Dosso department. Table 16 also indicates that Mokko and Kargui Bangou are closely linked to Dosso and provide many of the rural products needed by consumers and producers in Dosso ville. They form a small market network with minor linkages to smaller markets in the Doutchi region and perhaps more importantly outside the department.

TABLE 16
PERCENT OF TRADERS BY MARKET ATTENDANCE
AND PLACE OF RESIDENCE IN DOSSO DEPARTMENT

	MARKET ATTENDANCE										
RESIDENCE	DOSSO	MOKKO	KARGUI	OUNA	DOUTCHI	KORE M.	MATANK.	BAGAGI	TIBIRI	FADAMA	DAN-KASSARI
DOSSO	76	48	35	5		3			8	6	
MOKKO		6									
KARGUI BANGOU		3	19								
OUNA				21							
DOGON-DOUTCHI		3	3		36	23	26	39	4	7	25
KORE MAIROUA					3	25			4	4	
MATANKARI					27	5	74	41	4	2	
BAGAGI								2			
TIBIRI		3				5			31	2	
FADAMA						3			4	19	
DAN KASSARI					5			2			19
DEPT.-OTHER	24	30	35	58	22	30		14	35	57	31
OTHER DEPTS.		3	3	5	3	3					17
FOREIGN		3	5	11	3	5		2	12	4	8
	100	100	100	100	100	100	100	100	100	100	100

Source: Market Town Survey Questionnaire, 1989

The rural commune of Matankari, like Dosso, has a high percentage of its own residents attending its market (74%). The fact that our survey found no traders or producers from outlying villages is evidence that this market does not play a very important role in the regional economy. Because the population is reasonably concentrated, traders from Doutchi (26%) come to sell goods and buy what few local products may be for sale. However this was one of the smallest and least diversified markets we visited.

The markets with the greatest attendance from other smaller places in the department are the primary bulking points for agricultural commodities and in Doutchi they include Fadama, Bagagi, Tibiri, Dan Kassari, and to a lesser extent Kore Mairoua. Kore is an interesting case because it has a diversified set of linkages to other markets, its only strong ties are with Doutchi, whereas at most five percent of the other traders come from Fadama, Tibiri, Matankari, and from other countries (Nigeria). Even Kore with its position on the highway and at the intersection of the highway with the laterite road to Tibiri (and Nigeria) has stronger linkages with itself than with other places. (See Figures C-3 and C-4, Appendix C.)

Flows of Commodities

In the Department of Dosso data from the survey was collected on the provenance and sale point of a variety of goods offered in local markets. Each trader was asked regarding the purchase location and the origin of the major commodies offered for sale in his or her stall. The results are presented below as aggregations of the responses of indiviudals in all the markets by commodity type into agricultural and non-agricultural categories.

Although production in Dosso Department is largely agricultural, Table 17 shows that 67% of the agricultural products for sale in Dosso markets are produced in the Department of Dosso (including 42% produced in the hinterland of a given market and 15% elsewhere within the department), whereas 15% of the products are purchased outside the department, and 28% are imported.

The majority of the imported food stuffs come from Nigeria and include condiments, fresh fruits, corn, kola nuts, and other produce imported from the coastal regions. The agricultural products which are produced within Niger and are imported in to the Dosso region include onions and tobacco.

However, these data indicate that the marketing network in the Department is relatively well developed. While 28% of all goods are imported, only 11% are purchased in other countries by the seller, indicating that a different trader did the importing.

This suggests that there is a relatively complex distribution network for imported products. For products from other departments the distinction between place of purchase and origin is not nearly as pronounced indicating that traders may travel to other departments to purchase goods and then return to sell those products locally.

The alternative explanation, that traders from other departments frequent Dosso Department, is not substantiated by Table 16. A small percentage of traders from other departments attend markets in Dosso Department.

TABLE 17

Origin and Purchase Place for Agricultural Products
Offered for Sale in Dosso Department

PURCHASE	ORIGIN Local Dept.	Same Dept.	Other	Import	TOTAL	Percent
Local	49	4	6	9	68	(58%)
Same dept.		14	4	6	24	(21%)
Other dept.			7	5	12	(10%)
Import				13	13	(11%)
TOTAL	49	18	17	33	117	
Percent	(42%)	(15%)	(14%)	(28%)		

SOURCE: Market Town Survey Questionnaire, 1989

Table 18 shows that non-agricultural products, including manufactured and other goods, are predominantly imported into local markets in Dosso either from other departments (10%) or from other countries (58%) with only limited local production. This is not surprising given the general lack of fabrication activities in the principal towns, but it does suggest diversification of the local economy out of agriculture and into activities such as manufacturing may be seriously constrained by the flood of imported goods--most of which are from Nigeria. Local items that are offered for sale include resource-based goods like natron, palm leaves, and baobab leaves and production of iron goods by local blacksmiths. However even this latter form of production is dependent on imported raw materials and tools from Nigeria.

These data also suggest that there is a sophisticated network for imported non-agricultural products. Although 58% of the products sold in Dosso Department are from other countries, only 22% were purchased there. On the other hand, while 10% of the prodcuts were produced in other departments, 20% were purchased outside the department. Much of this movement can be accounted for by imports from Europe and/or Japan which are puchased in Niamey. The goods from Nigeria show a somewhat different pattern.

Although only 25% of the goods are produced elsewhere in the Department, 38% are purchased elsewhere in the department indicating that goods are brought across the border and are collected for sale in certain locations which then supply the rest of the department.

TABLE 18

Origin and Purchase Place for Non-agricultural Products
Offered for Sale in Dosso Department

ORIGIN

PURCHASE	Local	Same Dept.	Other Dept.	Import	TOTAL	Percent
Local	6	5	0	6	17	(19%)
Same dept.		17	1	16	34	(38%)
Other dept.			8	10	18	(20%)
Import				20	20	(22%)
TOTAL	6	22	9	52	89	
Percent	(7%)	(25%)	(10%)	(58%)		

SOURCE: Market Town Survey Questionnaire, 1989

Flows of Livestock

Since livestock are both an important source of rural savings or wealth and an increasingly important trading commodity, those centers which have a dynamic livestock market tend to be important in the regional market hierarchy. Comparisons by markets over time reveal important variations in the distributive role played by the livestock markets in Mokko, Fadama, and Bagagi. In Dosso Department Kargui Bangou is also an important livestock market, but time series data were not available for this town. The following data were made available by the Livestock Management Information System of the Ministry of Animal Resources. They have collected time series data on the livestock markets in these towns which includes some data based on a sample of animals sold for one calendar year on the provenance and destination of animals sold each week. Table 19 indicates the provenance and destination by area of all varieties of livestock in the three markets.

Table 19 shows the relative importance of Mokko market in providing livestock from every arrondissement except Gaya in Dosso department and from several other departments as well. The other two markets serve as local collection within their arrondissements and fewer animals from other places. Mokko also sells animals to clients from every arrondissement, several other departments, to Niamey and to other countries (Nigeria and Benin). Both Fadama and Bagagi provide animals to Niamey and for export, but their role in the regional marketing system is much reduced. It is useful to note that Fadama which is

located in closest proximity to the Nigerian border appears to export fewer animals than Mokko, while in Bagagi animals appear to be imported rather than exported.

The analysis suggests that while trading patterns are reasonably developed, the economic linkages necessary for efficient production need to be strengthened. The following section will explore the same issues in the Department of Maradi.

TABLE 19
PROVENANCE AND DESTINATION OF LIVESTOCK
IN MOKKO, FADAMA, AND BAGAGI MARKETS; 1988-89

PROVENANCE/ FINAL DESTINATION	LOCATION OF PURCHASE OR SALE					
	MOKKO		BAGAGI		FADAMA	
	FROM	TO	FROM	TO	FROM	TO
DOSSO DEPT.						
BOBOYE	15	2	0	0	0	0
DOUTCHI N.	2	8	602	264	0	0
DOUTCHI S.	0	16	2	332	668	677
DOSSO	660	588	0	3	0	0
LOGA	33	10	0	0	12	0
GAYA	0	7	0	0	0	0
NIAMEY	0	86	0	12	0	2
OTHER DEPTS.	32	10	2	0	0	0
EXPORTS	0	15	5	0	1	2

Source: Ministère des Ressources Animales,
Livestock Management Information System (LMIS)

III: ANALYSIS OF RURAL-URBAN LINKAGES IN MARADI

Agricultural Production System and Resource Availability

Agricultural Production

The agricultural production areas in Maradi Department are divided into four zones, forming a gradient from the agricultural zone in the extreme south of the department to the predominantly pastoral zone in the north. Raynaut et al. have identified these zones according to the climatic constraints which they pose to agricultural production. Zone 1, the most northern zone, is the most severely constrained area with less than 400 mm. of rain falling in two or three months only. The next zone has a longer rainy season and receives slightly more rainfall, up to 500 mm per year. The third zone receives from 500 to 600 mm. of rain on average with a rainy season that lasts from three to four months. the last zone near the Nigerian border receives the most rainfall (more than 600 mm.) and has the longest rainy season 4-5 months.

The most important crops in this department are millet and sorghum as in the rest of Niger, but, as is indicated by Table 20, cowpeas are an important source of revenue for many farmers. While peanuts were at one time important, they have recently been supplanted by cowpeas as a cash crop. The presence of a major peanut processing plant in Tchadaoua, Aguie Arrondissement (see Figure 4, Map of Maradi Department) ensures a market for harvested peanuts, and may contribute to the continued cultivation of peanuts--explaining in part why peanut production remains at a higher level than in Dosso Department. The general decline in the popularity of this crop was evident in several markets in which special facilities for grading and selling peanuts, concrete stall areas, were in a state of disrepair and no longer used.

Madaroumfa in the southern most arrondissement almost entirely within the fourth zone, produces more sorghum, cowpeas, and peanuts than any other district. This arrondissement also includes the city of Maradi, although Maradi has a separate administrative status as an urban commune. Tessaoua Arrondissement, spanning zones two and three, has the largest annual production of millet and significant amounts of other crops. Dakoro in the extreme north of the department is the largest arrondissement but only 15.6 % of its total area is devoted to the production of millet, sorghum, cowpeas, or peanuts. Aguie is the smallest arrondissement and takes second place in the production of sorghum and ranks near the middle for the other crops. Mayahi, the second largest arrondissement in total area, includes zones two and three, but is relatively undistinguished in the production of the four principal crops.

TABLE 20

CULTIVATED AREA AND PRODUCTION BY CROP TYPE
BY Arrondissement IN MARADI FOR 1986

	Aguie	Dakoro	Guidan-R	Madrmfa	Mayahi	Tessaoua
Area (Km^2)	280,000	1,600,000	470,000	350,000	650,000	500,000
Cultiv.(ha)	171,867	250,109	234,153	229,805	286,036	258,028
Percent	61.4%	15.6%	49.8%	65.6%	44.0%	51.6%
Millet	45,401	51,061	48,819	52,132	31,775	63,260
Sorghum	17,351	7,542	8,367	19,290	14,483	12,592
Cowpeas	5,824	5,929	5,875	6,700	2,853	5,879
Peanuts	60	22	2,690	4,237	588	788

Source: *Contribution du Département du Maradi aux Travaux Preparatoires du Plan Quinquennal 1986-1990.* DDP, Maradi. 1986.

Agricultural Input Usage

The production figures for this region indicate a higher level of productivity than other departments in Niger. Average yields in 1986 for the Department were 442 kg/ha for millet, 221 kg/ha for sorghum, 276 kg/ha for peanuts, and 103 kg/ha for cowpeas. These yields are above average and suggest that farmers may be using fertilizers to enhance productivity. However, the official figures for 1986 indicate a relatively small quantity of fertilizer is purchased through official channels, suggesting that substantial quantities of fertilizer from other sources are being used. Table 21 indicates that usage of fertilizer from official sources since 1984 has been quite variable. The drop in usage in 1985 may be related to the aftermath of the severe drought conditions in 1984 which reduced farmer liquidity and hence available capital for fertilizer investments.

Of course, the most obvious explanation for the high productivity and low apparent levels of fertilizer use is that of proximity to the Nigerian border and access to low-cost fertilizer (subsidized by the Nigerian government) smuggled out of Nigeria and then sold legally in Niger. In fact in both Tchadaoua and Aguie markets we saw Nigerian fertilizer being openly sold, though the quantities in Aguie were rather small in comparison to the massive quantity being sold in Tchadaoua. Other fertilizers have in the past been made available to farmers through village level fertilizer banks established by the Projet Développement Rurale de Maradi (PDRM), however time did not permit us to examine the operation of these local entities in greater detail.

Table 21
Fertilizer Use in Maradi Department by Type and Year (kg.)

Year	Fertilizer Type		
	Super-simple	15-15-15	Urea
1984	1,081,000	41,000	265,000
1985	79,000	4,700	102,200
1986	342,000	382,000	224,000

Source: *Situation Socio-Économique du Département: Années 1985 & 1986*, Maradi, DDP. 1986.

Livestock Production

Not surprisingly in a department with a large pastoral zone, livestock is an extremely important component of the regional economic system. Table 22 shows that the arrondissement of Dakoro, almost entirely within the pastoral zone and with the largest land area, dominates the livestock figures in every category but that for donkeys. It produces nearly twice the volume of cattle than any other arrondissement, is the second highest in sheep, the highest in goats and horses. Tessaoua and Mayahi also have significant areas within the pastoral zone and are important producers of sheep, goats and camels. The more southern arrondissements all have some animals of each type, but the climate is less suitable and open land for grazing is less available so conditions are generally less favorable for livestock.

Natural Resources

While there are fourteen Reserved Forests in the Department, in the recent past they have been depleted severely by over-use especially during the recent droughts. In addition these forests represent the primary sources of fuelwood for cooking in the urban areas and are thus at risk of further deforestation.

Fishing in the permanent ponds in the region and the Lake of Madaroumfa is also a minor economic activity. Estimated production in 1986 was 2,998 kilograms. An additional 5,107 kg. of fish was imported by fish sellers from Nigeria, indicating a moderately strong demand for fish in the local market. The re-stocking program begun in 1986 by the Projêt Peche Maradi and the PDRM is expected to increase the annual harvest.

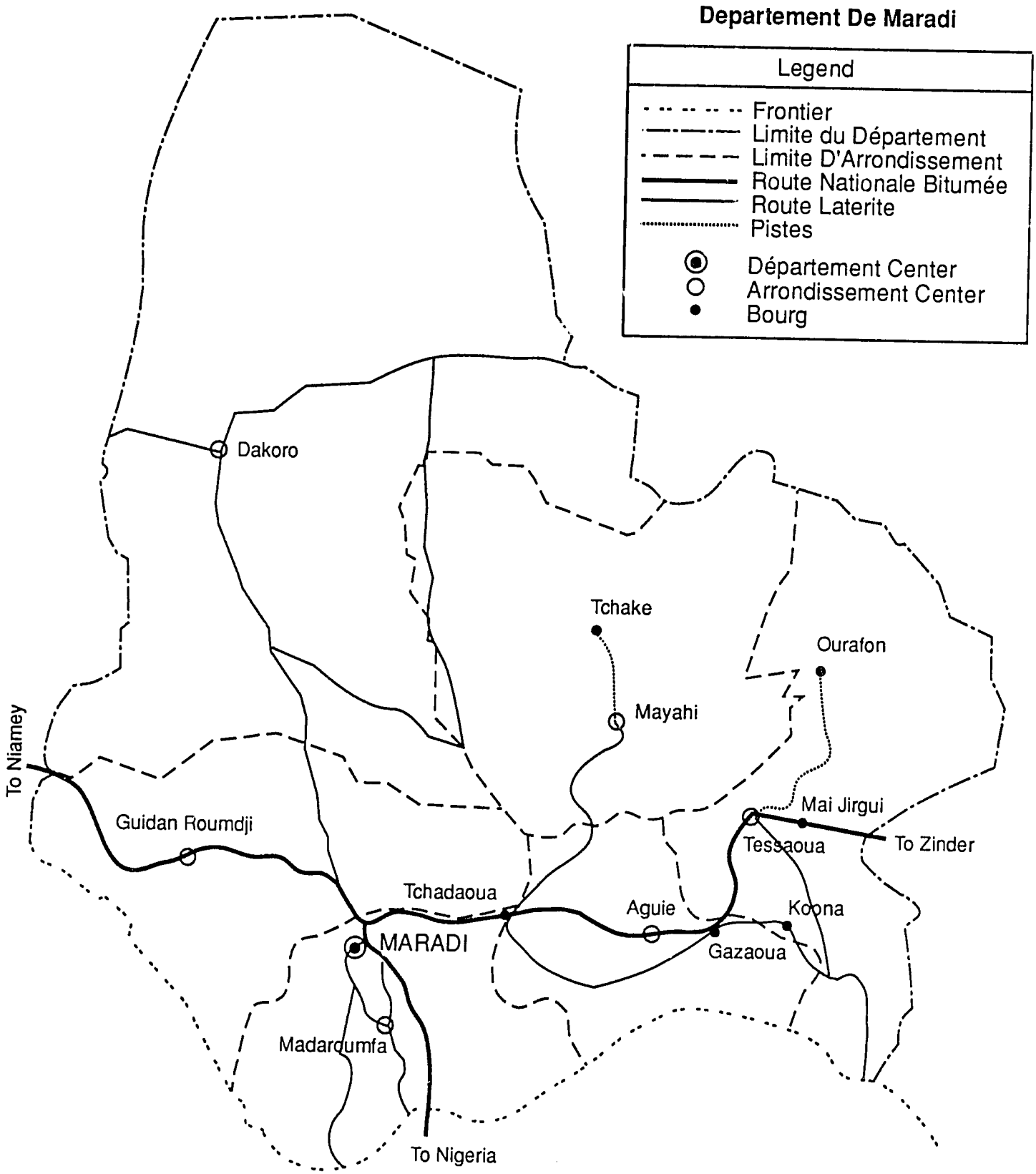

Figure 4. Map of Market Towns and Arrondissements in Maradi Department

Table 22
Distribution of Livestock by Type and Arrondissement, 1986

	Cattle	Sheep	Goats	Camels	Horses	Donkeys
Aguie	63,359	68,130	220,565	1,257	4,081	6,336
Dakoro	129,904	90,931	259,991	3,579	7,915	9,693
Guidan-R	75,027	40,878	224,976	640	3,715	14,001
Madrmfa	55,756	62,635	153,194	5,559	6,580	12,236
Mayahi	69,784	97,868	238,444	5,600	6,361	6,850
Tessaoua	59,103	79,485	255,338	7,784	7,676	11,206
TOTAL	452,933	439,928	1,352,508	24,419	36,329	60,419

Source: *Situation Socio-Économique du Département: Années 1985 & 1986*, Maradi: DDP, 1986.

Urban Settlement System

Of the more than 2000 human settlements in the Department of Maradi, only seven are classified as urban centers. The largest is the urban commune of Maradi with 112,965 people, followed by the urban commune of Tessaoua with a population of 19,638, and the urban center of Dakoro with 14,579 inhabitants. The other urban centers are smaller and receive the designation of urban center primarily because of their administrative role in the outlying arrondissements. Of these, Guidan-Roumdji is the largest with 7,086, followed by Madaroumfa (6,317), Aguie (5,968), and Mayahi (5,733).

As Table 23 indicates the total urban population of Maradi Department is 172,287 which amounts to 12.4% of the total population of the department. The Department of Maradi is considerably more urban than the Department of Dosso (7.04%) as would be expected since Maradi is the third largest city in the country. The overall population density of the department at 36.1 inhabitants per kilometer squared is also higher than the comparable figure in Dosso (32.9), but in Maradi there is considerably more variation in density than in Dosso. The highest densities are found in closest proximity to the Nigerian border in the arrondissements of Madaroumfa, Aguie, and Guidan-Roumdji. The extremely high density of Madaroumfa can be accounted for by the inclusion of Maradi within that arrondissement. The extremely low density of Dakoro is due to its northern location in the pastoral zone where population densities are necessarily lower.

TABLE 23
Population, Area, Density, Urban Population,
and Percent Urban By Arrondissement in Maradi Department

Arrondissement	Population	Area	Density	Urban Pop	Percent Urban
Aguie	173,151	2,800	56.9	5,968	3.4%
Dakoro	258,091	16,000	14.9	14,579	5.6%
Guidan Roumdji	211,418	4,700	41.4	7,086	3.4%
Madaroumfa	306,781	3,500	80.7	119,282	38.9%
Mayahi	226,766	6,500	32.1	5,733	2.5%
Tessaoua	212,791	5,000	39.3	19,638	9.2%
TOTAL	1,388,999	38,500	36.1	172,287	12.4%

Source: *2nd Census of Population, Provisional Results*, January 1989

Settlement Structure of the Study Area

In the Department of Maradi the study focussed on three arrondissements to the east of Maradi, including Aguie, Tessaoua, and Mayahi. These regions were selected because they appeared to form an integral sub-region for the eastern half of the department. In Tessaoua we studied the main market and three smaller market towns in the hinterland: Mai Jirgui (3,667 inhabitants), Ourafan (1,135 inhabitants), and Koona (2,975 inhabitants). In Aguie Arrondissement we surveyed the market in Aguie itself, and the other two principal markets: Tchadaoua (3,860) and Gazaoua (4,453). Finally, in Mayahi Arrondissement we surveyed Mayahi market and Tchake market (1,387).

It was anticipated that there would be reasonably strong linkages between Tessaoua, the dominant city in the area because of its population, and all other towns in the region. However, during the course of the study it was apparent that the town of Tchadaoua was a competing center with a vigorous market, benefitting from both its proximity to Maradi on the main highway and from its close links with traders in Nigeria. During initial briefings in Niamey it was clear that surveying the market in Maradi itself, was a task well beyond the scope of this study which would require a significant expenditure of time.

Scalogram Analysis of Urban Functions

An analysis of the urban functions provided by each of these market towns reveals a distinct hierarchy that is not entirely coincident with the population hierarchy. A total of 55 urban activities were used to reveal the functional hierarchy of these settlements. Of these

functions some were strictly economic activities or businesses and others were administrative or infrastructure related functions. Two private religious functions were included because of the importance of religion in the local culture. The scalogram in Figure 5 shows in matrix form the presence or absence of each type of urban function in the localities in the study area.

The market with the most diverse functions is clearly Tessaoua with its population of 19,638. It is the center of an arrondissement located midway between Maradi and Zinder on the main east-west highway. In comparison to a larger center such as Dosso, it is noticeably lacking in some of the more important service functions such as banking, insurance and other professional services. However in comparison to Dogon Doutchi it is reasonably close, although it is also not yet electrified, relying on several generators to provide power to government offices. While Tessaoua appears to have a diversity of economic and service functions that would make it a good candidate for future growth, it apparently lacks a variety of basic services which may be essential for sustained growth.

The next tier in the hierarchy is composed of the three towns in Aguie Arrondissement which are also directly on the paved highway. However these three towns have the additional spatial advantage of being relatively close to the Nigerian border and therefore serve as transit points for goods coming across that important frontier. While Aguie is the administrative center of the arrondissement, Tchadaoua overshadows it in terms of the diversity of economic activities available there. Gazaoua is not far behind either of these two and also has both a reasonably diverse local economy and an active market. The next town in the overall hierarchy is Mayahi which is the center of another arrondissement. However in this case it is clear that the urban functions associated with such an arrondissement center do not stimulate a great deal of economic activity.

The other four market towns which we visited are smaller centers with a few basic functions that serve primarily as market centers for their surrounding hinterlands. Economic activities appear sporadically in these towns with no regularity or pattern. There is little or no fixed business activity in any of these centers, reflecting their role as periodic nodes in the distributional hierarchy.

In Maradi Department like Dosso Department the most ubiquitous functions include grain mills, butchers, livestock extension, mosques, and primary schools. However the towns in Maradi also each had some mixed retail sales, a warehouse, and other retail sales of food. This indicates a slightly more dynamic local economy than in Dosso.

	TESSAO. 19638	TCHADA. 3860	AGUIE 5968	GAZAOU. 4453	MAYAHI 5733	MAIJIR. 3667	KOONA 2975	OURAFO. 1135	TCHAKE 1387	TOTAL
MOSQUE	X	X	X	X	X	X	X	X	X	9
BUTCHERY	X	X	X	X	X	X	X	X	X	9
PRIMARY SCHOOL	X	X	X	X	X	X	X	X	X	9
RETAIL, MIXED	X	X	X	X	X	X	X	X	X	9
LIVESTOCK EXTENSION	X	X	X	X	X	X	X	X	X	9
WAREHOUSE	X	X	X	X	X	X	X	X	X	9
RETAIL, OTHER FOOD	X	X	X	X	X	X	X	X	X	9
TAILOR	X	X	X	X	X	X	X	X		8
AGRICULTURAL EXTENSION	X	X	X	X	X	X	X	X		8
RETAIL, SAUCES & SPICES	X	X	X	X	X	X	X	X		8
PHARMACY	X	X	X	X	X	X	X	X		8
IRON WORKER	X	X	X	X		X	X	X	X	8
TAXI STATION	X	X	X	X	X	X	X	X		8
GRAIN MILL	X	X	X	X	X	X	X		X	8
RESTAURANT	X	X	X	X	X	X	X		X	8
HEALTH CARE FACILITY	X	X	X	X	X		X	X		7
BEVERAGES	X	X	X	X	X					5
LAUNDRY	X	X	X	X	X					5
WHOLESALE, GRAIN (PARASTATAL)	X	X	X	X	X					5
POST OFFICE	X	X	X	X	X					5
BARBER	X	X	X			X				4
WOOD WORKING	X	X	X	X		X				5
REPAIR, SHOES	X		X	X	X					4
REPAIR, VEHICLES & BICYCLE	X	X	X	X	X					5
POLICE	X		X	X	X					4
PUBLIC TELEPHONE	X	X	X	X						4
RETAIL, CEREALS	X	X	X	X					X	5
REPAIR, TIRE	X	X	X		X					4
OTHER SERVICES	X	X	X							3
BAKERY		X	X		X			X		4
RETAIL, FRUITS & VEGETABLE	X	X		X			X			4
REPAIR, ELECTRONICS	X	X		X						3
GAS STATION	X	X								2
JEWELRY MAKING	X	X								2
OTHER MANUFACTURING	X	X				X				3
MIDDLE SCHOOL	X		X		X					3
RETAIL, AUTO PARTS	X			X						2
HOTEL	X						X			2
RETAIL, OTHER					X				X	2
METAL WORKING	X									1
RETAIL, CLOTHES & SHOES	X									1
RETAIL, HH GOODS	X									1
RETAIL, HARDWARE	X									1
RETAIL, STATIONARY	X									1
PHOTO STUDIO	X									1
LEATHER WORKER		X								1
CHURCH			X							1
REPAIR, OTHER				X						1
RETAIL, BUILDING MATERIALS										0
WHOLESALE, SKINS										0
ELECTRIC UTILITY										0
BANK										0
INSURANCE										0
AGRICULTURAL INPUTS										0
HIGH SCHOOL										0
Total Non-zero functions	43	34	32	30	26	13	18	15	12	

FIGURE 5: SCALOGRAM OF URBAN FUNCTIONS IN MARADI DEPARTMENT

Urban Production Activities in Principal Towns

Nonagricultural production is quite low at all levels of the urban hierarchy considered in Maradi department. (Maradi town was not included in the present analysis because of its obvious non-market town character.) Table 24 gives the number of fixed businesses for five centers in Maradi: Tessaoua, Tchadaoua, Aguie, Mayahi, and Gazaoua. The numbers of activities in all places is rather low. Tessaoua, the largest center has only 260 fixed enterprises. This number underestimates somewhat the true number of fixed enterprises in Tessaoua, as it was garnered from official sources that under count fixed retail establishments. That underestimation notwithstanding, business activity in the town still appears to be below expectations for a town that size. Tchadaoua, Aguie, Mayahi, and Gazaoua possess only 168, 96, 89, and 85 fixed enterprises, respectively. These numbers are clearly below what one might expect given each town's population size. A striking feature of this table is the number and diversity of economic activities in Tchadaoua, that were not evident in the scalogram in which Tchadaoua had only two more functions than Aguie. In this table it it is shown to 72 more businesses than Aguie. The results, in the main, parallel the findings from Dosso and indicate generally low levels of secondary and tertiary production in the studied centers.

One difference between Maradi and Dosso however, is that in Maradi there appear to be a greater number of centers that have at least a modicum of fixed business activity. Nonagricultural activity although similarly low in individual centers in both departments appears to be dispersed among a greater number of centers in Maradi than Dosso. This, is one indication that the urban system in Maradi is more fully developed than in Dosso.

TABLE 24

NUMBER AND PERCENT OF FIRMS BY SECTOR
IN FIVE TOWNS IN MARADI DEPARTMENT

	NUMBER/PERCENT OF FIRMS									
	TESSAOUA		TCHADAOUA		AGUIE		MAYAHI		GAZAOUA	
SECTOR	#	(%)	#	(%)	#	(%)	#	(%)	#	(%)
MANUFACTURING	156	(60)	42	(25)	27	(28)	10	(11)	22	(26)
DISTRIBUTION	86	(33)	112	(67)	57	(59)	74	(83)	57	(67)
SERVICES	18	(7)	14	(8)	12	(13)	5	(6)	6	(7)
TOTAL	260		168		96		89		85	

Source: Market Town Survey Questionnaire, 1989

Table 24 indicates more clearly the structure of production in Maradi towns, by indicating the percentage of manufacturing, distributive, and service firms in each place. It demonstrates the general importance of the distributive sector relative to the manufacturing and service sectors in Maradi town production. (Again, the rather low percentage of Tessaoua firms in the distributive sector is a function of the under-counting of retail establishments in that place.) In Maradi then, manufacturing and service sector activity is not yet especially well developed.

When these three sectors are presented in more dis-aggregated fashion as in Table 25, the reasons for a slightly more diversified structure of production become apparent. In particular, centers in Maradi have a somewhat greater percentage of total number of firms in manufacturing than do Dosso centers. The percentage of service firms in all the towns of the two departments is more or less comparable. The greater percentage of manufacturing firms is mostly a function of the relatively greater number of agricultural and livestock processing firms in Maradi centers than in Dosso towns. This demonstrates the existence of somewhat stronger productive linkages between agricultural and non-agricultural activities in Maradi than in Dosso and a slightly more developed urban system.

There are several explanations for higher levels of and more diversification in Maradi urban production. First, the agricultural sector is stronger in Maradi than it is in Dosso. This means agricultural households have higher incomes and thus demand for urban products is greater. Demand for goods and services stimulates their supply. For example while 63 percent of fixed commercial enterprises in Dosso complained of a lack of demand for their products, only 40 percent of Maradi commercial businesses made the same complaint. Of all businesses in Dosso 43 percent complained of dearth in demand, only 25 percent of all fixed businesses made the charge in Maradi. Lack of demand is less of a problem in Maradi than in Dosso.

Another reason for greater and more diversified urban production in Maradi is that intermediate good supply problems seem to be less of a factor for fixed businesses than in Dosso. In Dosso 45 percent of manufacturing and service firms noted input supply problems as their greatest constraint while only 30 percent of such firms in Maradi made the same complaint. If important inputs are constrained in supply for some reason, output will be held below its potential. It appears that Maradi firms are not as impeded by supply problems as are firms in Dosso.

Analysis of Spatial Linkages in Maradi Department

The spatial linkages linking these towns to one another and to other regions are an important part of the overall picture. As in the previous section on Dosso Department, the following section will analyze in some detail the patterns of economic linkages, market linkages, and flows of goods between these towns and between the towns and their hinterlands. Analysis if these patterns will reveal additional information about the hierarchy of markets and the overall strength of the local economy.

TABLE 25

NUMBER OF FIRMS BY URBAN PRODUCTION ACTIVITY IN MARADI DEPARTMENT

PRODUCTION ACTIVITY	URBAN CENTER TESSAOUA 19,638	TCHADAOUA 3,860	AGUIE 5,968	MAYAHI 5,733	GAZAOUA 4,453
AGRICULTURAL PROCESSING	10	17	10	6	6
LIVESTOCK PROCESSING	2	4	1	1	1
FABRICATION	113	21	16	3	15
OTHER FABRICATION	31	0	0	0	0
WHOLESALE AND STORAGE	0	18	7	26	13
RETAIL - FARM OUTPUTS	1	7	11	9	11
RETAIL - INPUTS	2	1	0	0	1
RETAIL - CONSUMER GOODS	68	70	23	31	19
BAR-HOTEL-RESTAURANT	15	16	16	8	13
REPAIR SERVICES	11	5	6	4	5
F.I.R.E.	0	0	0	0	0
OTHER SERVICES	7	9	6	1	1
TOTAL	260	168	96	89	85

Source: Market Town Survey Questionnaire, 1989

Economic Linkages

The relative importance of supply problems in Dosso and Maradi notwithstanding, regional production linkages are still generally weak in Maradi. As seen in Dosso, a rather large share of producer goods and services used by regional manufacturing, distributive, and service firms are produced outside the region. Table 26 shows the percentage of firms purchasing inputs produced in the immediate region, outside the region but still in Niger, and outside Niger. About 50% of the firms interviewed purchase inputs that are produced outside of Niger. Of all firms interviewed, 18% purchase their producer goods outside the region, in Niger. Slightly less than a third of the businesses purchase intermediate inputs that are produced in the immediate region. Firms in Maradi, then, have a rather high import content to their expenditures. The high import content of producer purchases means low regional income multiplication effects. This is made worse, from a national perspective, by the fact that the associated leakage of income from the region goes by and large not to other firms and households located in Niger but to interests in Nigeria.

The seemingly unfavorable situation is somewhat better than in Dosso, however. Although a similar percentage of town businesses in both departments purchase goods

produced outside of the country (roughly 50% in both cases) a significantly greater percentage of Maradi firms purchase inputs that are produced in the immediate region. In Dosso only 22 percent of firms purchase goods produced in the region compared to 32 percent in Maradi. This is a further indication of more sophisticated production and distribution capabilities in Maradi's fixed activities.

TABLE 26

PRODUCTION LOCATION FOR INPUTS PURCHASED BY FIXED BUSINESSES IN FOUR TOWNS IN MARADI DEPARTMENT

	PERCENT BY LOCATION			
	TOWN & HINTERLAND	OTHER DEPT. IN NIGER	OUTSIDE NIGER	TOTAL
AGUIE	15%	23%	62%	100%
GAZAOUA	28%	7%	65%	100%
TCHADAOUA	29%	14%	57%	100%
TESSAOUA	45%	20%	35%	100%
TOTAL	32%	18%	50%	100%

Source: Market Town Survey Questionnaire, 1989

A high import content of producer purchases can be tempered somewhat if the goods are at least purchased from firms that reside in the region. That is, there is at least some regional value added associated with the resale of goods produced elsewhere. Unfortunately it seems that producer goods to a rather large extent are also purchased outside the region. Table 27 shows the percentage of interviewed fixed businesses that purchase their primary inputs from other businesses located within the town and immediate hinterland, from firms outside the region within Niger, and from enterprises outside Niger. At the aggregate level, 59 % of those firms interviewed purchase their inputs from within the region, 35% purchase their intermediate goods from Nigerien firms outside the region, and 6% purchase their inputs directly outside the country. The fact that just over 40% of the firms purchase their inputs from businesses located outside the region is further indication of strong leakage and weak income multiplication effects.

Again the situation, is somewhat better in Maradi than in Dosso. In general, a greater percentage of firms in Maradi tend to purchase their goods locally than do firms in Dosso, although the difference is slight. The conclusion is that transportation and distribution mechanisms in local regions in Maradi may be slightly more developed.

TABLE 27

PURCHASE LOCATION FOR INPUTS PURCHASED BY FIXED BUSINESSES IN FOUR TOWNS IN MARADI DEPARTMENT

	PERCENT BY LOCATION			
	TOWN & HINTERLAND	OTHER DEPT. IN NIGER	OUTSIDE NIGER	TOTAL
AGUIE	62%	38%	0%	100%
GAZAOUA	35%	57%	8%	100%
TCHADAOUA	57%	36%	7%	100%
TESSAOUA	75%	15%	10%	100%
TOTAL	59%	35%	6%	100%

Source: Market Town Survey Questionnaire, 1989

To recapitulate, two main points follow from the analysis:

First, the data demonstrate that to a large extent producer goods and services are being provided to area firms from outside their region, and indeed to a significant extent, from outside the country. Research has shown elsewhere that regional interindustry linkages can be a strong force in driving regional growth and development. In Maradi Department, revenue from the production and distribution of producer goods and services is accruing to interests outside the regions and nation. Regional income multiplication from the production and distribution of intermediate goods and services is at a level below expectations.

Second, although the situation is unfavorable in this department, it is not as bad as it is in the Department of Dosso. A greater percentage of Maradi firms purchase intermediate goods that are produced and/or sold by local firms. Regional income multiplication based on interindustry linkages is higher in Maradi than it is in Dosso. As noted constraints to the production and distribution of intermediate goods on both the demand and supply sides are not as onerous in Maradi as they are in Dosso.

As we did for Dosso, we now consider income linkages between town and hinterland in Maradi. In particular, we consider profit income, wage income, and rental income linkages. Table 28 shows the secondary income sources of town business proprietors. About 85% of all Maradi entrepreneurs have secondary sources of income. The vast majority of which, 83%, have interests in agriculture. These figures demonstrate strong ties to agriculture by town business operators. These ties are even stronger in Dosso.

TABLE 28

PERCENT OF TOWN BUSINESS OWNERS IN MARADI DEPARTMENT
BY SELF-REPORTED SECONDARY INCOME SOURCES

	TYPE OF ACTIVITY		
	AGRICULTURE	OTHER	TOTAL
AGUIE	92	0	92
GAZAOUA	64	7	71
TCHADAOUA	93	0	93
TESSAOUA	80	4	84
TOTAL	82	3	85

Source; Market Town Survey Questionnaire, 1989

The case of secondary income earnings of farmers is more difficult to get a handle on. In Dosso, farmers lack diversity in their income earning opportunities. The vast majority of all town business proprietors resided in town and were primarily engaged in that town business. That is, town business proprietors were not farmers by primary occupation. We concluded that farmers whose primary activity was farming did not actively engage in the operation of fixed town businesses. The same is true in Maradi. One hundred percent of all fixed business interviews indicated that the proprietor of the business lived in town and not in the farming areas. Indications are that the primary activity of such entrepreneurs is in fact the business and not farming. It seems to be the case in Maradi as well, then, that farmers do not, in general, also own fixed town businesses. As noted before, this contrasts with research elsewhere (Kutus Kenya, for example) which indicates that one of the greatest sources of extra income for farmers is town-based business activity. It appears that in Maradi as in Dosso, this is not the case.

Neither do farmers seem to engage in other forms of town-based income earning to a great extent. Table 29 shows town based wage and rental income earnings of farmers in Maradi. As in Dossok employment in Maradi small firms is rather low. Table 29 shows the average number of full time employees of the firms interviewed at 2.1. Again, the vast majority of those employees are from the town itself. That is, farm households in the various regions are supplying little of the wage labor demand in town.

TABLE 29

AVERAGE NUMBER OF URBAN BUSINESS EMPLOYEES
BY LOCATION OF RESIDENCE IN FOUR TOWNS IN MARADI DEPARTMENT

		RESIDENCE LOCATION	
	AVG. # EMPLOYEES	FROM TOWN	FROM RURAL
AGUIE	2.0	2.0	0.0
GAZAOUA	1.5	1.4	0.1
TCHADAOUA	3.2	3.1	0.1
TESSAOUA	1.8	1.6	0.2
TOTAL	2.1	2.0	0.1

Source: Market Town Survey Questionnaire, 1989

Town based rental income is another potential source of earnings for farmers. Table 30 gives information on town rental income in Maradi. Specifically it shows the percentage of town business operators interviewed that own or rent the building in which they do business, and the percentage of renters who rent from someone in town or from someone outside of town. As before, farmers seem not to be engaged in such income earning activities to a significant extent. While almost one-third of all business operators rent the building in which they conduct business, the vast majority rent from someone else in town. That is, they do not rent from farmers. Put simply, farmers do not, in general, seem to own town building stock and they thus forego the potential earnings from the rental of such building stock.

The conclusions that follow from the analysis of Maradi town and its hinterland linkages are the same as those reached for Dosso. In general farmers lack additional sources of income. They do not appear to be engaged in town-based fixed business activities, nor do they garner income from town-based wages and rents. This contrasts with the experience from elsewhere in Africa, where farmers have much wider diversity in income sources. Such additional sources of income provide a pool of money that is often used to reinvest in agricultural activities, enhancing productivity. In Maradi, as in Dosso, this is not occurring.

Market Linkages

The travel patterns of traders in Maradi Department reveals some interesting insights about the hierarchical relationships between markets in the region. Table 31 indicates the percentage of traders from each market town who attend other markets. In regions with periodic markets traders attend markets within a related geographic area around a major

market. Residents of Maradi and Tessaoua frequent the most number of markets on a regular basis (six markets in the study area and some other rural markets) with residents of Tchadaoua and Koona following closely behind with five each. (See Figure C-5, Appendix C.)

In this study region, two such trading areas are evident, even though there are three arrondissements. Tessaoua is the largest town in the region, and its residents attend the markets of Ourafan, Mai Jirgui, and Koona all within its arrondissement. However Tessaoua residents also attend markets in Gazaoua and Aguie, suggesting that the influence of this market extends beyond the administrative boundaries. In return residents of Gazaoua account for 10% of the traders attending Tessaoua market, suggesting a strong relationship between these two towns.

TABLE 30

PERCENT OF FIRMS OWNING VS. RENTING BUILDING STRUCTURE AND RESIDENCE OF PROPRIETOR IN FOUR TOWNS IN MARADI DEPARTMENT

	BUILDING OWNER	BUILDING RENTER	RENTAL PROPERTY OWNER RESIDENCE	
			TOWN	OUTSIDE
AGUIE	69%	31%	89%	11%
GAZAOUA	64%	36%	100%	0%
TCHADAOUA	79%	21%	100%	0%
TESSAOUA	64%	36%	100%	0%
TOTAL	68%	32%	98%	2%

Source: Market Town Survey Questionnaire, 1989

At the other extreme of the study area, Tchadaoua is the other dominant market. As was noted in the Scalogram analysis and the discussion of urban production activities, it is Tchadaoua, not Aguie that is the more dynamic economic center of the arrondissement of Aguie. The percentages of residents from various towns attending different markets shown in Table 31 confirms this finding. This table indicates that Tchadaoua is closely linked to Mayahi and Tchake markets. Tchake is the most isolated market in the study area because residcnts of Tchake were not enumerated in any other market, and the only people who attend Tchake market are people from Mayahi (22%), Tchadaoua (33%), and the rural zone around Tchake (44%). This pattern is a function of Tchake's isolation from the other towns and the poor transportation routes which link it to Mayahi and then to Tchadaoua. (See Figure C-6, Appendix C.)

Residents of Mayahi are nearly as isolated, venturing as far as Tchake and surrounding rural markets, but not to any other market town in the study region. The market in Mayahi, however, does draw people from Tchadaoua (19%), Maradi (3%), and other departments

(6%). More people from Tchadaoua appear to attend Mayahi market than people from Mayahi, itself. Similarly, more people from Tchadaoua attend Tchake market than people from Mayahi, which is the nominal arrondissement center and would be expected to have closer ties with outlying markets.

TABLE 31

PERCENT OF TRADERS BY MARKET ATTENDANCE
AND PLACE OF RESIDENCE IN MARADI DEPARTMENT

MARKET ATTENDANCE

RESIDENCE	Tessa.	Ourafan	MaiJirg.	Koona	Mayahi	Tchake	Aguie	Tchada.	Gazaoua	Rural Zone	Maradi City	Other Depts.	Foreign
Tessaoua	44	5	44	17			6		27	10		10	
Ourafan		42								9			
Mai Jirgui	4	5	10							9			
Koona	5		8	44					10	6			
Mayahi					16	22				6			
Tchake													
Aguie	1						15	6	1	4		10	
Tchadaoua	2				19	33	6	38		4			
Gazaoua	10			3			26		22			20	
Rural Zone	26	47	21	36	56	44	37	40	35	44	12	10	20
Maradi City	2		5		3		4	11	3	6	88		
Other Depts.	4		10		6		2		1	1		50	
Foreign	1		3				6	4		1			80
	100	100	100	100	100	100	100	100	100	100	100	100	100

SOURCE: Market Town Survey Questionnaire, 1989

Aguie market is more difficult to assess because its allegiance seems to be split between Tessaoua and Tchadaoua. (See Figure C-8, Appendix C.) Six percent of the traders attending Aguie come from Tessaoua and another six percent come from Tchadaoua. Similarly six percent of the traders attending Tchadaoua market come from Aguie, whereas only one percent of the traders at Tessaoua market come from Aguie, suggesting a slighter closer relationship between Aguie and Tchadaoua than between Aguie and Tessaoua. The success of Aguie market appears based on its power to draw merchants from a wide area since it serves as an intermediary point between these two larger markets perhaps providing a neutral meeting place for competing traders. After Tessaoua, Aguie market attracts traders from the widest trading area, including traders from three other towns in addition to Maradi (4%), long distance traders from other departments (2%), and the largest percentage attendance from other countries (6%). It is remarkable that only 15% of the traders enumerated in Aguie market were from Aguie itself, suggesting that it is a market which serves as an intermediate distribution point rather than a market oriented towards its own local population.

Gazaoua is most closely linked to Tessaoua and to Koona with substantial numbers of traders coming from these two towns as well as the surrounding rural areas. This is easily explained by Gazaoua's proximity to both of these towns and its important position on the east-west highway.

Flows of Commodities

There are no striking differences between the patterns of commodity flows in Maradi Department than in Dosso Department. Table 32 shows that Maradi Department appears to produce a higher percentage of agricultural goods locally (54% as opposed to 49% in Dosso). However a slightly lower percentage of goods are produced within the same department than in Dosso (13% to 15%).

The most striking difference is the reduction in imports from other departments within Niger which is reduced to 8% from 14%, indicating that Maradi is a more diverse region capable of satisfying a larger proportion of its internal demand for agricultural products produced within the Sahelian zone. The remaining 25% of agricultural products are imported from the coastal regions where the climate is significantly different.

TABLE 32

Origin and Purchase Place for Agricultural Products
Offered for Sale in Maradi Department

	ORIGIN					
PURCHASE	Local	Same Dept.	Other Dept.	Import	TOTAL	Percent
Local	67	2	1	5	75	(60%)
Same dept.		14	6	9	29	(23%)
Other dept.			3	1	4	(3%)
Import				16	16	(13%)
TOTAL	67	16	10	31	124	
Percent	(54%)	(13%)	(8%)	(25%)		

SOURCE: Market Town Survey Questionnaire, 1989

There is also evidence of a sophisticated market network, suggested by the fact that 25% of the agricultural commodities are imported, but only 13% of all commodities are purchased in another country. Similarly, only 3% of the commodities which were produced in other departments were actually purchased outside of Maradi Department.

Table 33 indicates that a very high percentage of non agricultural products are imported into the department (66%). This is not surprising given the close physical proximity

to the Nigerian border. However what is more surprising is the extent to which products are produced locally. In Dosso Department only 7% of the non-agricultural goods were produced locally, whereas the comparable figure for Maradi Department is 18%. This means that local fabrication activities are substantially more important in this region than in Dosso in spite of the higher levels of imported goods from Nigeria.

The extensive distribution network is revealed by the fact that although 66 percent of the goods are produced outside of the country, less than half of those goods are actually purchased abroad. Local purchases of imported goods accounts for 16 percent of all imported goods and 35 percent are purchased elsewhere in the Department, probably in Maradi itself. Nine percent of the remaining imports come through other departments and the remainder are actually purchased in other countries (i.e. Nigeria). thus once again we see evidence for a strongly developed marketing network primarily for consumer goods and some intermediate inputs.

TABLE 33

Origin and Purchase Place for Non-agricultural Products
Offered for Sale in Maradi Department

	ORIGIN					
PURCHASE	Local	Same Dept.	Other Dept.	Import	TOTAL	Percent
Local	19	3	7	11	30	(28%)
Same dept.		10	5	24	39	(37%)
Other dept.			2	4	6	(6%)
Import				30	30	(28%)
TOTAL	19	13	14	69	105	
Percent	(18%)	(12%)	(13%)	(66%)		

SOURCE: Market Town Survey Questionnaire, 1989

Flows of Livestock

Because of the large pastoral population in the northern sections of this department the flows of livestock are an even more important component of the overall regional economy than in Dosso Department. One of the interesting differences between the two departments

is that in Dosso Department, livestock is sold only in peripheral market centers. These centers are quite active on market day, but during the rest of the week have little or no fixed business activity. By contrast in Maradi Department, the livestock markets are located in the most dynamic centers. Tessaoua, the largest market we visited, is also the most important livestock market in the region.

Table 34 uses data collected by the Livestock Management Information System on provenance and destination of animals sold in three markets during 1988-1989. It should be noted that the data series for this department are not as complete as those in Dosso so the overall numbers are lower than the actual volumes.

Table 34 indicates that livestock are brought to Tessaoua from each arrondissement in the Department of Maradi and from numerous other departments. Similarly animals that are sold in Tessaoua are sent on to a variety of other destinations including in order of importance Tessaoua itself, Aguie arrondissement, Mayahi arrondissement, Maradi ville, and several other locations. Gazaoua as a subsidiary market to Tessaoua buys and sells primarily from Aguie arrondissement and Tessaoua. However it exports a substantial amount of livestock to other countries, in this case Nigeria. Mayahi market apparently serves only a local demand as is consistent with other data on this particular market.

TABLE 34

PROVENANCE AND DESTINATION OF LIVESTOCK
IN GAZAOUA, TESSAOUA, AND MAYAHI MARKETS; 1988-89

	LOCATION OF PURCHASE OR SALE					
PROVENANCE/	GAZAOUA		TESSAOUA		MAYAHI	
FINAL DESTINATION	FROM	TO	FROM	TO	FROM	TO
MARADI DEPT.						
MARADI CITY	0	0	1	11	0	0
AGUIE	172	122	10	56	0	0
DAKORO	0	0	2	2	0	0
GUIDAN ROUMDJI	0	0	1	0	0	0
MADAROUMFA	0	0	1	0	0	0
MAYAHI	3	0	65	12	70	66
TESSAOUA	22	11	129	139	0	0
NIAMEY	0	0	0	0	0	0
OTHER DEPTS.	4	0	32	2	0	0
EXPORTS	0	68	0	0	0	0

Source: Ministère des Ressources Animales,
Livestock Management Information System (LMIS)

IV. ADMINISTRATIVE FRAMEWORK AND DECENTRALIZATION POTENTIAL

The role of market towns in stimulating development in rural areas must be seen in the context of their dual roles as economic and administrative centers for local government. The GON has recently begun to elaborate a strategy of gradual administrative deconcentration and the decentralization of authority for revenue collection and budgetary management from the national level to lower levels of government. It is essential that collectivités (legally recognized administrative and budgetary areas) develop the capacity to finance and manage their own affairs. In so doing, these units of government will be able to provide key services to economic activity within their regions. In order to elaborate a strategy for market town development, it is important to review the existing hierarchy and steps which have been taken to implement the decentralization program to date.

Existing Administrative Structure

The existing administrative hierarchy in Niger is based on three regional sub-units, the Department, the Arrondissement, and the Canton. At present Niger has seven departments plus the Urban Community of Niamey which has the status of a separate administrative district. Each department is governed by a Prefet who is appointed by the central government.

Each national ministry has regional representatives at the department level and the heads of these departmental services make up a technical committee (COTEDEP) which functions in an advisory role to the Prefet. Each department also has a Secretary General who is essentially the number two man and the Secretary General Adjutant (SGA) both of whom also assist the Prefet in carrying out the administrative functions of the department. The SGA is also the head of the Direction Départemental du Plan (DDP) which is the local branch of the Ministry of Planning. In this capacity the SGA is the departmental official who is most knowledgeable and concerned with various development projects in the region.

Because departments do not have the status of collectivité, they do not have the power to raise revenues or execute separate budgets. The administrative staff at the department level are paid directly by the national ministry for whom they work, including the staff of the Prefecture who are paid by the Ministry of Interior. Thus the department functions in a review and coordinating role for the next lower level in the administrative hierarchy, the arrondissement.

Each department is divided into a number of collectivités that are empowered to collect taxes and produce an annual budget. Collectivités can take the form of either an arrondissement or a commune. Arrondissements function as the primary revenue collection entity in the spatial hierarchy. Each arrondissement is headed by a Sous-Prefet who is in turn aided by an adjutant and by a secretary of the arrondissement, who functions as the financial manager. The local representatives of national ministries who are located at the

arrondissement level function as an advisory committee to the Sous-Prefet (COTEAR) in an analogous manner to their counterparts at the department level. Their salaries are paid by the national ministry with whom they are affiliated, but most of their investment budget for specific projects comes directly from the arrondissement budget.

The administrative center (chef-lieu) of every department and certain other important cities (Doutchi and Tessaoua, among them) have the status of communes with separate budgetary authority from the arrondissement. These entities have appointed Mayors, who are in theory of equal rank in their commune as a Sous-Prefet is in his arrondissement. Each Mayor has a small staff consisting of a Secretary of the Commune who is concerned with financial matters and several other clerical staff. In newly created communes the revenues raised within the urban area are no longer available to the arrondissement budget which has reduced budgets of the arrondissements considerably, especially in the area of market taxes and patantes (see budget section below).

Below the arrondissement special districts are sometimes formed and are headed by a Chef de Poste. The reasons for this vary from region to region and stem from strategic and political considerations as well as reasons of distance from the administrative center of the arrondissement. The Chef de Poste acts as the agent of the Sous-Prefet and coordinates activities at the local level.

Local Government Structure - Traditional Authority

Traditional leaders still play an important role in local decision-making. Each village has its traditionally selected chief with a fair amount of local recognition and legitimacy. The major function of the village chief is to oversee disputes among villagers and to function as the representative of the chef de Canton. Each village is also part of a larger Canton, which is headed by a Chef de Canton. This is the highest level of local traditional authority. The Chef de Canton is also known as the "proprietaire de terrain", reflecting his major role in the traditional system of allocating resources such as land within the village and its environs. These powers give the chief substantial authority as well as powers of moral suasion over residents of his district. The chef de canton also functions as a sort of paramount chief with the authority to adjudicate disputes between villages that would be beyond the scope of a chief of a single village.

Council System - Structures for Popular Participation

Recently, as part of its decentralization program, the government has embarked on an ambitious program to establish local councils at each level of government to serve as channels for local participation in the decision-making process. In principle, each council member is elected by his peers at the village level to a seat on the Conseil Villageoise de Développement (CVD). In practice, the chief of each village is the de facto President of each CVD, and places are reserved for the members who are representatives of important village level organizations including groups such as: Association de Femmes du Niger (women's group), Association Islamique, Cooperative, les Parentes d'élèves (PTA), Samariya (youth

group), Association des transporteurs, Association des Commerçants, etc. In some places there may in fact be elections for the council seats.

At the Canton level the villages are grouped into a higher group called the Conseil Locale de Développement (CLD). The CLD is formed by gathering all CVDs in the Canton into a local assembly at which time elections are held for the seats of the CLD. The President of each CLD is the Chef de Canton.

The same procedure is followed at the arrondissement level with Conseil Sous-Regionale de Développement (CSRD), at the Department level with the Conseil Regionale de Développement (CRD), and at the national level with the Conseil Nationale de Développement (CND). The President of each of these Councils is the Sous-Prefet, the Prefet, and the President, respectively. These councils function both as fora for the public discussion of development projects and programs. More importantly they are expected to meet at least four times a year to discuss the budget and eventually to approve it and send it to the next higher council.

The extent to which these councils are functioning effectively could not be determined. In both Dosso and Maradi the councils apparently meet on a quarterly basis or as judged necessary by the President of the respective councils. While this participatory superstructure seems sound in principle, it remains to be seen how much authority these councils will have in fact. It is furthermore not clear how much assistance they will be in determining budgetary priorities without at least basic technical training in project evaluation and financial analysis.

Planning and Budgetary Process

In principle, the local council system plays an integral role in the identification of local needs, establishment of development priorities, and approval of collectivité budgets. The CVD is charged with identifying the most important needs at the village level. Since literacy rates are low in rural areas, in practice a local functionnaire (usually a teacher or health-worker since there are few other government workers at the village level) is selected to act as the secretary of the CVD. The secretary has the responsibility for taking notes on village council meetings and sending the needs identified during the course of the meetings to the CLD.

At its quarterly meetings the CLD discusses the various needs identified by each village and prioritizes the list according to its perceptions of the areas with greatest needs. Since the CLD also has limited administrative capacity (field agents of arrondissement services such as Agriculture or Livestock may be located at the Canton level), they approve a prioritized list of needs and send it to the next higher level the CSRD.

The CSRD then meets and discusses the list of needs and potential projects. Those needs which are approved by the council are forwarded by the President of the CSRD (the Sous-Prefet) to the SAP (Service d'Arrondissement du Plan) who is charged with completing a standardized document describing the potential project called a dossier. The dossiers are then sent to the appropriate arrondissement service to be turned into a full-blown project description called a "fiche d'operation". The completed fiches are then sent back to the

CSRD for final approval and inclusion in the arrondissement budget as line items under the investment category.

Up until two years ago all fiche d'operations had to be sent to the department level and then forwarded to Niamey for final approval. Currently the CRD has the final authority to approve the budget presented by the CSRD, thus obviating the need for central approval of all budgets.

Fiche d'operations which are either not approved for inclusion in the budget at either the CSRD or CRD level can be used as the basis for additional funding from a variety of sources. First the CSRD can make a demand to the Fund Regionale for special project funding, subject once more to the approval of the CRD. The Fund Regionale is supported in part by the contributions of each arrondissement and commune in the department (10% of each entities head tax go directly to this fund). The national government also puts some money into this fund amounting to as much as 25% of the operating expenses and 70% on the investment capital of the fund.

If this source of funding is not forthcoming the fiche can be used as the basis for making a request to outside funding agencies. As part of the decentralization initiatives, Prefets are now authorized to negotiate directly with donor agencies for projects costing up to 100 million francs. Sous-Prefets are likewise authorized to negotiate directly for projects up to 30 million francs. It is hoped that this additional authority will facilitate the direct transfer of resources to the regional level.

If a project has still not been funded the last recourse is for it to be included as part of the fiche standard which is sent by each department to Niamey for central government investment. The fiche standard groups all projects which have not received local funding into a single document. A special commission of the CRD, including the heads of all departmental level services, meets to establish the regional priorities which will be reflected in this document. We were not able to obtain any specific information on what percentage of projects actually receive funding in this fashion.

Revenue Generation Potential

Because commune and arrondissement administrators have separate budgetary authority from the central government, they effectively control a large portion of local resources and investment. At the same time they are responsible for the collection of revenues and management of local finances which is a complex task. There appears to be considerable variation in the ability to manage these resources efficiently at the arrondissement level. Table 35 presents the total and per capita levels of budgetary receipts for the five arrondissements we visited.

TABLE 35
TOTAL AND PER CAPITA REVENUES IN FIVE ARRONDISSEMENTS, 1989

Arrondissement	1989 POPULATION	TOTAL BUDGET	PER CAP. RECEIPTS	PER CAP. MKT. TAX	PER CAP. PATANTES
AGUIE	173,151	96,028,300	554.59	57.75	54.87
MAYAHI	226,766	106,336,950	468.93	39.69	17.64
TESSAOUA	193,153	95,408,537	493.95	38.83	50.83
DOUTCHI	297,121	102,153,600	343.81	16.83	15.28
DOSSO	218,726	86,628,400	396.06	32.00	32.00

The variations in per capita receipts indicates that there is considerable variation in the ability of arrondissements to raise revenues on a standardized basis. Of these regions, Aguie and Mayahi have an advantage because each of these arrondissements includes the chef-lieu of the arrondissement, whereas Dosso, Doutchi, and Tessaoua all have a separate status as communes. The population totals have been adjusted accordingly, but since these towns are the most dynamic centers in each area, the arrondissements must rely on smaller markets for their receipts. This means that arrondissements with communes are keenly interested in any activities that will enable them to increase the levels of economic activities in market towns and thereby increase their revenues. The low level of per capita patante fees (taxes on fixed businesses) in Doutchi indicates that the surrounding region has very little fixed business activity. An alternative explanation of this phenomena might be that the low revenues are related to poor record-keeping methods, tax evasion, or deliberate under-reporting of taxes by precepteurs. The low level of market taxes is particularly surprising in Doutchi since this arrondissement has a number of reasonably active markets.

Table 36 presents information on expenditures within these same arrondissements that yields more light on the case of Doutchi. While operating expenses in Doutchi are about on par with the other arrondissements, its personnel costs are markedly lower suggesting either that the number of administrative staff in this region is insufficient or that that their levels of technical expertise are lower resulting in lower personnel costs. It is interesting to note that Aguie devotes a much higher percentage of its total budget to investment activities.

Unfortunately, it was not possible to obtain detailed data on the revenue collection efficiency of Doutchi Arrondissement to further explore the capacity of this region to collect revenues efficiently. However Table 37 compares the revenue collection ability of two of the above departments for which anticipated revenues and actual collections were available. The measure of collection efficiency used in the table is a ratio of collections through July 31, 1989 to 83 % (ten months) of the total anticipated receipts. This is a conservative measure of efficiency since it assumes that collections in all months are the same, which is clearly not true. Markets are much more active after the harvest in November, December, and January; whereas during the rainy season (June, July, August, and September) most people are working in their fields and market activity and hence revenues are much reduced.

TABLE 36
INVESTMENT BUDGETS OF FIVE ARRONDISSEMENTS, 1989

	TOTAL INVEST. (000)	PERCENT TOTAL	TOTAL OPERATING (000)	PERSONNEL COSTS (000)	PERCENT OPERATING
AGUIE	51,166	53.28%	44,862	7,252	16.17%
MAYAHI	41,887	39.39%	64,455	7,765	16.76%
TESSAOUA	31,744	33.27%	63,664	6,547	10.28%
DOUTCHI	37,437	36.65%	64,716	4,400	6.80%
DOSSO	49,218	56.81%	37,411	3,689	9.86%

Table 37 indicates that Aguie, whose market taxes amount to more than 10 percent of total revenue, has a significantly higher level of collection efficiency then Tessaoua. The collection efficiency of market taxes in Tessaoua is better than for other taxes, but it still lags significantly behind the rate needed to fulfill budgetary expectations. The other tax revenues for Tessaoua are in an even worse state, indicating a potential shortfall in revenue of fairly significant proportions. The levels of personnel expenditures to total operating expenditures in the two arrondissements from Table 36 indicate that Aguie spends 16.76% of its operating expenses on personnel, whereas Tessaoua spends only 10%, indicating a potential technical capacity problem for this arrondissement also.

Technical Capacity of Administrative Cadres

The exact level of technical competence at each level of government in the two regions we studied is difficult to ascertain. However, for Dogon Doutchi we were able to obtain a detailed breakdown of public sector employment by level of technical ability. (Unfortunately for other arrondissements we were not able to obtain comparable data.) Table 38 below indicates that the largest services the arrondissement are not surprisingly the education and health services, and they are also the services with the best trained workers.

The domination of the higher cadres by health and eduction is shown by the fact that only two employees outside these sectors have attained the level of cadre A, the highest level of technical competence. Of the 64 workers with cadre B, there are 19 employees outside the education and health sectors. The Service d'Arrondissement du Plan which is supposed to provide a coordinating role in the development process has no Cadre A employees, one cadre B, and three cadre C. The electric utility (NIGELEC), the Post Office, and the Sub-Regional Cooperative Office all provide important services and communications, but have at best Cadre B workers and in the case of the cooperative only a single worker with who is a Cadre C. The lack of skilled employees at this level may be a potential constraint for the rapid expansion of services and a variety of economic activities.

TABLE 37
COMPARISON OF ESTIMATED RECEIPTS AND COLLECTION EFFICIENCY
OF TWO ARRONDISSEMENTS THE STUDY AREA

	AGUIE			TESSAOUA		
TAXES	EST'D AMOUNT	PERCENT TOTAL	COLLECTION EFFICIENCY	EST'D AMOUNT	PERCENT TOTAL	COLLECTION EFFICIENCY
MARKET	10000000	10.41%	1.060	7500000	7.86%	0.720
PATANTES	9500000	9.89%	0.703	9817850	10.29%	NA
ANIMAL ID	2800000	2.92%	0.673	3500000	3.67%	0.275
SLAUGHTER	2350000	2.45%	0.941	2000000	2.10%	0.195
AUTOGARE	3350000	3.49%	0.808	2500000	2.62%	0.240

The situation at the commune as opposed to the arrondissement level is less clear. In some cases administrative functions were performed by overlapping staff members, making full time equivalent counts hard to make. In the older more established communes this was not the case, but in the relatively newer communes like Doutchi and Tessaoua, there appeared to be much more overlap. One explanation of this would be that in the recently formed communes old patterns of doing business have simply persisted, but the alternative that there are insufficient numbers of staff in a variety of positions for the communes is probably more likely.

Provision of Basic Services

It was not possible within the time frame of this study to determine either the extent or cost effectiveness of the myriad of services provided by these local administrative entities. At the arrondissement level a wide variety of services are available, though less than at the department level. However at the level of the commune the provision of basic urban services appears to be more problematic. Many of the communes have been recently formed and are still grappling with how to finance and provide basic services to residents. We were not able to assess the nature of service provision in the rural areas at all, since our work focussed on market towns usually with more than 1000 inhabitants.

Public water systems is a priority of the government and have been installed in every arrondissement center with public water points scattered throughout the neighborhoods. Water at some standpipes may be sold for as much as five francs a bucket depending on how its construction was financed. Time was not available to evaluate the provision of this service in greater depth, other than to note that in market towns water availability did not

seem to be a constraint to production. However at the commune level, there is still a pressing need for other kinds of urban infrastructure such as storm sewers and improved road surfaces. Almost every commune which we visited had large pools of stagnant water at various points around town. Not only are these a public health menace, but they are significant impediment to transportation and commercial activity.

TABLE 38
PUBLIC EMPLOYMENT BY TECHNICAL LEVEL (CADRES)
DOGON-DOUTCHI ARRONDISSEMENT, 1989

SECTOR	Total Employees	Technical Level A	B	C	D	Unskilled Labor
SOUS-PREFECTURE	26	1	2	2	1	20
FORETS-FAUNE	7	0	1	2	1	3
RESSOURCES ANIMALES	26	0	2	5	14	5
PLAN	6	0	1	3	0	2
AGRICULTURE	18	1	2	8	1	6
JUSTICE	6	0	1	1	3	1
INSPECTION PRIMAIRE	321	2	37	207	38	37
P.T.T.	30	0	3	4	11	12
NIGELEC	18	0	1	2	0	15
U.S.R.C	3	0	0	1	0	2
MAISON DES JEUNES	4	0	3	0	0	1
O.P.V.N.	2	0	0	2	0	0
OFEDES/ONE	8	0	1	0	0	7
GENIE-RURAL	3	0	1	2	0	0
ALPHABETISATION	1	0	1	0	0	0
SANTE	66	1	4	10	12	39
TRAVAUX PUBLIQUES	47	0	1	2	10	34
PHARMACIE	4	1	1	0	0	2
SNTN	1	0	0	1	0	0
C.E.G.	35	25	2	2	1	5
TOTAL	632	31	64	254	92	191

Source: Service Arrondissement du Plan, Dogon Doutchi.
Notes:

Cadre A = Bachelor's degree.
Cadre B = Baccalaureate degree or professional degree
Cadre C = B.E.P.C. + 2 years of training
Cadre D = certificate and professional training

Electricity is provided by NIGELEC in the larger arrondissement centers, but in Mayahi and Aguie in Maradi Department there is no public grid except for a small generator which provides power to the houses of local administrators for several hours each evening. The

lack of electricity in the smaller centers may be a significant constraint to local production activity, forcing local entrepreneurs to resort to diesel powered grain mills, compressors, and other power equipment which are dependent on the availability of fuel which must be trucked in at considerable expense.

V. IMPLICATIONS OF OTHER DONOR INTERVENTIONS ON MARKET TOWNS

In the time which was available for this portion of the study we found no other donor projects with the stated goal of intervening in the market town area. In a number of cases there were donor projects whose consequences impinge on market town development. We did not conduct a systematic review of all donor activity in the Republic of Niger, but concentrated our efforts on activities which fell within the study regions. Those which we were able to identify will be discussed in brief in the following section. They can be roughly divided into three categories: those projects concerned with infrastructure provision in rural areas and in smaller urban centers, those projectes whose stated goal was to make direct productivity increasing investments for agriculture or off-farm production, and those projects whose stated goal was to influence national policy and thereby reduce constraints to production or increase the efficiency of production or export.

Infrastructural Projects

The role of infrastructural investments in regional development is critical for both economic growth and for the social and physical well being of the inhabitants of such regions. In every arrondisement that we visited local administrators expressed their need for a wide variety of infrastructural investments. There are many examples of these kinds of projects funded by foreign donors. In Mayahi an Italian project linking Mayahi to an Italian sister city has resulted in a variety of investments including a cooperative pharmacy, a number of grain mills, and will probably result in additional money for a limited electric grid in the town. In the city of Dosso, a Belgian project paid for limited storm sewers. In Doutchi, a German project paid for a number of wells throughout the commune. In the rural areas of the arrondisement of Doutchi, both the Italians and the Dutch have projects to dig and improve existing wells. These kinds of investments are important to market town development, but with the exception of the electric grid in Mayahi these investments are unlikely to have much direct impact on increasing urban productivity.

Productivity Enhancing Projects

Given the low levels of productivity in both the agricultural and the small scale enterprise sector investments that can increase productivity are extremely important. The impacts of such investments on market towns are likely to be direct and beneficial. To the extent that agricultural productivity and hence income is raised, farmers will have more disposable income to spend on consumer goods available in market towns and more investment capital with which they may make investments in urban-oriented production activities. If such investments result in increasing productivity of urban enterprises, the additional income generated may be used to expand the line of production available locally or may in turn be re-invested in agricultural activity.

Investments in this area are quite numerous. The Departments of Dosso and Maradi have each benefitted in the past from large scale integrated rural development projects with the goal of raising rural productivity by providing agricultural inputs and other assistance.

However both Projet Maradi and Projet Développement Rural Integré in Dosso have long since expired so their effects if any are residual. At present the most evident agricultural investment projects were activities related to "contre-saison' (off-season) gardening for fruits and vegetables. In almost every arrondissement we found evidence of investments in this area on the part of foreign donors (including FED, ACDE, GOSPE, and the Banque Islamique de Développement).

The impact of such projects is likely to be directly proportional to their success. Transporting and marketing large volumes of fruits and vegetables requires a much more sophisticated set of facilities to cope with these highly perishable commodities. In the arrondissement of Doutchi the Sous-Prefet cited the case of Dogon-Kiria which benefitted from a well and a contre-saison project and in the first year produced a wide variety of vegetables which they were unable to market because of the extremely poor transportation infrastructure linking this village to the rest of the arrondissement. The arrondisement of Aguie has a large number of contre-saison projects along the Nigerian boder and according to the Sous-Prefet has had considerable success in exporting products (esp. green peppers) to Nigeria, but many of these sites are also isolated enclaves. The Sous-Prefet of TEssaoua noted that many Nigerian traders came to Tessaoua to buy produce during the season, indicating a potentially sizable market, which is not being fully exploited. To the extent that markets are sought beyond short range cross-border transactions with Nigeria, investments in facilities for grading, packing, and processing harvested products in addition to transportation from the production to the processing site will be necessary.

There were also a number of instances of small scale interventions in the urban manufacturing and production sector which were quite interesting. In Dosso we talked with many small business people who had benefitted from tools and primary inputs from O.P.E.N. and a U.S.A.I.D. financed small scale enterprise assistance agency. We tried to talk with the local director of this project, but were unable to arrange a meeting. In Tchadaoua one of the tire repair people we talked with had benefitted from assistance from CARE International in purchasing a generator for his air compressor. Given the large number of small artisans who cited problems of input supply and materials, projects which provide assistance in this area may help to strengthen local multiplier effects.

Policy Interventions

The final area concerns policy interventions of broader scope. The U.S.A.I.D. Agricultural Developrnent Sector Grant is an example of this kind of policy intervention. Its impacts on market towns are largely indirect. To the extent that exports of agricultural commodities such as beef are increased because of the lifting of the export tax and the removal of barriers to export, there is likely to be increased trade through livestock markets near the border like some of the ones we studied. This may require additional investments in transportation and storage facilities.

Removing subsidies from key inputs like fertilizer may be an important element in containing government spending, but at least initially this policy seems to have resulted in lower levels of fertilizer use and therfore lower levels of production, at least temporarily reducing the volume of rural-urban exchanges.

We were not able to assess the other changes made under ASDG such as the changes in OPVN cereal pricing policy. Other explicit targetted studies of these impacts are being undertaken by other groups.

VI. CONCLUSIONS AND RECOMMENDATIONS

National Urban Development Strategy

The present strategy for urban development uses the concept of "poles de croissance" to highlight two partially related goals: 1) the need to slow the exodus of population from the rural areas to the larger centers, which have limited holding capacities and 2) the desire to promote a more spatially balanced socio-economic development at both the regional and national levels.

These goals have not been explicitly laid out by the Nigeriens in any sort of spatial development strategy statement, but rather can be pieced together from a reading of the latest Nigerien Five Year Plan.

In order to develop an effective national urban strategy the government of Niger should engage in an explicit process of strategy formulation with several concrete steps:

- The first step is the collection of basic information on the spatial distribution of population and economic activities and the linkages between them in both rural and urban areas. This important database is necessary for an informed debate regarding the most appropriate inter-regional and inter-sectoral allocation of resources and permit the analysis of the basic trade-offs among different development strategies.

- The second step is to initiate a broadly based debate on the regional and sectoral allocation of resources needed for national development. The discussion should center on alternative strategies for stimulating development and generating future economic growth. At this time, the trade-offs between various strategies should be explored in detail, including the maximization of GNP through continued growth of the capital versus more equity oriented development of peripheral regions.

- The third step, selecting the most appropriate policies and locations, should be completed once the overall strategy has been selected. In addition to explicit spatial development initiatives, the impact of national sectoral policies on spatial development throughout the country should be considered. At this time, the locations which will receive favorable investments or other spatial initiatives should be designated to alleviate subsequent speculation and potential misunderstanding. The political component of such decisions should be minimized in favor of locations with reasonable potential for sustained growth as a result of the initiatives.

Baseline Information on the Urban System

An important precursor to a widespread discussion of urbanization and national development goals is a better understanding of the role and functions of the urban system in which the hierarchy of cities and towns should be fully identified is needed.

Such an analysis should include both an analysis of the urban system as a whole, and a region by region analysis of sub-systems of cities and towns which explicitly considers the potential for these places to stimulate development at the regional level.

Understanding the role of cities and towns in generating growth in each region would require both a thorough inventory of resources and agricultural productivity in each region and further information about the types of exchanges between rural and urban areas. This information is essential background to the debate regarding development priorities and the trade-offs between alternative investment policies.

The resolution of these trade-offs and the establishment of an effective national urban development strategy in Niger is contingent on the recognition of the existence of several distinct levels of centers in the urban hierarchy. The distinction among different levels is based on the size, economic structure and function, and location of the various urban places. Each level plays an important role in the growth of the regional and national economy. There appear to be four such levels in the Nigerien urban hierarchy.

First, there is Niamey, the primate city, which is a class unto itself. Niamey is the industrial and trade center of the country and the seat of national government. It possesses strong economies of agglomeration making it attractive to both industry and people. It has good transport and communication linkages with surrounding countries of Burkina Faso, Benin, and Nigeria.

Second, there is a level comprised of large secondary cities, which include, for example, Maradi and Zinder, and possibly Agadez and Tahoua. Each has a population of at least 50,000 and serves as a major regional center for the production and distribution of goods. They are situated, not coincidentally, on the main national highways. This study explicitly excluded the two highest levels in the system, not because they do not play important roles, but because of a recognition that the complex functions which they provide can not be unravelled in a short study of this nature.

Third, there is a level of potential regional growth centers, including for example: Dosso, Dogon Doutchi, and perhaps Kore Mairoua in Dosso Department, and Tessaoua and perhaps Tchadaoua in Maradi Department. These are places with populations of, for the most part, between 10,000 and 30,000 with a minimum of fixed manufacturing and service capability. They possess independent growth characteristics because of their population size (or in the case of Kore Mairoua and Tchadaoua because of their strategic spatial

locations on the national highway) and have the potential to stimulate development in the rural regions as well. They are relatively well linked to the other major centers of their respective regions although not always well connected to the many smaller centers which they serve.

Finally, there is a level in the urban hierarchy which consists of the myriad of smaller towns and villages scattered throughout the country. These are places with populations of usually under 10,000 inhabitants (although some are larger; most are in fact much smaller), with almost no fixed manufacturing and service activity and therefore little potential for the generation of independent growth. The main purpose of such places is to deliver social services and consumer goods to rural residents and market agricultural produce. Centers in area of this study which fall in this category include, Mokko, Bagagi, Matankari, Tibiri, Dan Kassari, Kargui Bangou, and Fadama in Dosso Department and Mai Jirgui, Ourafan, Aguie, Gazaoua, Mayahi, Koona, and Tchake in Maradi Department. This study has concentrated on the latter two levels in the urban hierarchy.

In order to understand more fully the role the urban centers and towns at each level of the hierarchy may play in stimulating regional development, in encouraging growth in farm and town household incomes, and in creating a more equitable distribution of incomes across all households, the following research issues should also more fully explored.

A research agenda which would inform the discussions of the most appropriate national urban strategy should include more detailed knowledge on the impact of the behavior of all important economic actors, in both the rural areas and at all levels in the urban hierarchy, on income multiplication and distribution. The important economic actors include production activities, households, and government and other institutions.

A thorough investigation of income multiplication effects would include an examination of: expenditures, investments, and revenues of farm, rural non-farm, and town production activities; expenditures, savings, remittances, and incomes of various rural and urban households and other institutional groups; regional imports and exports, and national, regional, and local government expenditures and revenues. Ideally such a study would be carried out in a region or sub-region of special importance to the government's spatial development strategy.

A large study of this sort would benefit from certain economies of scale and would have the advantage of producing output to estimate the importance of the entire range of inter-sectoral and spatial linkages to income multiplication in a regional economy. Although this may be extremely desirable, and even possible in a single study, it is doubtful that such an effort would be undertaken in Niger, given current constraints on research resources. In any case, not all of the issues raised above may be of equal importance and some of the issues are already receiving attention in other research efforts.

Items of most concern, not receiving attention elsewhere, include the behavior of town businesses, town households, and local government vis-a-vis regional income multiplication and distribution. In particular the three items of most interest include:

- An examination of the constraints of input and capital equipment use by town businesses and bottlenecks in the supply of urban produced farm inputs to the agricultural areas,

- An analysis of the expenditure patterns and income diversification strategies of different town households, and

- An investigation into the impact of various patterns of local government expenditure and revenue generation on farm and town production and income.

National Discussion of Alternatives and Strategy Selection

Effective implementation of a national urban strategy requires a broad national consensus for the allocation of investments between regions and between urban and rural areas.

Consider the goal of reducing the growth of the largest center in the country, Niamey. There appears to be a widespread belief that Niamey is, in general, becoming too big, too fast. With a population of just under 400,000 Niamey is still a rather small city by world standards, however, and accounts for only about 5.5 percent of the total population. It is growing at a rate of only about 4.5 percent; many smaller towns and cities are growing at a much faster rate. Moreover, Niamey will continue to have an increasingly smaller share of national urban population. It is not clear that reducing the growth of Niamey makes sense from a national efficiency or economic growth point of view, or is even possible without draconian measures. Measures to reduce the growth of Niamey are likely to have a negative impact on the rate of growth of GNP. In addition, other countries have found that reducing migration to the largest city is both extremely difficult to implement and consumes considerable amounts of resources with limited effectiveness.

On the other hand, there are, of course, problems with the equitable delivery of public services and the distribution of employment and income both within Niamey and between this region and other areas of the country. The best argument for reducing the growth of Niamey is perhaps that it is consistent with the stated objective of dispersing economic growth throughout the nation by stimulating rural and agricultural development. A decentralized settlement pattern is more consistent with the development of agriculture and natural resources.

However there are also important trade-offs to be considered in the discussion of reducing inter-regional disparities. More extreme anti-urbanists might argue that even the growth of Maradi and Zinder must be reduced in favor of smaller centers. However, this would be unwise from both the efficiency and distributive points of view. In terms of economic growth considerations it is likely that agglomeration economies still obtain, making the two places attractive for the stimulation of aggregate economic growth. In addition, the towns may have the potential to serve as population "counter magnets". That is, the two centers can probably aid in dispersing population by providing alternative migration sites to

Niamey. In addition these two centers are important distribution centers for the intermediate goods and production inputs needed by both urban and rural producers in the outlying regions.

The culmination of this discussion should be the selection of the most appropriate strategy for urbanization in the Republic of Niger. The goal of these recommendations is not to propose a specific strategy, but to suggest a process for arriving at a reasonable and effective urbanization strategy.

Policy Measures and Regional Implementation

The next step in establishing a national urban development strategy concerns the adoption of appropriate policies and programs to achieve the various goals. In this regard, attention must be paid to the indirect spatial effects of non-spatial policies, to the consequences of overt spatial policies, and to the potential conflicts among all types of policies and programs. Non-spatial policies with spatial consequences include most traditional macro and sectoral policies, for example, exchange rate policies, import substitution policies, export promotion polices, government fiscal and monetary policies, agricultural commodity pricing policies, and credit policies.

Spatial policy tools include decisions on the location, scale, pricing, and financing of directly productive and social overhead infrastructure and tax and subsidy incentives for industrial location and relocation.

An example of policies in conflict might be the simultaneous promotion of policies which discourage exports, for instance a livestock export tax, together with general policies to encourage the development of the agricultural or livestock sectors.

Although the analysis of the urban system should reveal the overall hierarchy of places, with limited resources there is trade-off between channelling an equal but very small sum to every market center in the country and selecting those centers with reasonable potential and making more sizable investments which may be sufficient to generate additional economic growth. The types of policies and programs employed will be a function of the specific objectives and the regions and towns selected to receive attention. Following are some examples of potentially fruitful areas of policy action. These examples are derived from the research and pertain to the third and fourth levels of the urban hierarchy described above.

At the third level in the hierarchy, financial services, in general, and credit programs, in particular, seem to be areas that demand some concentration. As has been mentioned urban production levels are low and the output of many small firms is constrained by low levels of intermediate input and capital equipment utilization. Many producers forgo these expenditures due to limits on available capital. The extension of credit to small scale producers in the second and tertiary sectors to be used for the purchase of inputs and for investment in equipment would go a long way toward alleviating the bottleneck. Other measures that would help facilitate the increased use of inputs would be to establish some

means of increasing the available stock of (perishable) inputs by perhaps reducing the risk associated with stocking those inputs with variable demand. In addition, certain tax incentives (eg. tax holidays) may stimulate the start-up of new manufacturing and service activities, encourage the relocation of others, and aid in the establishment of secondary branches of still others, thereby increasing urban output. Finally, improved transport routes linking the third and fourth levels of centers would facilitate the delivery of urban output to be distributed as inputs to farm production.

Improved transport links to fourth order places would also help in the marketing of agricultural output, especially in areas of enclavement. At present poor marketing outlets from rural service centers to higher order places in some regions serve as a general disincentive to agricultural production, commercialization, and specialization. Better communication of the income earning possibilities of contre saison production may also help to stimulate farm output and better communication and coordination between farmers, traders, and transporters would facilitate the efficient marketing of perishable products. Finally, farmer credit programs, perhaps located in fourth order centers, may help stimulate expenditure on and use of productivity enhancing current and capital farm inputs.

A final area for consideration is the need for continuity and consistency in the area of national urban policy. Urbanization and national development are slow and at times cumbersome processes which can be guided, but are quite resistant to radical reorientation. For a strategy to have a constructive influence on these trends it must be coherent and stable over a period of years. Twenty years is not an unreasonably long time horizon for policies designed to achieve a more balanced spatial distribution of cities. Policies that change every five years or more frequently are likely to have a deleterious effect and exacerbate growth at the center since businessmen and other investors are likely to hedge their bets in an uncertain policy environment by putting all their money into the most likely growth area.

Recommendations

While it is not within the scope of this report to dictate the dimensions of a national urban strategy for Niger, there do appear to be a number of specific policy areas that need special attention. They are highlighted here for the purpose of illustrating the types of issues that should be addressed by policies within the context of a national urban strategy. The adoption of programs and investments in these areas would strengthen rural-urban linkages and support the development of both the agricultural and the non-agricultural sectors.

Transportation Infrastructure

Better infrastructure in the form of roads and storage facilities would aid the distribution of farm inputs, particularly fertilizer where there are currently a number of problems. Technical staff in Dogon Doutchi, for example, complained that although farmers in the region were accustomed to applying fertilizer, poor roads and storage facilities were an important constraint in making such inputs readily available to them.

In addition, better roads in regions that are currently isolated enclaves would facilitate the marketing of farm produce and provide an incentive for increasing production and specialization. Fadama in Dogon Doutchi Arrondissement provides a classic example of a relatively rich agricultural area where poor farm output supply routes stymie commercialization and specialization of production. Other sites include Dogon Kiria in the northern part of thie same Arrondissement and numerous contre-saison production sites in Tessaoua and Aguie Arrondissements.

Finally better transportation infrastructure might facilitate farmer access to town-based sources of income. Many villages are effectively cut-off from urban places further up the hierarchy. Poor access to these centers constrains the ability of farmers to garner wage and investment income which might be used to improve agricultural productivity.

Market Facilities

The most frequent demand for assistance expressed by local government officials was for improved market facilities. Such facilities would consist primarily of an open air hangar constructed of permanent materials such as a concrete foundation, a steel superstructure, and a tin roof. A partial case for this kind of facility can be made on the grounds of improving public health and sanitation. However, since such investments are likely to have little direct productivity-enhancing consequences, another indirect yet important benefit should be considered. Market taxes are an important source of local revenue, but most merchants already complain that taxes are too high. With improved market facilities it was stated that it would be possible to raise market taxes without causing widespread dis-satisfaction with local authorities. Other market facilities requested include: play areas for children, sanitary facilities, drainage systems, and potable water sources in the market area.

An additional possibillity for exploration would be the construction of warehouses in the market area owned by the collectivité that could then be rented to traders who frequented the market. This would both raise local revenues, but also provide an important service to merchants needing temporary or semi-permanent storage facilities for their wares.

Construction of Taxi Stations

A similar rationale was expressed by local officials for the construction of taxi stations (autogares). If a collectivité can build a taxi station, it can collect fees from each truck or taxi that picks up or discharges passengers in the town. In larger towns and in towns located on the paved highway, this can be an important source of revenue.

Credit

Subsequent to the failure of the Caisse Nationale de Credit Agricole (CNCA) the lack of credit for farm inputs is an acknowledged problem. The Ohio State study of rural credit options paints a bleak picture for a rapid re-vitalization of this key component. The authors do cite a variety of informal channels for acquiring capital in the rural areas, including savings

associations, money-holders, and the ability of at least some individuals to buy on credit from retailers who have in turn received credit from larger wholesalers. In this study it was not possible to document with any greater precision these informal networks, however the lack of money for investment in tools, equipment, or increased inventory was one of the most widely cited problems in our survey.

While recognizing that individuals at the local level consider credit as a giveaway program rather than a loan--which makes them eager to request such programs, the economic importance of a functioning credit program for encouraging private investment in needed infrastructure and equipment can not be over-stressed. It would not only allow those farmers interested in purchasing fertilizer to do so, when it is available, but it would permit entrepreneurs engaged in town business activities to expand production of needed intermediate goods. Other investors could, in turn, purchase much needed capital and intermediate inputs where they cannot now afford them. However, given recent donor experience a large scale effort by foreign donors does not appear appropriate at this time, but innovative strategies to provide alternative credit sources at the local level should be encouraged.

Business Incentives

Tax and other incentives for the investment in and operation of small scale manufacturing and service production activities might help to expand town economic production, generate employment, and multiply income earning opportunities for rural and town households. Examples of such incentives include tax incentives for lowering the start-up costs and operations of new firms and tax incentives or for the relocation of existing firms. In pursuing such a strategy, careful consideration must be given to evaluating the trade-offs between the additional revenue and economic activity generated by the tax incentives and the loss to local treasuries due to the reduction in taxes. However when appropriately applied such measures can create important new investment incentives.

In addition the provision of small scale or artisanal "industrial estates" might promote alternative investment opportunities in important secondary activities. By encouraging small scale manufacturers to locate in proximity to each other, economies of scale could be realized for the group purchase of inputs, sale of outputs to larger dealers, and even the extension of small business training programs and credit.

Building Administrative Capacity at the Local Level

The lack of adequately trained manpower at the arrondissement level appears to pose a considerable constraint to decentralization prospects and to the ability of market towns within those arrondissements to provide the basic services needed to stimulate more rapid economic development. Given the key role of the Service Arrondissement du Plan (SAP) in the planning and budgetary process, additional training for cadres in these areas seems essential. The head of the SAP should, in theory, function as the arrondissement equivalent of the Secretaire Générale Adjointe (SGA) at the department level who is the head of the

Direction Départmentale du Plan and at teh same time is a key advisor to the Préfet. In reality the lack of trained cadres at the arrondissement level prevents the smooth functioning of this kind of relationship. At least one Sous-Prefet that we interviewed stated that he needed a well trained assistant to help him oversee the variety of development projects in his jurisdiction. Careful consideration should be given to the expansion of technical training assistance at this level.

Other technical training needs include better revenue collection and tracking systems, especially for market related taxes and patantes. We were surprised to learn that in many arrondissements, the secretary who functions as the comptroller could not give us a detailed breakdown of revenues by market towns, since the preceptors (tax collectors) keep receipts for several markets in the same book, making it impossible to track collections by individual markets. This poor fiscal management could be alleviated by in-country or regional training programs designed to improve revenue collection efficiency and the management of fiscal data to aid in that task.

Increasing Local Fiscal Control

In addition, arrondissements have only a limited ability to impose new taxes or user fees without getting clearance from the department level or higher. This makes it difficult for arrondissements with particularly costly needs to finance these projects from their own budgets, creating a dependence on outside sources of funding. Along with the authority to establish their own budgets, this level of government should be given greater authority to establish the levels of revenues needed for a given year and to set user fees and/or taxes to finance them.

When revenues are likely to be insufficient, collectivités have the option to borrow money from the Caisse des Prêts des Collectivités Territoriales (CPCT). However at least one mayor admitted that they preferred not to go into debt to finance infrastructure or development projects. While it is not a good idea to increase debt levels without developing appropriate financial management capabilities, it should be recognized that increased debt levels are going to be necessary to finance the substantial urban investments required by collectivités in the next few years.

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APPENDIX A

Market Town Development Research Methodology

What follows is a brief description and explanation of the research methodology employed in studying the economic aspects of market town development in Niger. The purpose of the study, conceptual orientation of the approach taken, operationalization of the model, and implementation of the research instruments are discussed in turn.

Purpose

The major purpose of the market town study was to describe and analyze the potential role of market towns as growth centers in Dosso and Maradi Departments. It was of special importance to develop an understanding of the different roles that towns of various sizes and types play in their respective regional economies. Significant in this regard was an emphasis on investigating the economic relationship between town and hinterland in the various regions and between various towns in the regional urban hierarchy.

Conceptual Approach

The approach to the study of market towns focuses on the concepts of rural-urban linkages and regional income multiplication. The framework used in this study recognizes the importance of urban-based functions in promoting efficient rural production. The interactions between urban and rural areas are conditioned by a diverse set of linkages. Implicit in the analysis of these linkages is a model that envisions a mutually beneficial set of interactions between rural and urban areas, including economic, social, and physical interactions.

Each town in a region provides a variety of functions to both its surrounding hinterland and to other towns in the region. Inter-regional linkages provide the mechanisms that tie towns to each other and to cities outside the region. These linkages can take physical form such as roads, railroads, or communication lines; they can reflect social ties including tribal or kinship relationships, and they can assume political or administrative dimensions. The analysis of these functions and the linkages which make them possible gives the analyst insights into the patterns and potential constraints on the movement of goods and services between towns in the region.

Three types of intra-regional economic linkages are considered of paramount importance in analyzing the relationship between a town and its hinterland: production, consumption, and income. Rural-urban production linkages are defined as the flow of intermediate and capital goods between rural and urban areas. Consumption linkages are the flows of consumer goods and services between town and hinterland. Finally, income linkages are the myriad rental, interest, wage, and profit income flows between centers and their surrounding areas.

The concept of regional income multiplication is concerned with how the regional value added or income that is generated in the production process is multiplied through successive rounds of increased production expenditure by firms and consumption expenditure by households. Thus rural-urban economic linkages can be thought of as the means through which income is multiplied. The ultimate goal is to discover ways of building and strengthening important economic linkages that facilitate the generation and multiplication of regional income.

Operational Model

The basic idea, operationally, is to describe empirically and analyze the important production, consumption, and income flows in the various regions under study. Both the process of carrying out the empirical exercise and the data that are derived from the study should reveal strengths and/or weaknesses in the development of economic linkages and the process of income multiplication.

In order to estimate empirically the production, consumption, and income flows in a region, one would like to survey all key economic actors in a region for expenditure and revenue information. That is, one would like to survey both farm and town production activities to determine volume and location of inputs purchased, volume and location of sales, and volume and location of value added generated. In addition one would like to survey farm and town households for volume and locational information concerning expenditures and income. Given data such as these, one could specify rather precisely the extent and strength of all salient regional economic linkages in a particular place. The income multiplication effects of, say, promoting various economic activities follows directly. A research effort such as this would obviously be quite time consuming and expensive, however. A more efficient methodology was sought in connection with this study.

The flows of producer and consumer goods and services and income begin in the first instance with production activities. As such, an investigation which concentrates it efforts on economic enterprises will be able to give at least a modicum of information on all relevant linkages in a particular region. In addition, since all rural-urban flows will have either their origin or destination in an urban area we can further restrict our attention to urban production activities. That is, a thorough analysis of urban economic enterprises can provide basic information on regional production, consumption, and income flows. Enterprises use intermediate goods and capital equipment in their production processes which allows for the garnering of information on the flow of producer goods, that is, on production linkages. Production activity output consists of both producer and consumer goods which provides an opportunity for the collection of more information on producer flows, and in addition, for the amassing of data on the flow of final goods and services, that is, on consumption linkages. Finally, enterprises generate value added of many types, thus providing for the collection of some information on income flows.

Surveys had to be designed to collect basic information on the inputs, outputs, and value added of all types of economic activities in various towns. This implies at least two distinct needs. One need was to have an idea of the entire range of economic functions in

a particular place and the numbers of economic activities of various types. Secondly, flow information regarding each type of activity's inputs, outputs, and value added was needed.

Given the above needs, four questionnaires were designed for the study: an inventory of economic functions, a survey of fixed economic enterprises, a trader survey, and a transportation survey. The purpose of the inventory was to provide data on the types and numbers of fixed manufacturing, commercial, and service firms operating in the various towns. An additional objective of the inventory was to provide for the collection of information on existing education, health, administrative services, and various types of infrastructure.

The three other surveys were designed to provide data on the purchase and use of intermediate and capital inputs, the sale of output, and the generation of different types of income including rental income, wage income, and profits of fixed businesses, market trading activities, and transportation enterprises. Information collected was limited to locational data on major input purchases, sale of primary output, and wage and capital services income. These surveys also provided for the collection of basic information on the profile of owner-operators and their businesses and on specific problems owner-operators faced in carrying out their businesses. The four questionnaires are found at the end of the appendix.

Implementation

An inventory survey was carried out for each town. The entire geographical space of each town was covered by the researchers and enumerators so as to get an accurate count of all fixed businesses and other functions. The inventory survey was implemented on non-market days so as to count only those businesses which were actively doing business more or less consistently throughout the week. The inventory provided information on the complete range of firms actively operating in the towns and the numbers of firms of various types. In addition the inventory provided a count of education, health, and administrative functions as well as an idea of the basic infrastructure available.

This above information was then used to draw a representative sample of fixed manufacturing, commercial and service sector businesses. An effort was made to sample randomly, although due to time and other resource constraints this was only approximated. Each fixed enterprise in the sample of businesses was then interviewed concerning locational information on input purchase, output sale, and value added generated.

The trader and transportation surveys were implemented on market days. The market itself was first informally surveyed for the types or categories of trading and transportation activities present. Given that knowledge, a representative sample of traders and transporters of different types was drawn and individuals within the various trader and transporter categories were selected to interview. Again, random sampling was only approximated. Interviews with traders and transporters collected the same basic information as for the fixed business operators. That is, data was garnered on the locational aspects of input purchase, output sale, and value added generated as well as on basic establishment characteristics and constraints.

The output of the surveys consists of an inventory of economic activity, by sector, of all towns studied and data on the location of purchase of major inputs, sale of output, and generation of value added for all types of economic activities in the towns including, fixed businesses of all types, trading activities, and transportation activities. In addition, information was garnered on basic social, administrative, and infrastructure services as well as basic economic establishment characteristics and problems faced.

APPENDIX DATA

FIXED BUSINESS PROBLEMS IN DOSSO AND MARADI DEPARTMENTS

	DOSSO				MARADI			
	MAN	DIS	SER	TOTAL	MAN	DIS	SER	TOTAL
NONE	2	4	0	6	8	8	4	20
DEMAND	3	15	2	20	6	10	2	18
PM SUPPLY	7	0	3	10	13	2	1	16
CREDIT	2	1	1	4	6	4	4	14
TAXES	0	1	1	2	0	0	1	1
OTHER	1	3	0	4	1	1	1	3
TOTAL	15	24	7	46	34	25	13	72

APPENDIX B

Questionnaire Used in Niger Market Town Study

ENQUETE DE VILLE MARCHE

Nom d'enquêteur ----------

Date ----------

Ville / village ----------

Arrondissement ----------

Département ----------

ENQUETE DE VILLE MARCHE

Inventaire des Fonctions Economiques

Comptez le nombre de chaque type des firmes manufactures

Moulin des graines

Moulin des autres produits ----------

Production d'huile

Abbatoir / sechoir

Tannerie

Laiterie

Maroquinier

Production mineraux (Sel, natron)

Forgeron

Menuisier

Maçon

Tisserand

Tailleur

Potterie

Boulangerie / Parisserie

Soudure

Bijouterie

Autres production Artisanale ou industrielle

Comptez le nombre et l'espèce de structure des firmes commerciales

Type de firm .	Espèce de stand		
	Fixe	Etal	Plein Air
Foin pour le bétail			
Abris pour les betails			
Bétails vollailles			
Collecteur de peau			
Instrants pour l'Agriculture (engrais, semences, etc ...)			
Quincaillerie - outillage, etc ...			
Véhicules			
Pièces détachés pour véhicules			
Station d'essence			
Equipement de bureaux			
Magasins de stockage, entrepôts			
Produits frais (légumes, fruits, etc)			
Viandes			
Condiments			
Autres espèces d'alimentation			
Vêtements, chaussures, tissus			
Librairie			
Marchandises de ménage et cuisine			
Divers marchandises			
Bois de cuisine			
Boutique coopérative			
Produit Pharmaceutique :			

Céréal			
- Niébé, voendzou			
Restaurant, nourriture préparée			
Bar - autres boissons			
Matériaux des constructions			
Ventes de l'eau			
Hotel			
Autres.			

93

Comptez le nombre de chaque type de firmes services

Vulcanisateur charge de batterie - réparation pneut

Location de décorticeuse

Réparation des cyclomoteur et bicyclettes

Réparation de vehicules

Réparation des équipement électriques

Réparation des moteurs, groupements, etc.

Banque (& autres services financiers)

Assurance

Réparation des chaussures

Réparation d'autres choses

Studio photographie

Coiffeur

Blanchisseur

TRANSPORT :

- Camions
- Bâchets
- Taxis
- Charrettes

Autres services

Services religieux

- Mosquée
- Eglise
- Autres _____

84

Services Educatifs

Jardin d'enfants

Ecole Primaire

C. E. G.

Lycée

Ecole Technique

Ecole Normale

Ecole Franco - Arabe (Medersa)

SERVICES MEDICAUX

Centre Médical

Poste médical

Dispensaire rural

Pharmacie

Dépôt de produits pharmaceutiques

SERVICES ADMINISTRATIFS

Poste de police

Poste des pompiers

Service de vulgarisation

Vétérinaire

Coopératives

Affaires sociales

Bureau de poste

Maison des jeunes

Case de passage

Maisor de samariya

Terrain de sport

Autogare

95

SERVICES DES INFRASTRUCTURES

Type	Govt.	Firms	Publique	Menages
Téléphone				
Electricité				
Eau potable				
Système d'égout				
Voirie.				

ENQUETE DE VILLE MARCHE

Nom d'enquèteur ----------

Date ----------

Ville / Village ----------

Arrondissement ----------

Département ----------

ENQUETE DE VILLE MARCHE

Deuxième partie: Etude des établissements (fabricants, service, commerçants fixes)

A. Profil des Etablissements

1. Nom/sexe de propriétaire: ----------

2. Résidence de propriétaire. ----------

3 Depuis combien de temps habitez - vous ici ----------

4. Travaillez vous sur place ?

5. Dans quelle année est-ce que cette firme etait établie ?--------

6. C'est quelle espèce de firme?(Choisissez parmi les fonctions de l'inventaire)

7. Exercez vous d'autre activités secondaires (agriculture inclus)

8. Citez ces activités secondaires : ----------

9. Quelle est le produit ou service le plus important de votre établissement ?

(a) ---------- (b) ----------

B. LES ACHATS / INPUTS

1. Quels intrants(matières premières ou marchandises)sont les plus importants ?
(a) ---------- (b) ----------

2. Normalement est-ce-que vous achetez ces intrants(ou marchandises):

dans cette ville/ce village ?:

(a) ---------- (b) ----------

dans la zone rurale autour de cette ville/ce village :

(a) ---------- (b) ----------

dans les autres villes : (précisez)

(a) ---------- (b) ----------

dans les autres endroits (précisez):

(a) ---------- (b) ----------

3. Où est-ce que ces intrants (ou marchandises)sont produits ?

(a) ---------- (b) ----------

C. LES VENTES

1. Est-ce que vous vendez aux clients qui viennent de :

cette ville/ce village ?:

(a) ----------(b) ----------

de la zone rurale autour de cette ville/ce village :

(a) ----------(b) ----------

des autres villes (précisez) :

(a) ----------(b) ----------

des autres endroits précisez):

(a) ----------(b)----------

2.Est-ce que vos produits sont exportés d'ailleurs? ----------

D. L'EMPLOI

1. Combien d'ouvriers ya-t'il dans cette entreprise ? ----------
2. Combien d'eux sont membres de votre famille ? ----------
3. Combien d'eux travaillent ici régulierement ? ----------
4. Combien d'ouvriers payés habitent de : ----------

cette ville/ce village ?

la zone rurale autour de cette ville/ce village?----------

des autres villes? (précisez) ----------

des autres endroits? (précisez) ----------

E. LE CAPITAL

1. Quels sont les outillages les plus importants ? ----------
2. Où est-ce que vous les avez achetés ?----------
3. Etes vous propriétaire de ce bâtiment ? ----------

ou locataire ? ----------

Autres rélation avait le propriétaire?(précisez)----------

4. Si vous n'êtes pas le propriétaire?où habite ce dernier?préciser
5. Le bâtiment est construit de quel matériaux ? ----------
6. Combien de chambres dans ce bâtiment ? ----------

7. Précisez la grandeur approximative(en metres carrés)de ce bâtiment ? ----------
8. Est-ce que le bâtiment est électrifié par NIGELEC ? ----------
9. Est-ce qu'il y a un groupe pour l'électricité ? ----------
10. Est-ce qu'il y a l'eau courante dans le bâtiment ? ----------

F . LES CONTRAINTES

1 . Est- ce que le climat pour votre entreprise est meilleur aujourd'hui qu'avant ?

2. Est-ce qu'il y avait des problèmes qui posaient des difficultés dans cette entreprise ? (Précisez)

3. Est-ce qu'il y a toujours des difficultés à surmonter(Précisez)

ENQUETE DE VILLE MARCHE

Nom d'enquêteur ----------

Date ----------

Ville / village ----------

Arrondissement ----------

Département ----------

ENQUETE DE VILLE MARCHE

Troisième partie : Etude des commerçants

A . PROFILE DES ETABLISSEMENTS NON - FIXES

1 . Nom / sexe du commerçant ---------- ----------

2 . Résidence du commerçant ---------- ----------

3 . Depuis combien de temps habitez vous ici ----------

4 . Depuis combien de temps vous vendez de produits ici ?

5 . Combien de fois par mois vous vendez des choses ici? --------

6 . Pourquoi est-ce vous venez a ce marché, au lieu des autres marchés ?

(Précisez) ----------

7 . Quels sont les autres marchés dans lesquels vous vendez?

(Précisez)

(a) ---------- (b) ---------- (c) ----------

8 . Par quel moyen de transport vous êtes venus aujourd'hui ?

(Camion, bâché,autobus, voiture privé, moto, bicyclette,charrette à pied, autres moyens)

B . LES ACHATS

1 . Qu'est-ce que vous vendez aujourd'hui ?

(a) ---------- (b) ---------- (c) ----------

2 . Normalement est-ceque vous achetez ce produit :

dans cette ville/ce village ? :

(a) ---------- (b) ----------

dans la zone rurale autour de cette ville/ce village :

(a) ---------- (b) ----------

dans les autres villes : (présisez)

(a) ---------- (b) ----------

dans les autres endroits (précisez):

(a) ---------- (b) ----------

3 . Quel est l'origine de ce produit ?

(a) ---------- (b) ----------

gl

C . LES VENTES

1 . ESE-ce que vous vendez aux clients qui viennent de :

cette ville/ ce village ? :

(a) ---------- (b) ----------

de la zone rurale autour de cette ville/ ce village :

(a) ---------- (b) ----------

des autres villes : (précisez)

(a) ---------- (b) ----------

des autres endroits (précisez)

(a) ---------- (b) ----------

D . LES CONTRAINTES

1 . Est-ce que le climat de votre entreprise est meilleur aujourd'hui qu'avant ?

2 . Est-ce qu'il y avait des problèmes qui posaient des difficultés dans cette entreprise ? (Précisez)

3 . Est-ce qu'il y a toujours des difficultés à surmounter ? (Précisez)

ENQUETE DE VILLE MARCHE

Nom d"enquêteur ----------

Date ----------

Ville / Village ----------

Arrondissement ----------

Département ----------

94'

ENQUETE DE VILLE MARCHE

Quatrième partie : Etude des transporteurs

A. PROFILE DE SERVICE TRANSPORT

1. Nom/sexe du propriétaire ---------- ----------
2. Résidence du propriétaire ----------
3. Depuis combien de temps habitez - vous ici ?
4. Dans quelle année vous avez acheté ce véhicule ?
5. Est-ce que le propriétaire a d'autres activités secondaires ----------
6. Espèce de véhicule et grandeur ? ----------

B. LES VOYAGES

1. Combien de voyages aller-retour ferez-vous aujourd'hui ? -----
2. Quelle est la provenance du premier voyage ce matin ? -------
3. Si vous ne rentrez pas à la provenance, où allez vous ce soir?
4. Quel est la distance d'ici jusqu'à l'origine ? ----------

C. LES FRETS

1. Quel espèce de produits, vous avez amené aujourd'hui ?

(A) ---------- (b) ---------- (c) ----------

(d) ---------- (e) ---------- (f) ----------

Ramenerez ce soir ?

(a) ---------- (b) ---------- (c) ----------

(d) ---------- (e) ---------- (f) ----------

6. Combien de passagers avez-vous amenés aujourd'hui ? ----------
7. Combien de passagers ramenerez-vous ce soir ? ----------

APPENDIX C

Market Linkages in Dosso and Maradi

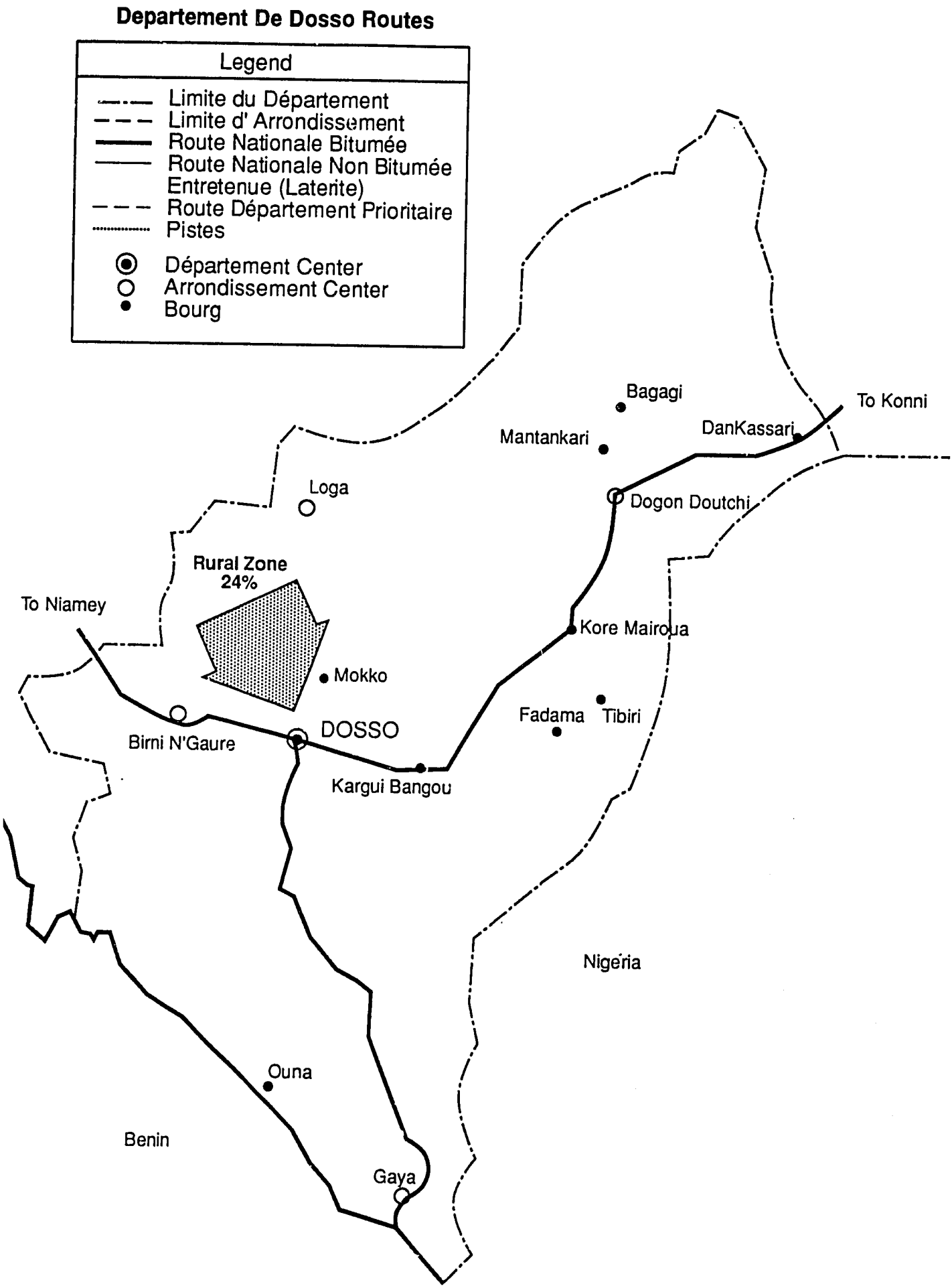

Figure C-1. Trader Attendance at Dosso Market in Percentages

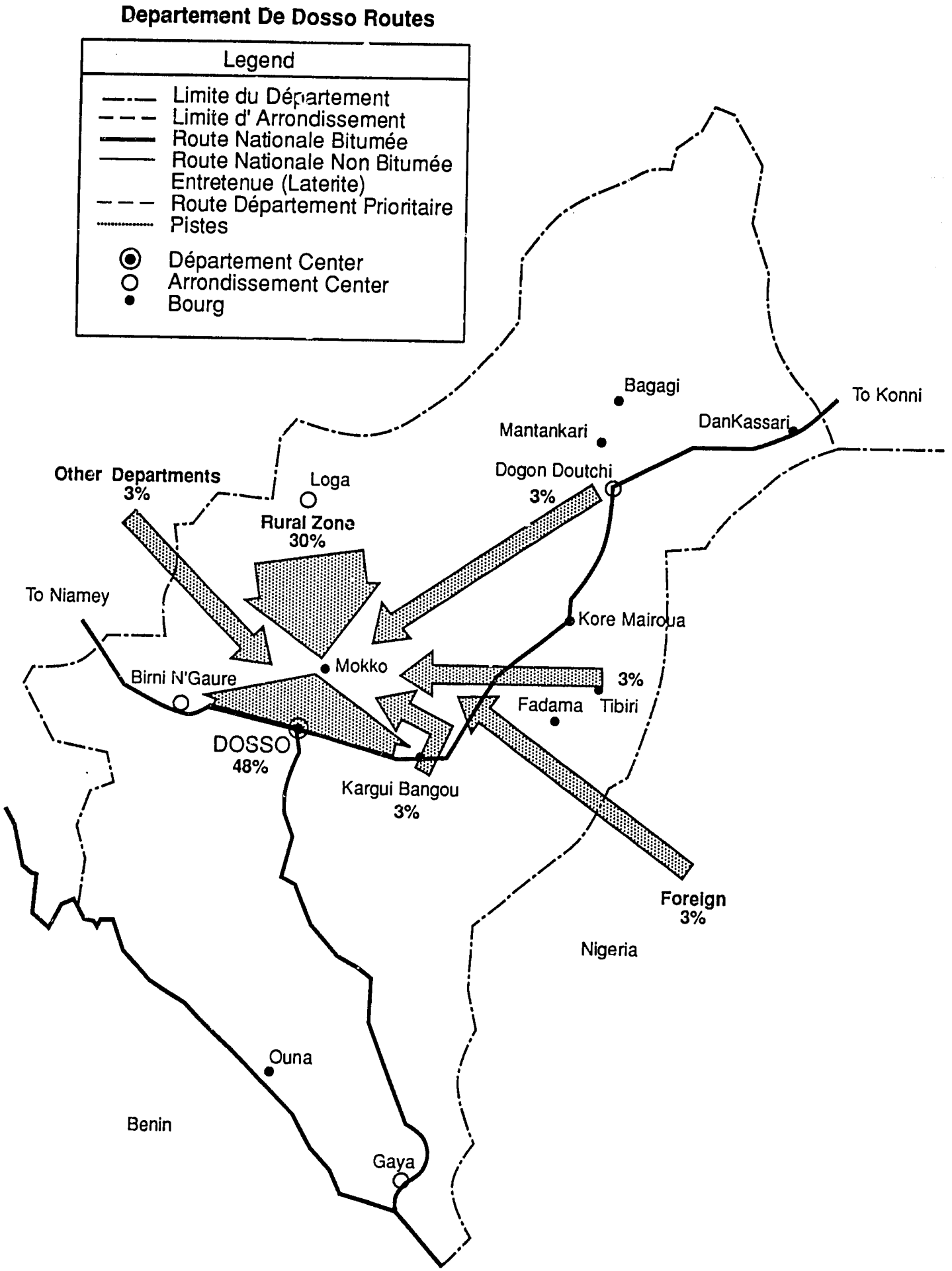

Figure C-2. Trader Attendance at Mokko Market in Percentages

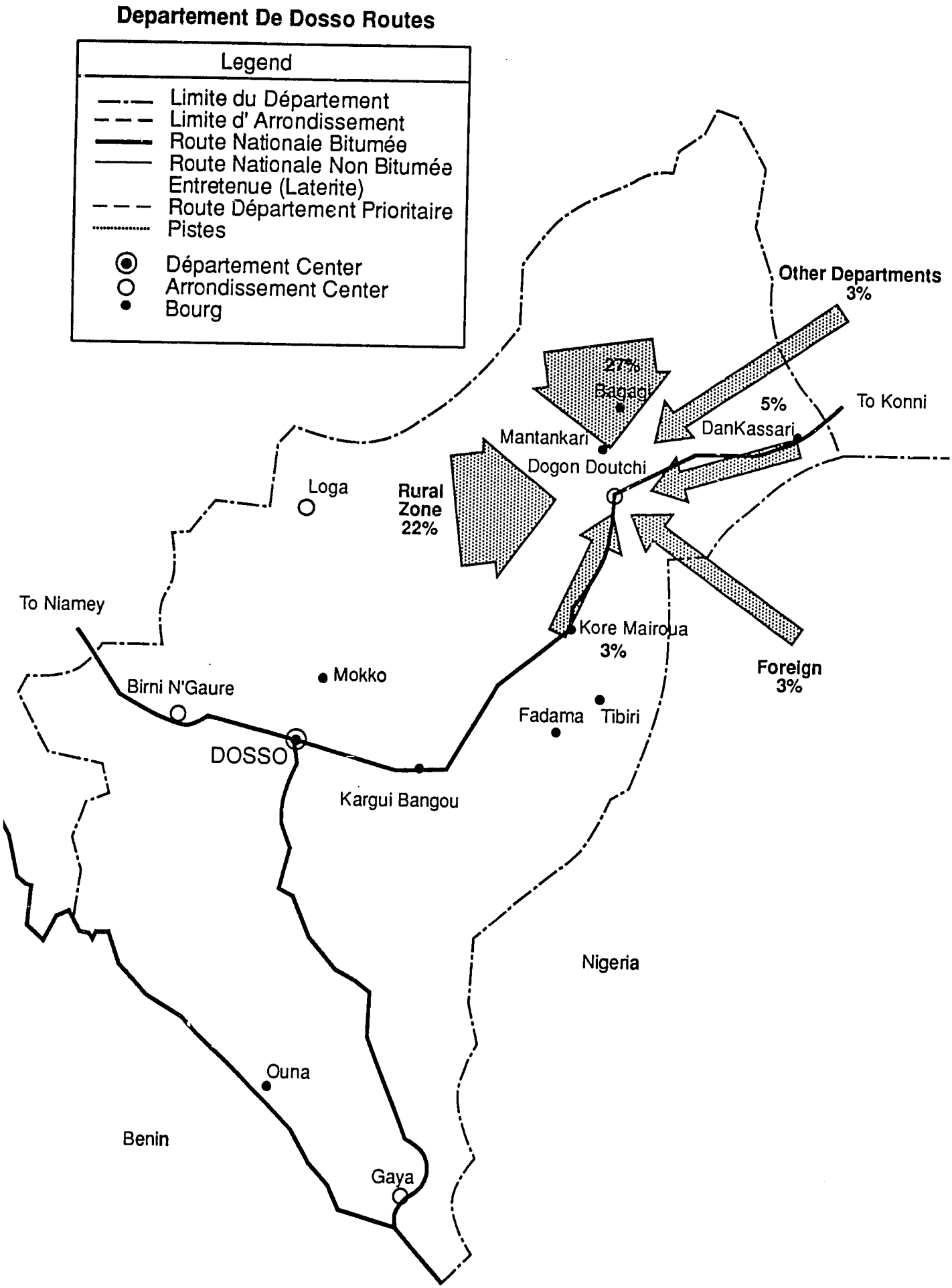

Figure C-3. Trader Attendance at Dogon Doutchi Market in Percentages

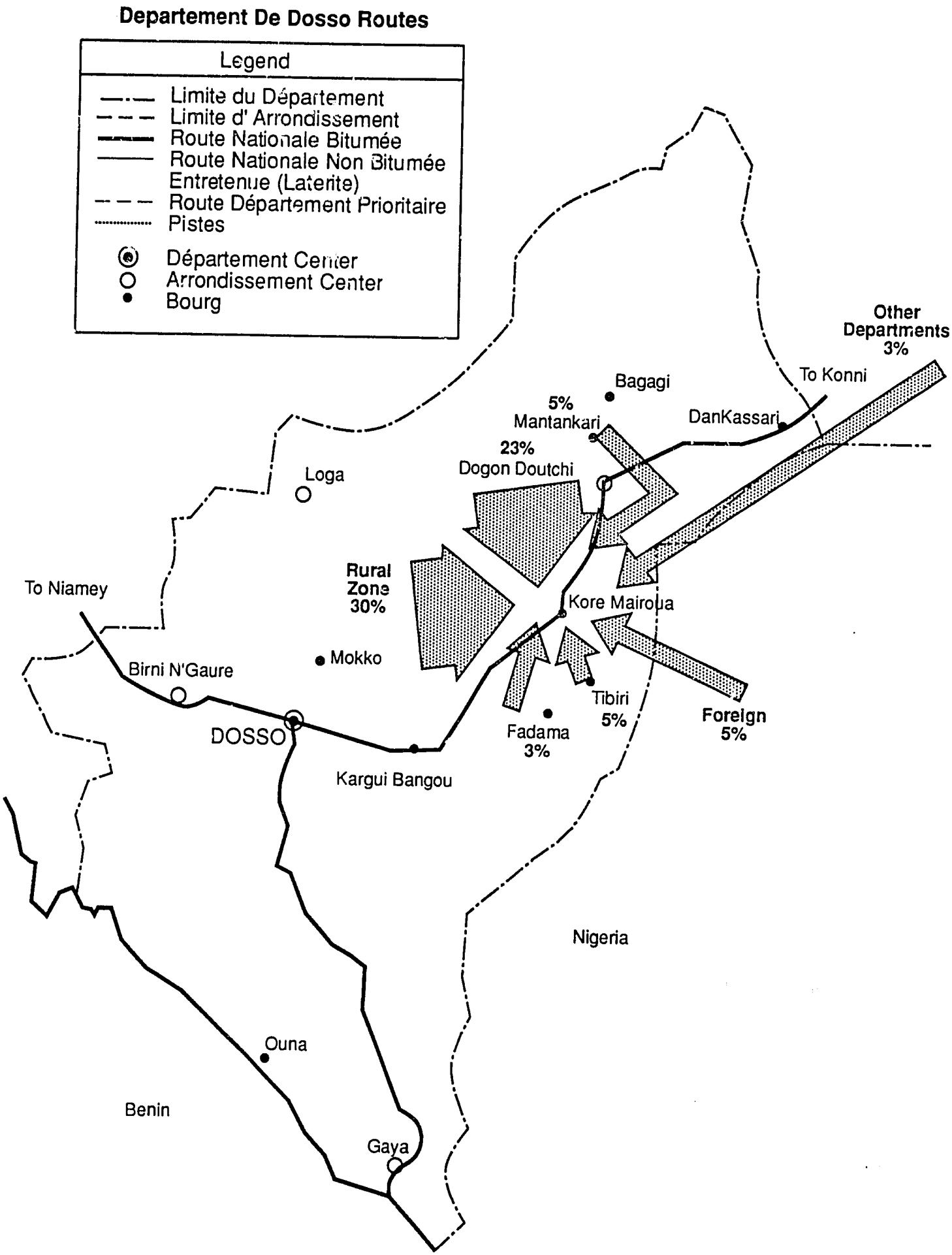

Figure C-4. Trader Attendance at Kore Mairoua Market in Percentages

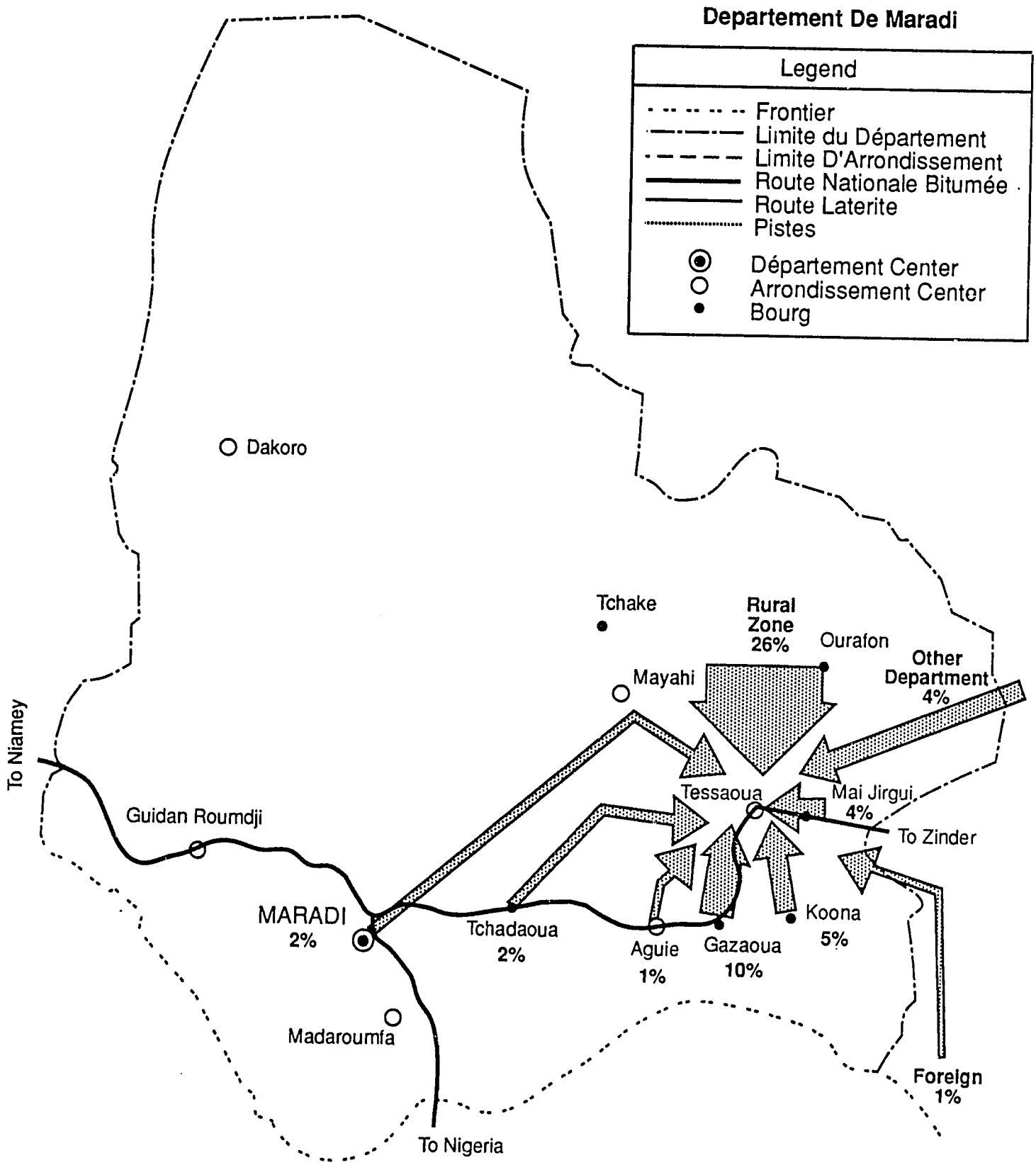

Figure C-5. Trader Attendance at Tessaoua Market in Percentages

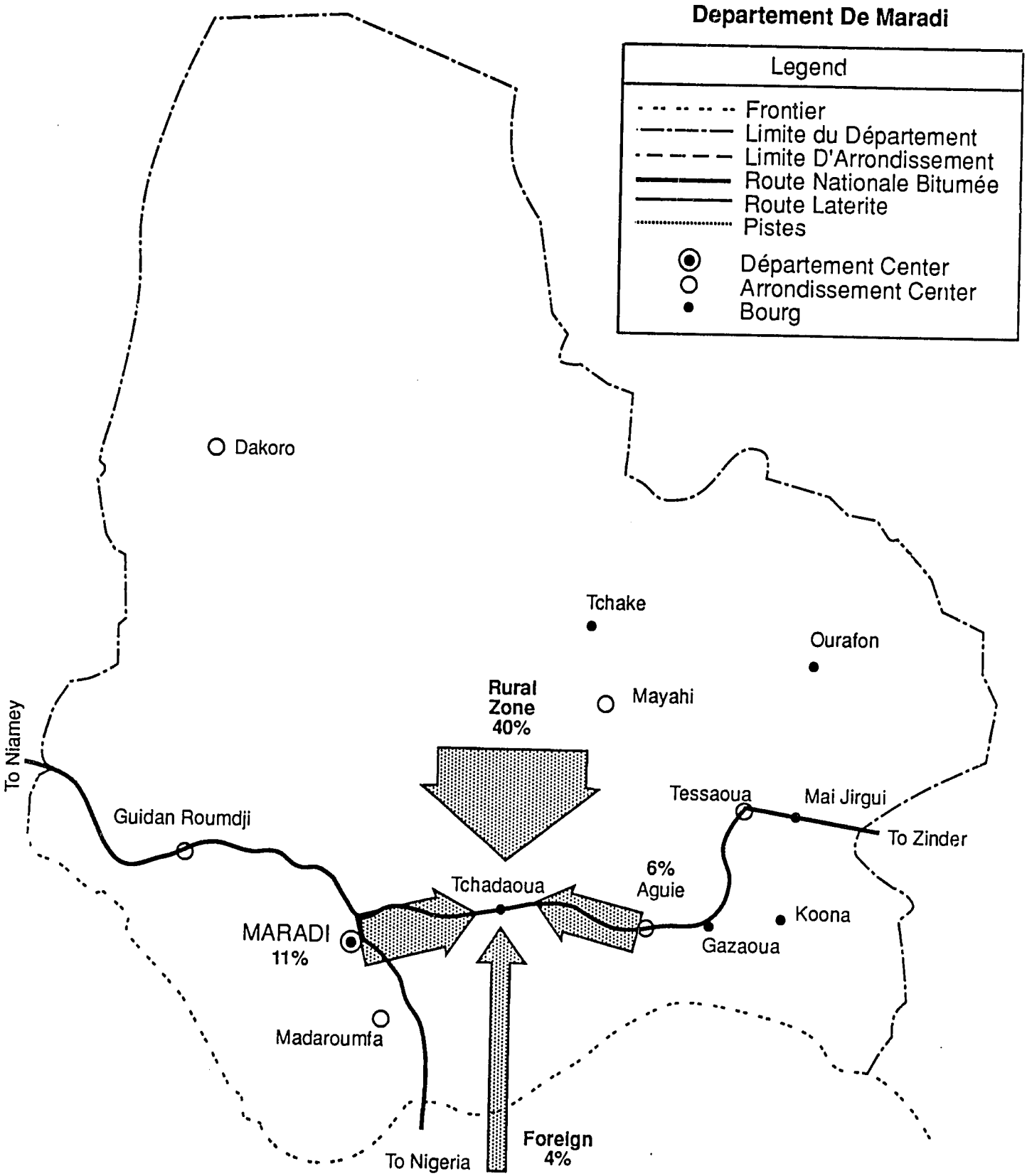

Figure C-6. Trader Attendance at Tchadaoua Market in Percentages

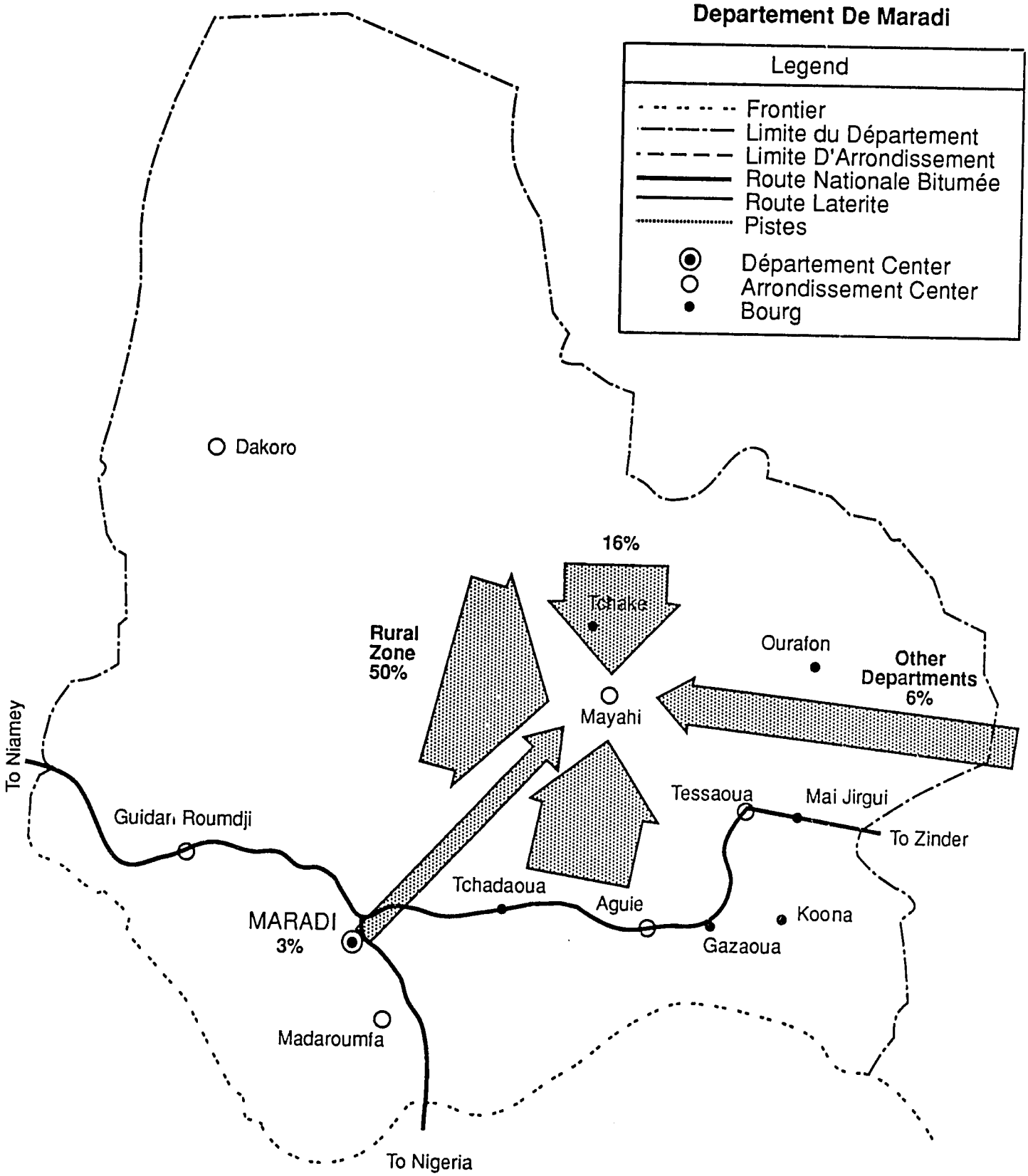

Figure C-7. Trader Attendance at Mayahi Market in Percentages

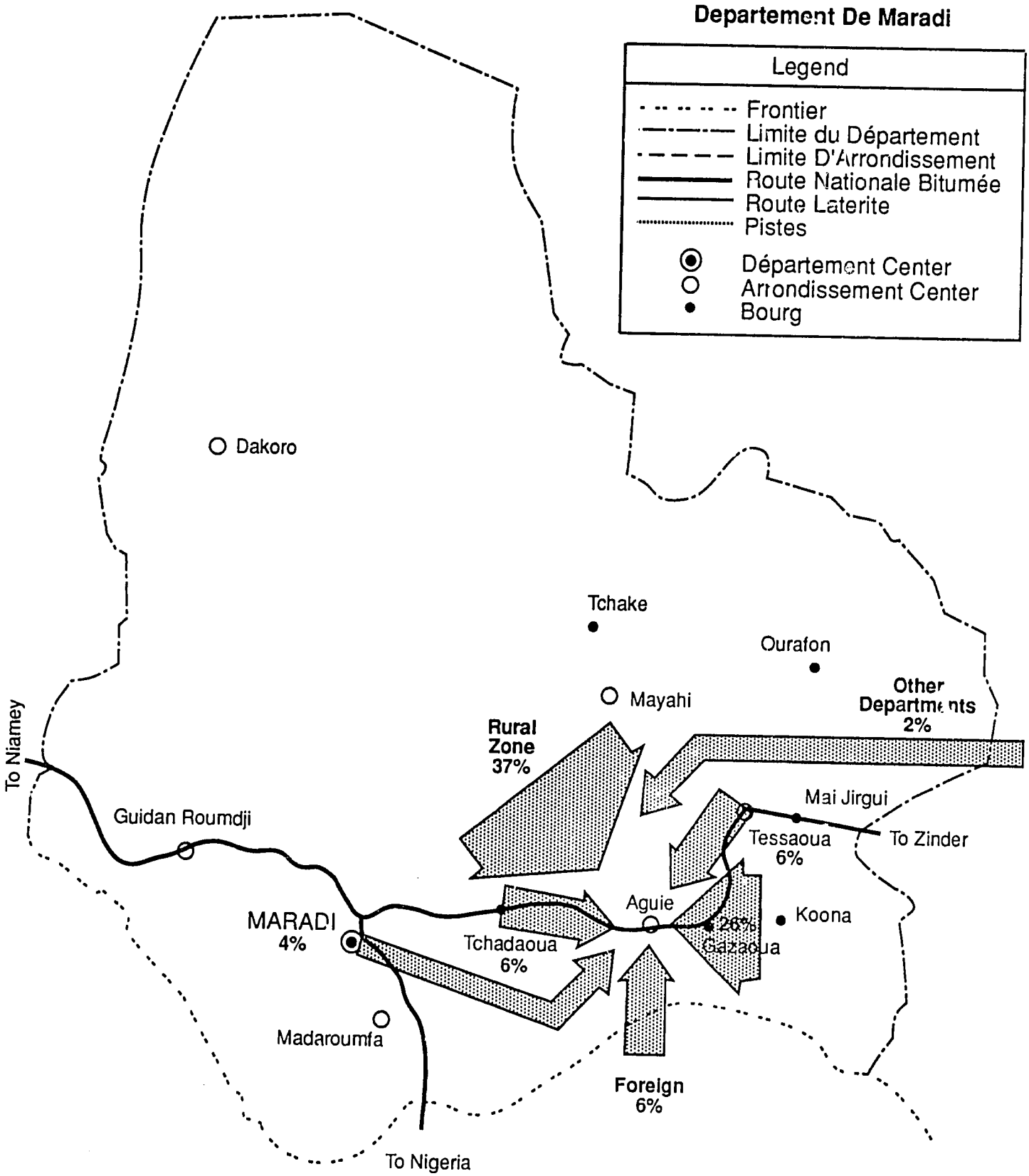

Figure C-8. Trader Attendance at Aguie Market in Percentages