AGRICULTURAL POLICY ANALYSIS PROJECT, PHASE II

Under contract to the Agency for International Development, Bureau for Science and Technology, Office of Agriculture
Project Office Hampden Square 4800 Montgomery Lane Suite 500, Bethesda, MD 20814 • Telephone (301) 913-0500
Telex 312636 • Fax (301) 652-7530 • Fax (301) 652-7791

NIGER:

THE IMPACT OF GOVERNMENT POLICIES ON ONION PRODUCTION AND MARKETING IN TAHOUA REGION:

A RAPID ASSESSMENT OF RECENT DEVELOPMENTS

July, 1991

APAP II
Technical Report No. 120

Conducted Under Contract with Abt Associates Inc. and the Agricultural Policy Analysis Project, Phase II (APAP II)
AID Contract No. DAN-4084-Z-00-8034-00

Prepared for:
United States Agency for International Development, Niger

Author: Ismaël Ouédraogo, Abt Associates Inc.

Prime Contractor: **Abt Associates Inc.,** 55 Wheeler Street, Cambridge, MA 02138 • (617) 492-7100

Subcontractors: **Harvard Institute for International Development,** Harvard University, One Eliot Street, Cambridge, MA 02138 • (617) 495-2164
Food Research Institute, Stanford University, Stanford, CA 94305-6084 • (415) 723-3941
North Carolina State University, Department of Economics and Business, Box 7645, Raleigh, NC 27695-7645 • (919) 737-7187
Abel, Daft & Earley, 1410 King Street, Alexandria, VA 22314 • (703) 739-9090
International Science and Technology Institute, 1129 20th Street, NW, Suite 800, Washington, D.C. 20036 • (202) 785-0831
International Food Policy Research Institute, 1776 Massachusetts Avenue, NW, Washington D.C. 20036 • (202) 862-5600

TABLE OF CONTENTS

LIST OF EXHIBITS

LIST OF ANNEXES

LIST OF ACRONYMS

CFAF	Communauté Financière Africaine Franc
CLUSA	Cooperative League of the United States of America
DGD	Direction générale des douanes
GON	Government of Niger
NEPRP	Niger Economic Policy Reform Program
UNDP	United Nations Development Programme
URSC	Union sous-régionale des coopératives

ABSTRACT

This study analyzes recent developments in the production and marketing of onions based on a six-day field survey in Tahoua region, Niger. It discuses the consequences of new government reforms and concludes with recommendations to help improve the performance of the subsector.

Despite numerous constraints in production and marketing, onion production and exports have expanded in recent years. Producers have increased onion production to counter declining food supplies and revenues from traditional rainfed crops; the Government of Niger (GON) and donors have made important efforts in production projects; and the GON has eliminated export license and taxes and streamlined trade regulations. However, by imposing a statistical form for traders to use in clearing customs this year, the Chamber of Commerce has confused exporters and raised barriers to entry into the subsector.

Recommendations to improve the performance of the onion subsector include market development actions (in a companion document), in-depth study of seed production, and suggestions to counter the adverse effects of recent trade regulations.

EXECUTIVE SUMMARY

This study, requested by USAID/Niger, represents the Mission's first attempt to assess the impact of recent policy changes on Niger's onion subsector, especially in Tahoua region. The short impact study is intended as an input to an onion workshop planned for later this year.

The consultant teamed with Mission staff to conduct a six-day field survey in Tahoua region. The team interviewed GON officials, producers, and traders, and it visited onion fields and storage facilities. Discussions focused on the constraints and opportunities in onion production and marketing, and the impacts on the subsector of government reforms. Particular attention was paid to recent developments in these areas. The report suggests measures to help improve the performance of the subsector.

The subsector faces several constraints. Limited water supply, lack of irrigation equipment, difficult access to credit, and simple cultural practices are major limiting factors in producing onions. Inadequate storage, packaging, and access to market and credit are major constraints in marketing onions. Yet in recent years, onion acreage and production have expanded. For the most part, producers have increased onion production to counter declining food supply and revenues from traditional rainfed crops. The GON and donors also have made important efforts in irrigation and well projects.

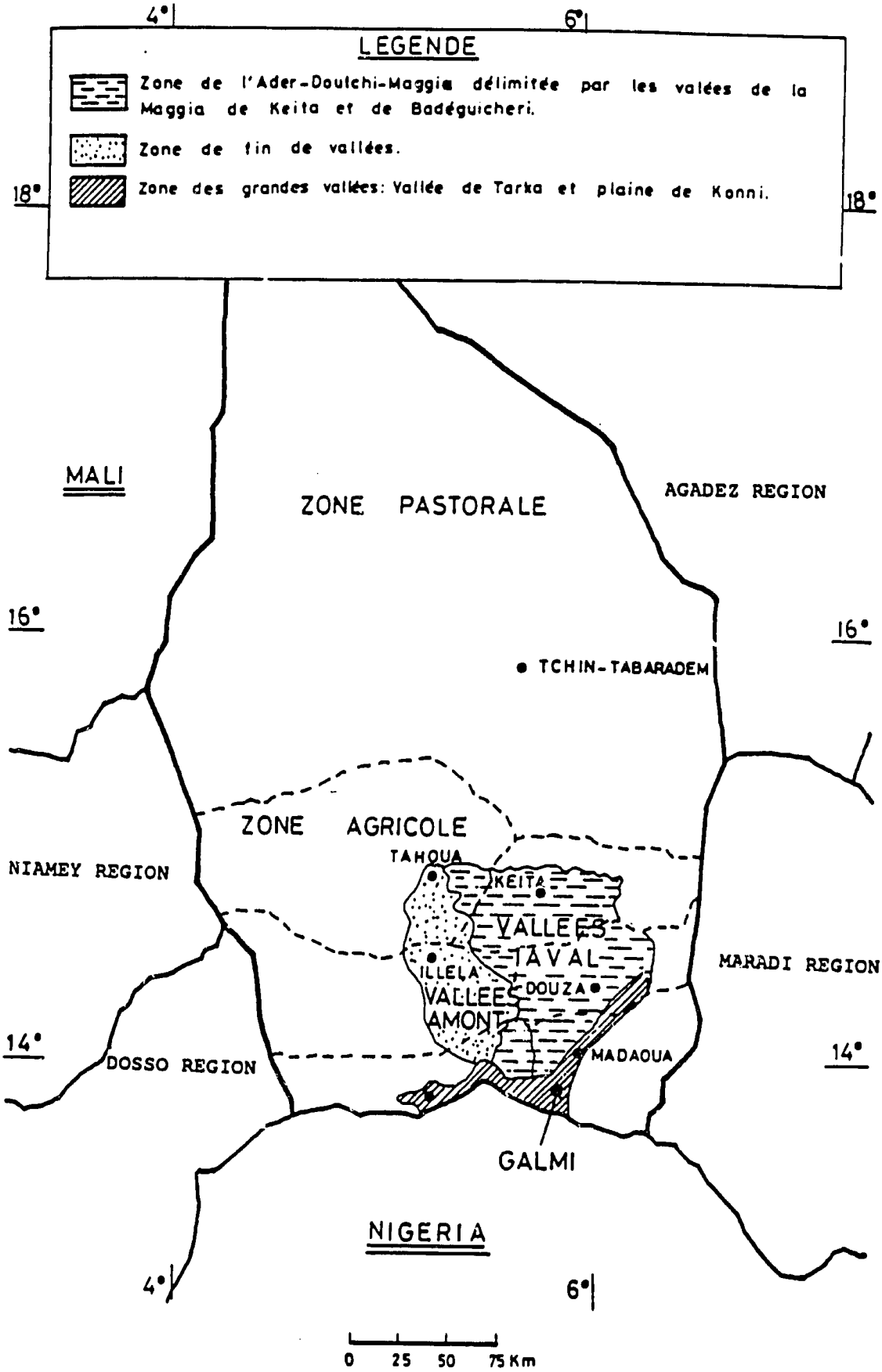
Since 1988, the GON has eliminated export licenses and taxes, and streamlined trade regulations. These measures had favorable impacts on producer prices, competition among traders, and onion exports. Because of lack of data, however, the impact is still hard to quantify. The recent major institutional change in the onion subsector is this year's application of new trade regulations; these rules link the payment of business tax and the collection of data with the one-stop window regulation that is designed to minimize traders' transaction costs. By imposing a fiche d'enregistrement statistique (statistical form) in connection with these regulations, the Chamber of Commerce has confused exporters and raised barriers to entry for many traders.

Several market development actions designed to add value to the subsector were recommended in another study requested by the Mission (see Ouédraogo, 1991). These actions include market promotion and research, and the development of new market technologies in storage, grading, and packaging.

This study further recommends in-depth analysis of onion seed production to help reduce seed costs, and enhance the genetic characteristics of Niger's high quality Violet of Galmi variety. If current practices that trade off seed quality for seed cost are allowed to continue, they will ultimately hurt the subsector.

This study also recommends measures to counter the adverse effects of the new trade regulations: (1) Suspension of the measure related to the statistical form; (2) Assistance to the Chamber of Commerce in export data collection; and (3) Alternative ways to raise revenues for the Chamber of Commerce without increasing transaction costs to exporters or reducing competition in the subsector.

MAP OF DEPARTEMENT OF TAHOUA, NIGER



Source: PLAN QUINQUENAL 1979 - 1983

1. INTRODUCTION

In recent years, the Government of Niger (GON) has introduced several trade policy reforms designed to promote exports of agro-pastoral products. It has eliminated export taxes and licenses, streamlined its business charter, and established a one-stop window (guichet unique) to minimize traders' transaction costs. Through its Niger Economic Policy Reform Program (NEPRP), USAID/Niger was instrumental in the design of these changes. The program reforms support increased participation of Nigerien agribusiness in export-oriented commodity subsectors.

Onions play a key role in Niger's export of agro-pastoral products. The subsector was developed entirely by private entrepreneurs in response to strong demand from neighboring countries; its success led to heavy government taxation, although, thanks to NEPRP reforms, it escaped the heavy hand of a government marketing board. USAID/Niger believes that some other recent GON policy changes also had a positive impact on onion marketing, especially in Tahoua.

The Mission requested "a short impact study of recent GON policy changes on Niger's onion sector, ... based to a large extent on data collected during a 3-4 day trip to Tahoua." This short study represents the Mission's first attempt to measure the magnitude of this impact. The Mission intends to use this report in an onion marketing workshop planned for later this year in Tahoua. The scope of work of the study calls for meetings in Tahoua with traders, cooperative representatives, and GON officials concerned with onion marketing.

From May 3-9, the consultant teamed with Mission staff (Greg Baker, Commandant Saley, and Sidi Mohamed Iddal) to visit Tahoua and its onion growing area (see Map on Exhibit 1 and Itinerary in Annex A). The team met with GON officials and interviewed producers and traders; it visited onion fields and storage facilities. In Niamey, the consultant also visited the Chamber of Commerce (see list of individuals visited in Annex B). The study also makes use of secondary data (see Bibliography). During the consultant's presentation of NEPRP study recommendations to Mission staff, May 13, 1991, he briefly discussed issues related to the onion subsector.

This report analyzes recent developments in the production and marketing of onions based on the short field survey. It discusses the specific consequences of new government reforms, concluding with recommendations to help improve the performance of the subsector.

2. CONSTRAINTS AND OPPORTUNITIES IN PRODUCTION

Onion producers interviewed during the field survey identified several factors that limit onion production in the region. These constraints include water supply and irrigation equipment; seed availability and cost; agrochemical inputs; and credit.

2.1 Water Supply and Irrigation Equipment

The lack of access to water supply and irrigation equipment constrains onion production. In recent years, the demand for these resources has increased. As droughts severely affected food crops, a growing number of farmers engaged in dry-season onion production to raise revenues to purchase food. Exhibit 2.1 illustrates the dramatic increase in estimated onion area and production since 1989 (in Madaoua arrondissement). Similar increases are reported in other areas where water was available. In the Tahoua region, onion production is highest in Madaoua arrondissement, followed by Konni, Keita, Tahoua, and Illéla.

Exhibit 2.1

Onion Area and Production in Madaoua

Year	Area (Ha)	Production (Tons)
1983	360	14,000
1984	400	16,000
1985	450	18,000
1986	(NA)	(NA)
1987	(NA)	(NA)
1988	802	24,536
1989	822	29,120
1990	1,600	48,640
1991	1,850	51,800

Source: Mahatan Cheferou in Madaoua

In recent years, the GON and donors have made significant efforts to improve water supply in Tahoua region. In 1984, the GON successfully settled former nomads along the 17-km long Tabalak Lake; these farmers have recently started growing onions in place of irrigated wheat. According to local accounts, Tabalak onion production is among the highest in the region, and the potential of the lake has not been fully tapped. A new irrigation scheme funded by donors started in Kollé (Madaoua) this season. The team found other schemes in the Keita area.

Yet, some government officials note that donors tend to concentrate their efforts on the same few areas and provide the same limited services. Donor efforts usually concern wells and small irrigation equipment in better endowed areas around Tahoua. More difficult areas and important elements of support,

such as access to market and credit are neglected, according to these officials. (The Mission-supported CLUSA project provides guaranteed credit to cooperatives.) One official also noted that the high turnover among civil servants slows the momentum of project activities.

To overcome water supply constraints in the dry season, a few producers have started planting onions in the rainy season in their sorghum fields, which are suitable for onion growing. According to Madaoua's agricultural officer, around 800 farmers out of 4,000 to 4,500 in the arrondissement are producing onions in the rainy season. Major constraints to the development of such farming systems remain land costs and labor bottlenecks. Not all of a farmer's sorghum field is suitable for onion production, nor does a farmer have easy access to labor needed to switch from sorghum to the more intensive onion production in the rainy season. Although it does not specifically account for such land costs and labor bottlenecks on expanded acreage, nor for chemical input costs, research conducted by the agricultural department in Madaoua (Cheferou, 1990) shows that the potential gain of rainy-season onion production is high. While onions stored since March could sell for 10,000 to 11,000 CFAF a bag, rainy-season onions harvested in November could sell for CFAF 15,000 to 17,000 a bag.

Exporters caution, however, that rainy-season onions are mostly for local consumption. Prices are high because supply is insufficient to meet the demand in November-December. Such high prices are likely to reduce the competitiveness of Nigerien onions in Côte d'Ivoire and other coastal countries.

2.2 Seed Availability and Cost

Seed and transplant costs are also major production constraints. Onions must be grown from transplants that are produced in nurseries from onion seeds. According to producers, these costs, about CFAF 35,000 per hectare (Cheferou), reflect a two-season-long seed production cycle that requires several stages (Exhibit 2.2). At harvest, (1) the farmer selects onion bulbs with good characteristics (medium size, good shape and color, no bruises). Then, (2) he stores the bulbs, because they require a period of dormancy, as do other bulb and tuber crops. At planting time around August, (3) he cuts each bulb in two and plants the half with roots. A few days later, after the bulb has germinated, (4) he detaches and plants the resulting sprouts. After sprouts grow to maturity, (5) he harvests the seeds. (Usually, such sprouts do not yield onion bulbs.) Then, (6) he starts nursery operations (which require about 40 days) that will yield onion transplants for regular onion production. Sometimes, transplants produce seeds as well as onion bulbs, in which case producers save a whole year in seed and transplant production.

EXHIBIT 2.2: ILLUSTRATIVE CYCLE OF DRY-SEASON ONION PRODUCTION FROM NURSERY TRANSPLANTS

ACTIVITIES OF SEED AND ONION PRODUCERS	MONTHS OF THE YEAR																								
	M	A	M	J	J	A	S	O	N	D	JA	F	M	A	M	J	J	A	S	O	N	D	JA	F	M	A
SELECT GOOD BULBS AT HARVEST	-----																									
STORE SELECTED BULBS		-----	-----	-----	-----	-----																				
PRODUCE SPROUTS FROM BULBS							-----	-----																		
PRODUCE SEEDS FROM SPROUTS									-----	-----	-----	-----	-----													
OPERATE NURSERY																			-----	-----						
PRODUCE ONIONS IN DRY-SEASON																					-----	-----	-----	-----	-----	-----

Source: Field Survey

Notes: An activity falling in a month may not cover the whole period; length of activity varies according to regions and producers. Seed production may take 4-5 months; sprout generation may take about 25 days, in September-October. Producers may harvest onions from February to April, and even up to early May.

A few farmers specialize in seed production,[1] but their supply seldom matches the demand from other onion farmers, according to observers. Seed producers often miss signals from onion producers' decisions to expand or contract onion acreage. Informants note, however, that farmers are likely to expand or contract onion production depending upon whether their crops have failed or fared well in the preceding rainy season.

Some onion producers trade off higher seed quality for lower seed cost. They may use lower quality seed from Nigeria. A few have even tried seeds from Libya and Morocco but without success. Producers also may mix high quality Violet of Galmi with lower quality varieties. There is a need to develop lower cost seed production to help maintain the quality of Nigerien onions.

Other producers mention that they use other varieties because the Violet of Galmi has only one layer of tegument protecting the bulb. Once it is peeled off, this layer does not regenerate as it does in other varieties. Therefore, bruises make the Violet of Galmi highly susceptible to spoilage. Care should be exercised with this variety at harvest.

2.3 Agrochemical Inputs

Several producers complain also about the unavailability or high costs of chemical fertilizers and pesticides. (Government extension agencies used to provide free treatment for pest control, but have curtailed such services because funds are lacking.) Other onion producers explain that they use little chemical fertilizer because water needs increase with the application of such inputs. Extension agents note that many producers misuse fertilizer. Either they use the wrong type, or they overuse it in relation to irrigation requirements. Most often, fertilizer users apply too much urea and hardly any compound fertilizer (15-15-15). The result is overgrown onions that do not store well. (Onions harvested before full maturity do not store well either.)

2.4 Credit

Lack of credit remains another important constraint. Government officials mention that traders offer credit but at a high interest rate. Before harvest, traders may offer to pay CFAF 1,000 for a sack of onions that will cost CFAF 2,000 at harvest. One official notes, however, that producers often default on these loans. Credit offered by most cooperatives is not fully reimbursed by members. Cooperative agents and producers alike recognize that cooperatives are not effective, largely because they are managed by government officials.

---

[1] Time constraints did not allow interviews with seed producers, once the issue was raised. It is likely, however, that these farmers can produce seeds within a year. According to an onion expert (Harvey Neese, personal communication), the dormancy period of onion seed should be short enough in Niger to allow farmers to operate nurseries in September of the same harvest year.

3. CONSTRAINTS AND OPPORTUNITIES IN MARKETING

Given recent increases in onion production, many producers perceive marketing constraints as equally important if not more important than production constraints. Areas of marketing constraint include market access, prices, storage, processing, and packaging. Traders also complain about market conditions related to government regulations. The impact of government reforms will be discussed in another section.

3.1 Market Access

Reduced access to markets and perceived lower prices were major concerns in the Keita area. Producers in and around Keita complain that they must wait until onions are no longer available in Galmi before they see traders move into their area. Market participants point to difficult (non-paved) roads. Government officials also raise concerns about intermediaries who intercede between producers and traders. These intermediaries provide an appreciated service, however. They bring traders to producers, and they help traders pay handling and local market taxes. The intermediary's commission (CFAF 100) is common knowledge, and his role is played by local producers or prominent members of cooperatives. At the village level, transactions are often open, involving the trader, the intermediary, and onion producers. Traders favor these open transactions. The perishability of onions demands that traders involve as many producers as possible to collect a truckload in the shortest time possible.

For a truckload of 340 bags, the intermediary collects CFAF 34,000. It is this amount that officials tend to view as excessive; after all, it is equivalent to the local market tax in Keita.[2] The commission, however, pays not only for the intermediary's risk and profit, but also for several of his business expenses: travel and accommodation when he must go to Galmi, for example, to entice traders to come to its village; and accommodations for the trader and aides who come to the village to collect onions. The traders and his aides usually spend two days in the village around Keita, but when onions are scarce, they may stay longer than a week. Because the cooperative is unwilling to compensate its managers for bringing traders to the village, individual members perform these services for their benefit. Since they value services provided by intermediaries, producers should pay for one member of their cooperative to play this role.

3.2. Prices

Increased onion production intended to compensate for poor foodcrop harvests has been followed by onion gluts and lower producer prices. The extent of this price decline was difficult to estimate during the short field visit for this study, however. The field interviews generated several different price

---

[2] The local market tax varies according to arrondissement. In Keita, traders pay CFA 100, but in Madaoua, each producer and trader pays CFA 150 for a total of CFA 300 per sack sold at the marketplace (see Annex C for taxes levied in Madaoua).

estimates. Cash sale price (usually to foreign traders) may be CFAF 2,250 a sack, and credit sale price (usually to local traders), CFAF 2,500 a sack. Onions are sold in sacks of different sizes and weights that command different prices, depending on the importer's origin. Onions in sacks brought from Côte d'Ivoire sell for CFAF 2,000; in sacks from Ghana, for CFAF 2,600; in sacks from Benin, for CFAF 3,500; and in sacks from Togo, for CFAF 3,600. Selling onions by the sack in Niger but by the kilogram in Côte d'Ivoire creates mistrust between producers and traders. Transactions in Niger should be conducted in kilograms to reduce this mistrust and increase competition in marketing onions.

Price seasonality is an important factor in the marketing of onions. Exhibit 3.1, from 1985-87 data (Saley, 1989), illustrates this seasonality, although price levels appear lower now than they were in 1985-87. On a three-year average, from its lowest levels (March to April) to its highest levels (September to November), prices increase by 367 percent (see Annex D). The pronounced price seasonality reflects the quasi-unimodal onion production system (one main harvest in March-April), and the product's highly perishable nature. In part, this seasonality hurts onions exports. When onion prices increase to a certain level, consumers in importing countries are willing to switch to less popular but cheaper onions from other countries.

In assessing the role of onion exporters, government officials often do not look beyond the spread between producer price in Niger, and wholesale or even consumer price in Côte d'Ivoire; officials seem to lack an appreciation of the costs of exporting Nigerien onions to Côte d'Ivoire. Exhibit 3.2 provides an illustration of marketing costs incurred by a trader exporting onions from the Madaoua area to Côte d'Ivoire. (Costs are for a truckload of 340 sacks, with transport loss of 30 sacks, purchase price at CFAF 2,000, and sale price at CFAF 7,500 in Côte d'Ivoire.)

Exhibit 3.1 Producer Prices for Onions:
1985–1987 Average in Galmi

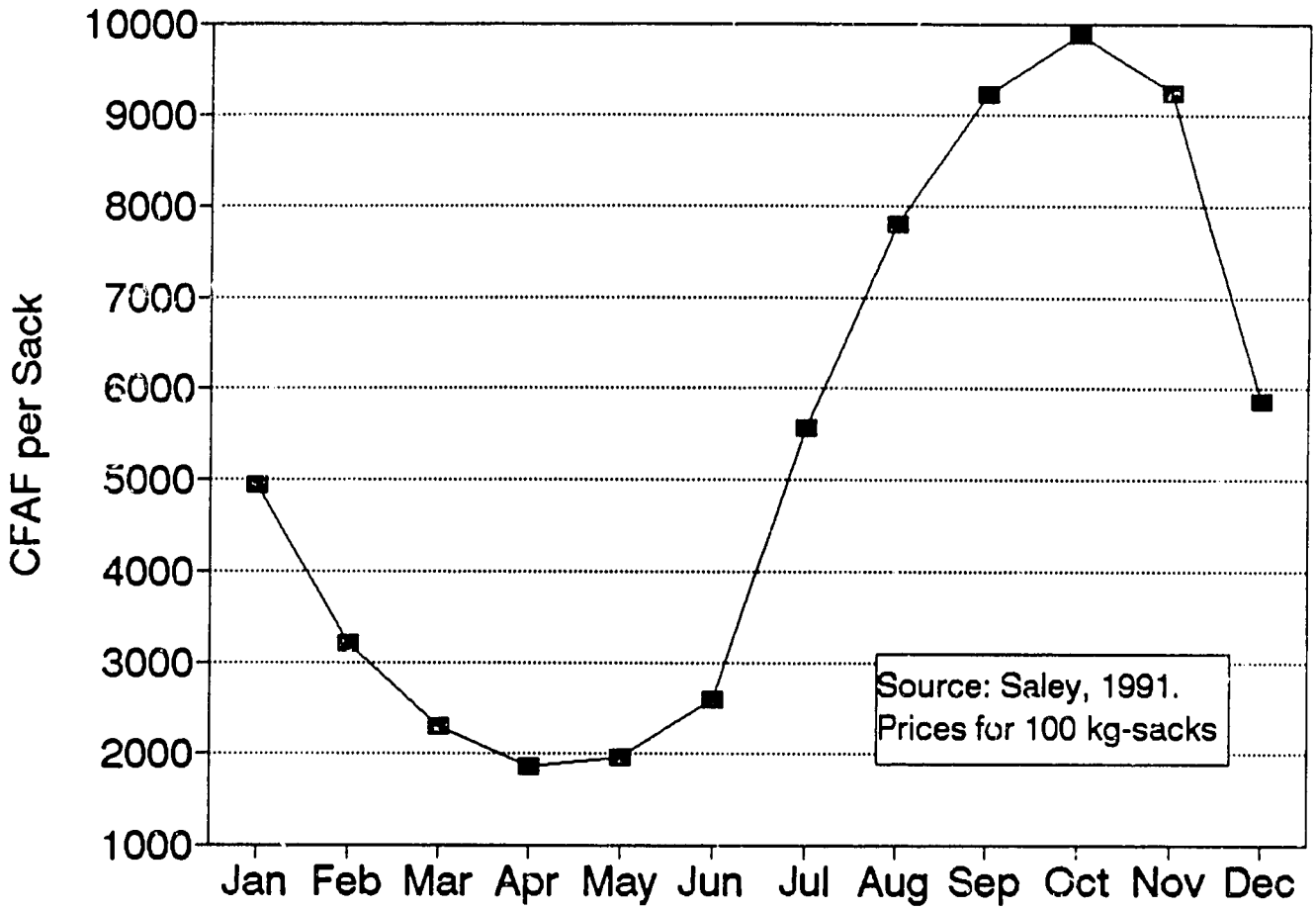


Exhibit 3.2

Illustrative Marketing Costs of Onion Exporters

Cost elements	(CFAF per sack)	Percent
Handling (bags, loading)	410	8.91
Commission	100	2.17
Local taxes	240	5.22
Transport cost to Côte d'Ivoire	3,000	65.22
Foreign taxes and other expenses	720	15.65
Transport loss	130	2.83
Total marketing cost	4,600	100.00

Source: Field Survey
Notes: Local taxes include "market tax" (CFA 150 in Madaoua) and "Statistic tax" (CFA 90) at Galmi.
Other expenses along the way include bribes.

These marketing costs represent about 84 percent of the gross margin for onions bought at CFAF 2,000 in Niger and sold at CFAF 7,500 in Côte d'Ivoire. While they vary depending on the extent of transport losses and bribes paid on the way from Niger to Côte d'Ivoire, these costs show that the exporters' benefit is much less than what officials and producers believe.

3.3 Market Information

Good information on prices affected by such a strong seasonality is crucial for the decision making process of market participants. These participants obtain price information from relatives or business partners who travel from one marketplace to another. A public information system would be appreciated by market participants. Producers need price information from key reference markets such as Galmi. Traders would like to have market intelligence from importing countries. Radio broadcasts and written information, as well, were requested by producers and traders. Requests for written information should not be surprising; onion exporters may not read French, but they have close relatives who do and who can make use of written information.

3.4 Storage

Onion prices increase over time mostly because of storage losses. Estimates of storage collected during the field survey are crude approximations, though they point clearly to the seriousness of the problem faced by producers and traders. In Tabalak, producers estimate that losses may reach one-third of their stock stored for four to five months. In Tamaské, because of poor access to market, producers are forced to store onions for longer periods than may be done elsewhere. So, storage losses in Tamaské may be higher than elsewhere. Producers in Tamaské, however, attempt to minimize storage losses by harvesting fully matured onions.

The field survey identified several types of traditional and "improved" storage. Temporary storage on onion fields after harvest buys time until transport is available to move onions to marketplaces or longer-lasting storage facilities. Onions may be stored under temporary sheds of millet stalks erected on the field. A few wooden poles may be used, and one side stays open, so onions can be taken in and out. Sometimes, onions are just heaped on the ground and protected against the sun by straw. Such an in-transit storage lasts only a few days--a maximum of a couple of weeks.

Longer-term traditional storage facilities comprise two main types: small cone-shaped huts, with a wooden structure covered by millet stalks; and mud-brick storage rooms.

Storage huts visited in Madaoua area (Madaoua, Kollé, and Aréwa) differ slightly from those in Tabalak, Keita, and Tamaské. In Madaoua area, huts are built above a few bricks at the base perimeter; in Tabalak and Keita areas, wooden poles are planted directly in the ground without any brick support. In both cases, several layers of onions are stored on one floor of a wooden trellis. In the Madaoua area, the opening, cut on top of the hut, is closed by a piece of jute sack sewed to it; in the second case, the opening, cut at the bottom slightly above the stored onions, is closed by thorny branches. Observers estimate that local storage facilities in Keita cost about CFAF 10,000 to 15,000, and last up to three years. The cost of these huts is increasing as local materials get more and more expensive. Poles and other wood products are disappearing in Niger because of natural resource degradation; even millet stalks have been hard to find recently because of poor millet harvests.

Local mud-brick storage rooms were observed in Kollé (Madaoua). Such facilities are built just like regular houses with a flat roof; one storage room had a V-shaped roof. As in hut storage facilities, several layers of onions are piled up on one level. Storage capacity, however, is much larger for these mud-brick facilities than for storage huts observed during the field survey.

In traditional storage, producers seldom remove onions regularly as they rot. Often, after a facility has been filled, it receives its next visit when storage ends. Producers rely on the stench of rotten onions to decide when to clear the facility. In these local facilities, storing several layers of onions on one floor makes regular maintenance difficult because onions often need to be removed from the center where spoilage is usually greater because of higher humidity and temperatures. Storage huts with openings at the top of the facilities are particularly awkward for removal and for regular maintenance of onions.

Government technicians and donors have made several attempts to improve onion storage conditions. Such facilities use mud bricks and strive to incorporate other local materials. The field survey visited three improved storage facilities. In Tamaské, a CLUSA-supported cooperative uses one floor to store onions of cooperative members. In the same area, Energie II project has built storage facilities, with three floors on two sides separated by an alley; the floors are made of imported wire mesh. In several villages (Aréwa, Galmi, Guidan Kalgo, and Taboué), a United Nations Development Program (UNDP)-funded project is experimenting with storage facilities similar to that of Energie II.

In the facility visited in Aréwa, one to two layers of onions are stored on floors made of mats woven from local materials, but the door is of metal panels.

In the cooperative owned storage facility, the participation of cooperative members appears minimal; they contribute onions, but civil servants (URSC) actually run the facility. The facility costs around CFAF 100,000, and reportedly will last longer than local ones. The extent to which it is a viable improvement over traditional storage is unclear, however. Energie II storage facilities are abandoned; the project never succeeded in persuading members of the cooperative to store onions in a common facility. Imported materials used in these facilities also make their cost prohibitive for local producers.

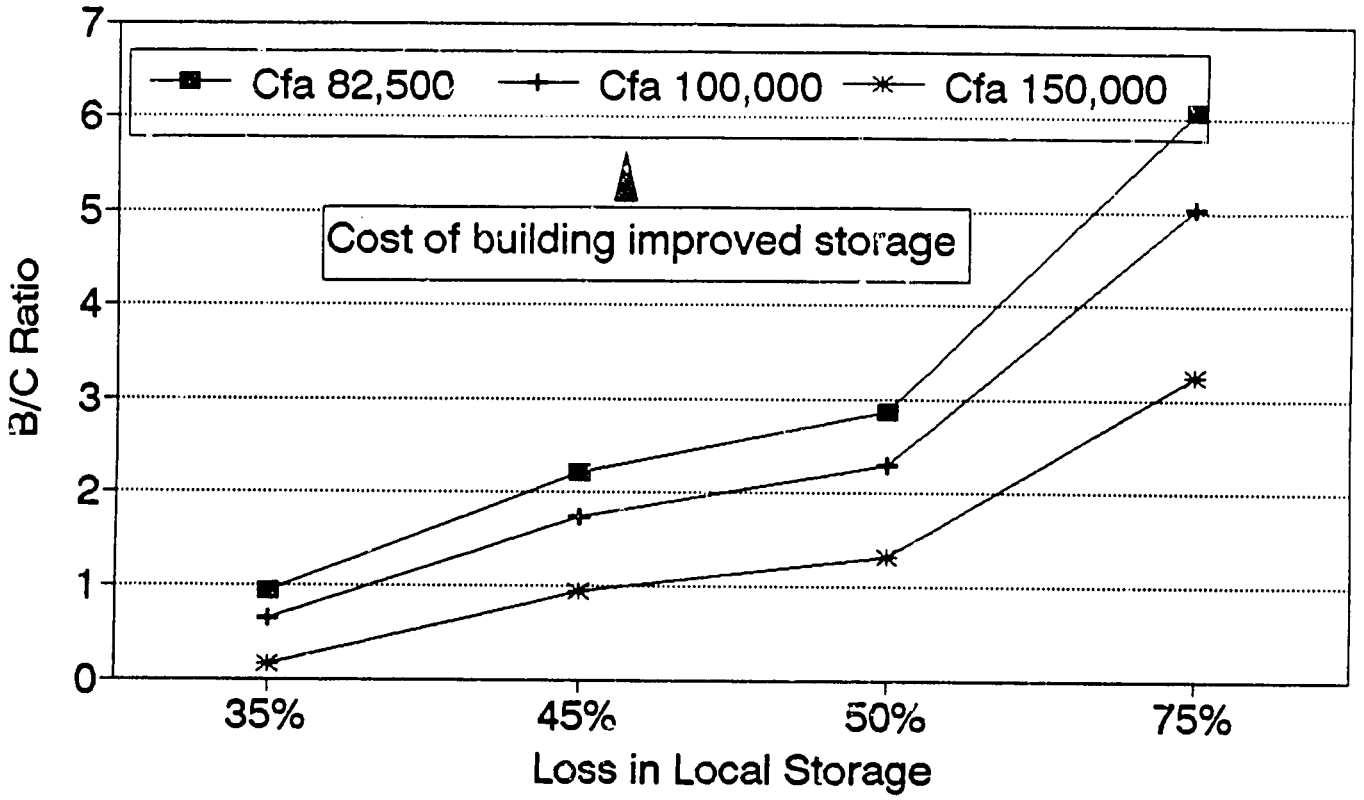
In deciding whether to switch from local to improved storage, market participants must balance factors including reduced storage losses and expected seasonal price increases against eventual higher construction and operation costs attached to the new techniques. (Annex E makes such a comparison based on information from a UNDP storage study updated by field survey observations.) A sensitivity analysis (Exhibit 3.2) illustrates how two of these critical variables (construction costs and storage losses) affect benefit-cost ratios of improved storage. The criterion is the commonly used rule of thumb asserting that a minimum benefit-cost ratio of two (2) is a necessary incentive for the adoption of improved technology. For example, producers may consider adoption of a facility that costs CFAF 100,000 to build if they have been experiencing 50 percent losses in storage and expect to reduce those losses to 20 percent with the improved facility.

The adoption of improved technology requires additional conditions, however. Participants have complained about the inadequate capacity of-suggested improved storage. In Tabalak, for example, storage huts hold from 50 to 100 sacks; UNDP improved storage facility may hold 20 sacks. Market participants add that they lack credit to build improved storage. They also must learn to cooperate if reduced cost storage requires sharing of large facilities. Experimentation with new techniques and close collaboration with participants are needed to develop viable improved technologies. Care must be taken to avoid experiences such as the one reported by a Madaoua trader who claimed that he lost 22 out of 30 sacks of onions kept for four months in an "improved" storage facility recommended by extension agents.

3.5 Processing

The high perishability of fresh produce often calls for processing the product to meet consumer demand over time. Current processing techniques remain crude, and reportedly address only localized consumption patterns in northern Niger. Both public and private market participants hope that innovative processing of onions would add considerable value to onions. Industrial transformation of onions appears difficult, however, because the Violet of Galmi has a low dry matter content, according to Saley (1989, p.31). Besides, a demand for the processed products needs to be clearly identified before developing the technique. Careful market research is a prerequisite to processing technologies.

Exhibit 3.3 Improved Storage B/C Ratios
According to Storage Costs and Losses



Source: Arrachart, 1991; and Field Survey, 1991

3.6 Grading and Packaging

Sorting onions is a time consuming process that producers like to avoid. Yet, market participants realize that smaller onions store better than larger ones. These participants are also aware that consumers in Côte d'Ivoire prefer small and medium sized onions. In Niger, Togolese women insist on buying small- or medium-sized onions. Producers are unwilling to sort onions because smaller onions are heavier per unit of volume than larger ones. Producers sell onions by the sack in Niger, while traders sell onions by the kilogram in Côte d'Ivoire. Therefore, producers tend to lose and traders to gain when transactions involve smaller onions, a situation that calls for standardizing transactions by the kilogram in Niger.

Nigerien onion traders also realize that packaging plays an important role in marketing. They claim that Morocco[3] has penetrated the Ivorian market partly because of its good packaging of onions. These traders have learned to use second-hand Moroccan sacks to sell their products. When they noticed that, Moroccans started destroying their sacks after sale. In Niger, traders have also learned to use second-hand imported sacks (brought from Côte d'Ivoire) to package and sell white variety onions; many Nigerien consumers otherwise reject this variety because they confuse it with wild varieties. Experimenting with packaging presents an interesting opportunity to increase value-added in onion marketing.

Better grading and packaging also may help reduce transport losses. On a truckload of 340 sacks, exporters estimate that losses range from 1.7 percent to 23.5 percent, with an average of 8.8 percent of volume.

---

[3] Most traders interviewed during the field survey mentioned Moroccan onions, not Dutch ones, as the competition for Nigerien onions in Côte d'Ivoire. One explanation is that both Moroccan and Nigerien onions are sold in the same traditional market channels, while Dutch onions are sold in Europeanized foodstores.

4. IMPACT OF RECENT POLICY CHANGES

Increases in onion production to cope with shortfall in food harvests, and lasting constraints in production and marketing blur the impact of GON policies on the subsector. The short field survey, however, identified institutional elements that have strongly affected the performance of the subsector. These include the elimination of export taxes, and new trade regulations.

4.1 Elimination of Export Taxes

The elimination of export taxes in 1988 had a positive impact on the subsector, although this impact is difficult to measure for lack of data. According to several observers, however, producer prices doubled after export taxes were lifted. The elimination of export taxes, coupled with increased production, has also attracted many onion exporters. Onion exports through Galmi, the main customs office, have soared in 1990 and the first part of 1991 (Exhibit 4). Competition has also increased according to many traders.

Before they were eliminated in 1988, export taxes had steadily increased from CFAF 200 to 500 per sack, then jumped to CFAF 1,000 and CFAF 1,400. Nigerien traders claim that when the high taxes translated into higher prices in Côte d'Ivoire, Ivorian consumers began to substitute lower priced Moroccan varieties for Nigerien onions. This substitution enabled Morocco to gain a foothold in Côte d'Ivoire; Morocco now strongly competes with Niger, especially in September-October when supply is scarce and producer prices are high in Niger.

4.2 New Developments in Trade Regulations

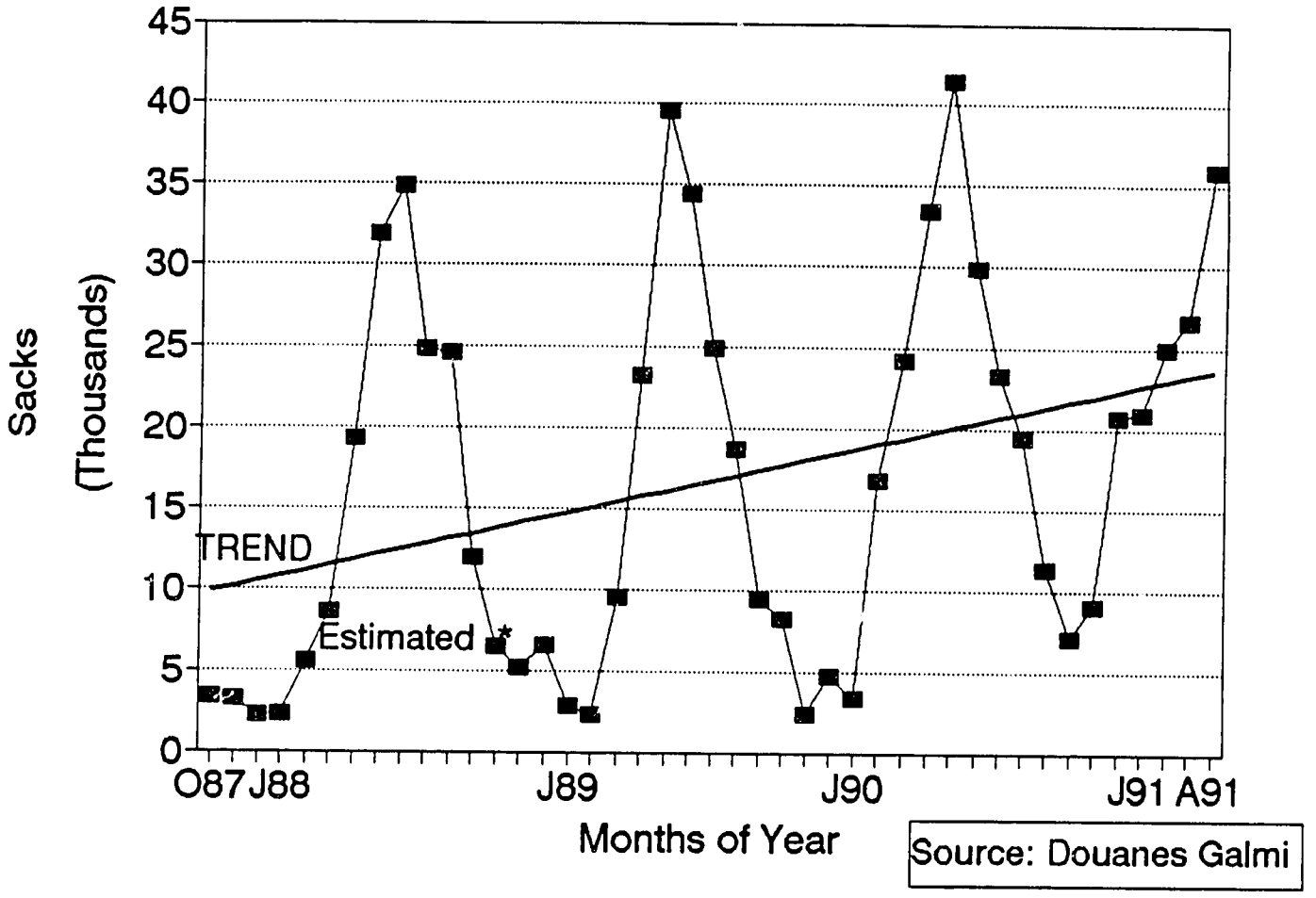
The major development in the onion subsector is the application of new trade regulations related to the patente (business tax) and the guichet unique (one-stop window). When it set up the guichet unique in August 1990 to fulfill one condition of NEPRP, the Government of Niger (GON) also instituted the fiche d'enregistrement statistique[4] (also called feuillet statistique) and decided to enforce payment of the patente.

---

[4] The statistical form was instituted by Arreté No. 028 (article 8), August 16, 1990. The arreté states that the missions of the guichet unique are to (1) inform and sensitize market participants, and (2) collect statistical information regarding import, export, and re-export. The guichet assigns an unique I.D. number and a feuillet statistique to Nigerien and alien resident traders.

Exhibit 4. Onion Exports Through Galmi

October 1987 - April 1991



Source: Douanes Galmi

4.2.1 Objectives of the Statistical Form

The GON now requests exporters and importers to carry a statistical form (fiche d'enregistrement statistique) when they go through customs. One stated objective of the measure is to collect trade data; the elimination of export and import licenses, allegedly has damaged data collection efforts (Circulaire No. 23/DGD). Another stated objective is to create incentives for producers to regroup into cooperatives; GON authorities expect that producers who export onions would now do so through their cooperatives to save costs, since cooperatives are exempt from the statistical form requirement.

One hidden objective is to raise revenues. The imposition of the form forces Nigerien onion traders to pay about CFAF 630,000 (for the patente and compulsory contributions to the Chamber of Commerce). Until recently, and since export license and taxes were eliminated, traders were paying no patente nor any other fees. By itself, the form costs onion exporters an additional CFAF 8,000 (a flat fee of CFAF 2,000 and CFAF 3,000 "fiscal stamp" for each of two required copies), and CFAF 24,000 if it is renewed two more times, as allowed. The value of the "fiscal" stamp rose from the initial CFAF 500 to CFAF 3,000 now.

A second hidden objective is to collect data on each exporter/importer to better assess business taxes. A tally of the value of transactions from all commodities provides estimates of total export/import sale figures for individual traders. At year's end, new (higher) taxes could be imposed on exporters/importers on this basis.

A third hidden objective is to force foreign traders to buy from Nigerien traders or cooperatives. The Chamber of Commerce confirms that foreign traders could clear customs under the cover of Nigeriens who have valid statistical forms.

4.2.2 Impact of the Statistical Form

The imposition of the statistical form has created difficulties for onion exporters. Its enforcement surprised nearly all exporters,[5] despite a meeting held at Tahoua's Chamber of Commerce. GON authorities had to postpone application of the measure a few months (until April 1991) to allow exporters to regroup.

The measure confuses most traders, especially foreign importers who come to buy onions in Niger. The fiche d'enregistrement statistique (Annex G) resembles the export license that the GON has eliminated. Foreign traders who are asked to carry the statistical form wonder whether they should also pay the patente and other compulsory fees to the Chamber of Commerce. There are

---

[5] Customs officers were requested to enforce the measure by Circular Notes No. 23/DGD dated December 17, 1990, and No. 16/DGD dated March 8, 1991 (superseding the first one), from the Direction of Customs General Direction (DGD) of the Ministry of Finance.

conflicting accounts of what is required from foreigner traders. One account (Tahoua's Chamber of Commerce) says that such exporters must register as resident-traders, and pay all Nigerien taxes, if they operate in Niger for more than 90 days; it is not clear whether the period is for one stretch or cumulative. A second account (Niamey's Chamber of Commerce) says that foreign exporters are delivered a temporary document valid for three months; after that period, they must comply with rules applied to Nigerien traders.

The feuillet statistique does not fulfill its intended purposes. No new means are given to customs to gather information, which, in fact, is already routinely collected by this institution. The information needs only to be sorted by trader to satisfy the Chamber of Commerce. Such data sorting could be easily accomplished by a computerized system, which the GON is setting up at customs bureaus.

No new incentive is created for producers to join cooperatives for exporting onions. Few cooperatives, let alone individual producers, attempt to export onions because of the capital requirement and risk involved.

To date, the Chamber of Commerce of Tahoua has generated revenue from only four Nigerien exporters who have paid the patente and received the form. Some observers claim that these traders now sell their right-to-export to other traders for CFAF 30,000 per truckload. The ability to pay the patente gives Nigerien traders a rent situation vis-a-vis others, especially foreigners. It may be argued that assessment of higher taxes based on inflated export figures would nullify this rent. However, assessing high taxes on this basis conflicts with the objective of forcing foreign traders to go through Nigerien traders and cooperatives. If traders who pay the patente succeed in evading payment of higher taxes, the Chamber of Commerce is unlikely to raise much more revenue.

Can the GON force foreign traders to buy from Nigerien traders or to pay the patente? Onion producers fear both of these outcomes. Foreigners may stop coming to Niger to buy onions because of added transaction costs; already, there are rumors of a boycott by foreign traders. Because it is tied to the patente and other compulsory payments, the statistical form has raised barriers to entry for many traders. Observers note that the number of onion exporters has declined since the imposition of the measure. Galmi customs note that the number of truckloads has dramatically diminished since the deadline; yet, from recent export data (see Exhibit 4 and Annex F), officials expected increased onion exports. Konni's authorities also say that already capita tax (CFAF 700) collected this year is down because the measure is adversely affecting producer revenues from onion sales.

5. CONCLUSIONS AND RECOMMENDATIONS

Several factors identified by previous studies (Lev and Gadbois, 1988) continue to constrain the development of the onion subsector. Inadequate water supply, lack of irrigation equipment, difficult access to credit, and simple cultural practices are major constraints in producing onions. Inadequate storage, packaging, access to market and credit are major constraints in marketing onions. New economic and weather conditions have contributed to expanding the production and export of onions, but also exacerbated production and marketing constraints facing the subsector. GON and donors, however, have made important efforts to alleviate several of these constraints. Irrigation and well projects were implemented. Experimenting with new storage techniques has begun.

The NEPRP synthesis study (Ouédraogo, 1991) recommended several market development actions that apply to the onion subsector. Because most Nigerien onions are exported to Côte d'Ivoire, which is in the same monetary zone, the potential for rapid development of the subsector appears better than other commodity subsectors in Niger. The NEPRP study's recommendations include market promotion and research, and development of new market technologies in storage, grading and packaging. This study will not elaborate further on these recommendations.

This study recommends, however, further in-depth study in onion seed production. Nigerien onions enjoy a comparative advantage because African consumers prefer the Violet of Galmi over competing varieties. For the Nigerien onion subsector to develop, the genetic characteristics of its appealing variety must be preserved and then improved. If allowed to continue, current practices that trade off seed quality for seed cost will ultimately hurt the subsector. Such a study should examine seed production practices in the region. It should assess the extent to which private seed farmers can best be helped to deliver good quality seeds on time at a reasonable cost.

Since 1988, the GON has eliminated export licenses and taxes, and streamlined trade regulations. These measures favorably affected the subsector, although the lack of data prevents quantitative estimates of this impact. The major institutional change in the onion subsector is this year's application of new trade regulations related to the patente (business tax) and the guichet unique (one-stop window). The feuillet statistique (statistical form), instituted by the Chamber of Commerce for the purposes of data gathering and revenue generation, has raised barriers to entry by adding business and other transaction costs for exporters. A few traders tend to gain, as they engage in rent-seeking behavior. Producers tend to lose, as foreign exporters reportedly hesitate to continue trade activities in Niger, and as higher taxes will translate into lower producer prices. Although the GON has legitimate needs to raise revenues and collect trade data, linking the feuillet statistique and the patente is unlikely to achieve these objectives, without severely hurting the subsector.

Before he left Niger, the consultant presented the following recommendations to counter the adverse effects of the new trade regulation:

- Suspend application of the measure for this year, and so inform market participants, including foreign traders. Foreigners can be informed through Chambers of Commerce in Côte d'Ivoire and other importing countries by Niger consulates in these countries.

- Assist Niger's Chamber of Commerce in preparing a better questionnaire to collect trade information. Besides volume and value of exports/imports already provided by Customs, the questionnaire should request the following: name of trader who has title to the goods, his business identification number (if any), his business residence, his nationality, the name of the conveyor, and the destination of the export.

- Provide a better alternative than the feuillet statistique to help the Chamber of Commerce raise revenues, if this need is warranted. (The current statistical tax already pays for data gathering efforts.) This recommendation does not do away with the patente, which the GON and donors including USAID/Niger are reviewing. The alternative, while minimizing transaction costs, raises government revenues equivalent to what might have been generated by the feuillet statistique, if this measure were working. The option requires "fiscal stamps" on customs receipts (quittance), as exporters/importers go through customs declaration. Traders would have no need for the feuillet statistique, therefore no forced need to travel to Tahoua or Niamey. In Niger, it is current practice to pay for a fiscal stamp on official documents. Exporters/importers would not feel more disadvantaged than consumers receiving pharmacy stamped receipts.

The value of the stamp (per truckload) can be determined so that total revenue would approximate revenue expected from the cost of the feuillet statistique. The following data, not available during the study, are needed: total export of onions (X) in sacks, total number of exporters (N), cost of a feuillet statistique (F), and average number of sacks (S) by truckload.

Total revenue (R) raised by the feuillet statistique is N*F;

Total number of truckloads (T) is X/S; then,

Stamp value (V) per truckload is R/T.

A further restriction may be added so that exporters would not feel compelled to pass all the costs of the stamp to producers. A rule of thumb is to make it a small fraction of the commission (CFA 100) traders pay to intermediaries.

BIBLIOGRAPHY

Arrachart, J.L. 1991. Rapport sur la construction de case de conservation d'oignons, and Note sur les essais de conservation des oignons. PNUD/BIT Projet Assistance aux artisans ruraux dans les arrondissements de Madaoua/Bouza, (Mimeos) Madaoua.

Cheferou. Mahatan. 1990. "Production de l'oignon pendant l'hivernage." Exchange Plus No. 3, Niamey.

Iddal, Sidi-Mohamed. 1991. Trip Report on Onions, Memorandum, USAID/Niger.

Lev, Larry, and Millie Gadbois, 1988. Rapid Reconnaissance Study of the Nigerien Onion Subsector: A Policy-Oriented Analysis of Market Performance. Postharvest Institute for Perishables, University of Idaho.

Ouédraogo, Ismael 1991. Synthesis of NEPRP Findings and Recommendations: An Agricultural Marketing and Agribusiness Agenda for USAID/Niger, Abt Associates Inc.

Saley, Mahamadou, 1989. Projet de commercialisation de l'oignon comme facteur de dynamisation d'une coopérative de producteurs à Galmi (Niger). Mémoire de fin d'études, Centre panafricain de formation coopérative, Cotonou.

ANNEX A

ITINERARY

Friday, May 3, 1991:	Niamey - Tahoua
Saturday, May 4, 1991:	Tahoua - Tabalak Tabalak - Illéla - Badaguichiri Badaguichiri - Tahoua
Sunday, May 5, 1991:	Tahoua - Keita Keita - Tasmaké Tamaské - Keita Keita - Madaoua
Monday, May 6, 1991:	Madaoua - Kollé Kollé - Madaoua
Tuesday, May 7, 1991:	Madaoua - Aréwa Aréwa - Galmi Galmi - Birni N'Konni
Wednesday, May 8, 1991:	(at Birni N'Konni)
Thursday, May 9, 1991:	Birni N'Konni - Niamey

ANNEX B

PERSONS VISITED

Tahoua, Friday, May 3, 1991

Boureima, Hamidou	Secretaire Général de la Préfecture de Tahoua
Mme Salif, Mariama	Chargée des micro-entreprises, Direction Départementale du Plan
Bonkana, Zacharie	Directeur Adjoint, Direction Départementale du Plan
Elhadj Ousmane, M.B.	Directeur Adjoint, Direction Régionale des Douanes

Tabalak, Saturday, May 4, 1991

Elhadj Tahama, Moussa	Chef de village de Tabalak
Chafigou, Abdou	Chef de village de Saouna

Keita, Sunday, May 5, 1991

Badjié, Halidou	Sous préfet de Keita
Boubé, Abardi	Sous préfet Adjoint de Keita
Ibrahim, Abdoulaye	Directeur Union sous régionale des coopératives (USRC)
Issoufou, Massaoudou	Chef de service, Direction régionale du Plan
Djibo, Naroua	Chef de service de l'agriculture, Arrondissement de Keita
Elhadj Hamou, Salami	Commerçant à Tamaské

Madaoua, Monday May 6, 1991:

Abdou, Chaibou	Sous-préfet de Madaoua
Issoufou, Laouali	Directeur, URSC
Elhadj Zaroumai, Labo	Producteur d'oignons à Kollé
Cheferou, Mahatan	Chef de service de l'agriculture, Arrondissement de Madaoua
Elhadj Bougi, Tanko	Exportateur d'oignons à Koumassa (Madaoua)
Elhadj Abou Labaran	Exportateur d'oignons à Madaoua
Elh. Mamane, Aboubacar	Exportateur d'oignons à Madaoua
Elhadj Chefou, Altine	Exportateur d'oignons à Madaoua
Elhadj Ada, Addo	Exportateur d'oignons à Madaoua
Elhadj Lahaw, Ajia	Exportateur d'oignons à Madaoua

Galmi, Tuesday, May 7, 1991

Elhadj Salihou, Assmane	Exportateur d'oignons à Galmi
Gremah, Yacouba	Directeur des Douanes de Galmi

Birni N'Konni, Wednesday May 8, 1991

Kalla, Moussa	Sous-préfet Adjoint de Birni N'Konni
Moutari, Abdou	Directeur, USRC
Diallo, Seynou A.	Directeur du périmètre d'irrigation de Konni II
Sadikou, Harouna	Chef de bureau des Douanes
Moussa Kallam, Issoufou	Responsable ordinateur
Elhadj Jamilo, Biso	Chef de village de Guider-Ider
Elhadj Abou, Tmoudari	Producteur d'oignons à Guider-Ider

ANNEX C

MARKET TAXES IN MADAOUA

YEAR	TOTAL (CFAF)
1988	12,148,350
1989	9,516,250
1990	19,263,550

Source: Sous-préfecture de Madaoua

ANNEX D

PRODUCER PRICES (F/KG) FOR ONIONS IN GALMI

MONTH	1985	1986	1987	Average
JANUARY	50	69	30	49.5
FEBRUARY	32	43	21	32.0
MARCH	23	23	23	23.0
APRIL	18	19	19	18.5
MAY	23	21	15	19.5
JUNE	44	23	11	26.0
JULY	77	50	40	55.6
AUGUST	138	50	46	78.0
SEPTEMBER	154	57	66	92.0
OCTOBER	134	61	101	98.5
NOVEMBER	104	38	135	92.5
DECEMBER	69	30	77	58.5

Source: Mohamadou Saley, 1989.

ANNEX E

COMPARISON OF IMPROVED AND LOCAL STORAGE

VARIABLES	Traditional Storage		Improved Storage
Price in March (CFAF/Sack)	2430		2430
Number of sacks purchased	20		20
Onion Purchase Cost in March	48,600		48,600
Construction Cost (CFAF)	12,000		82,500
Life of Facility (Years)	3		10
Depreciation (CFAF)	4,000		8,250
Repairs (CFAF)	0		1,000
Guards and Storage Check (CFAF)	0		4,860
Total Costs (CFAF)	52,600		62,710
Marginal Cost (CFAF)		10,110	
Storage loss	50%		20%
Endstock (Sacks)	10		16
Price in September (CFAF)	6,500		6,500
Sale of Onions in September (CFAF)	65,000		104,000
Net Benefit (CFAF)	12,400		41,290
Marginal Benefit (CFAF)		28,890	
B/C ratio (MB/MC)		2.86	

Source: Arrachart, 1991; and Field Survey, 1991

ANNEX F

ONION EXPORTS THROUGH GALMI CUSTOMS

YEAR	VOLUME (SACS)	VOLUME (IN KGS)	TOTAL VALUE (CFAF)	STATISTIC TAXES (CFAF)
Oct 1987	3,419	239,810	21,582,900	4,796,200
Nov 1987	3,212	224,760	20,228,400	4,495,400
Dec 1987	2,204	154,280	13,885,200	2,997,500
Jan 1988	2,306	161,420	14,527,800	3,228,400
Feb 1988	5,634	394,380	35,494,200	7,887,600
Mar 1988	8,623	600,910	54,081,900	12,018,200
Apr 1988	19,342	1,353,940	121,854,600	27,078,800
May 1988	31,953	2,551,240	229,611,600	13,281,200
Jun 1988	34,808	2,828,220	254,539,800	14,141,100
Jul 1988	24,799	1,970,800	177,372,000	9,854,400
Aug 1988	24,642	1,961,760	177,087,800	9,834,800
Sep 1988	12,022	1,032,500	92,924,800	5,163,500
Oct 1988	NA	NA	NA	NA
Nov 1988	5,202	520,200	22,398,000	932,300
Dec 1988	6,620	662,000	19,860,000	595,800
Jan 1989	2,854	285,400	8,562,000	256,860
Feb 1989	2,359	235,900	7,077,000	212,310
Mar 1989	9,521	952,100	28,563,000	856,890
Apr 1989	23,243	2,324,300	69,729,000	2,091,870
May 1980	39,552	3,995,200	118,656,000	3,559,680
Jun 1989	34,424	3,442,400	112,272,000	3,368,160
Jul 1989	24,934	2,493,400	74,803,680	2,244,110
Aug 1989	18,746	1,874,567	56,237,010	1,687,110
Sep 1989	9,461	946,140	28,384,020	851,521
Oct 1989	8,240	824,000	24,720,000	741,600
Nov 1989	2,429	242,900	7,287,000	218,610
Dec 1989	4,771	477,100	14,313,000	429,390
Jan 1990	3,405	340,500	10,215,000	306,450
Feb 1990	16,800	1,680,000	50,400,000	1,512,000
Mar 1990	24,239	2,423,900	72,717,000	2,181,510
Apr 1990	33,430	3,343,000	100,029,000	3,000,870
May 1990	41,518	4,151,800	124,554,000	3,736,620
Jun 1990	29,848	2,984,800	89,544,000	2,686,320
Jul 1990	23,343	2,334,300	70,029,000	2,100,870
Aug 1990	19,490	1,949,000	58,470,000	1,754,100
Sep 1990	11,339	1,133,900	34,017,000	1,020,510
Oct 1990	7,116	711,600	21,384,000	641,520
Nov 1990	9,100	910,000	27,300,000	819,000
Dec 1990	20,766	2,076,600	62,298,000	1,868,940
Jan 1991	20,962	2,096,200	62,886,000	1,886,580
Feb 1991	24,972	2,497,200	74,916,000	2,247,480
Mar 1991	26,613	2,661,300	79,839,000	2,395,170
Apr 1991	35,928	3,592,800	91,778,400	2,753,352

Source: Douanes de Galmi, Niger.

République du Niger

Chambre de Commerce d'Agriculture d'Industrie et d'Artisanat du Niger

Fiche d'enregistrement statistique

Numéro d'identification

- Importation ☐
- Exportation ☐
- Réexportation ☐
- Transit ☐

- Nom ou raison sociale .....
- Adresse complète .....
.....
- Nature de la marchandise .....
- Nomenclature tarifaire ☐☐☐☐☐☐
(6 chiffres)

- Quantité Nombre .....
Poids .....
Volume .....

Valeur en francs CFA

FOB .....
CAF .....

en devises

FOB .....
CAF .....

- Pays d'origine .....
- Pays de provenance .....
- Destination .....

Banque domiciliataire	Autorisation de change .....
Date	Date .....
Signature et cachet	Signature et cachet .....

A ..... Le .....

Signature et cachet du guichet unique

NB Le feuillet est valide trois mois à partir de la date de signature Il n'est pas prorogeable Il n'est utilisable que par le titulaire du numéro d'identification