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SCOPE OF WORK
AGRICULTURAL SECTOR STUDIES PROJECT (070)

MARKETING OF FOOD CROPS
IN ZAIRE

Prepared for the
UNITED STATES DEPARTMENT OF STATE
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and for the
THE REPUBLIC OF ZAIRE
THE DEPARTMENT OF PLAN

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FOREWORD

The purpose of this report is to assist USAID and GOZ Departments of Plan, Agriculture and National Economy in the detailed scope of work for undertaking food marketing studies in Zaire. These studies are part of the Agricultural Sector Studies Project, 070, and will include analysis of marketing channels, prices, transportation, storage, processing, agricultural policy and other factors which act as constraints to the efficient movement of food from producing areas to consumption centers.

This report will develop a detailed plan of work for the implementation of a 14 month study directed at identifying and addressing constraints to the efficient operation of the domestic food marketing sector.

Although in principle the food marketing studies referred to in this report cover all major urban centers in Zaire, it is clear that an attack on all fronts is not possible and that priorities must be agreed on. It is clear that rural food marketing geared to Kinshasa merits the highest priority followed by Kananga, Mbuji-Mayi, Lubumbashi or Kisangani, according to the criteria for ranking priorities. Wherever this report focuses on the Kinshasa market, it should be understood that the same general pattern will apply to the other major high priority consumption centers of Zaire, with some modifications as needed to take into account the particular needs of each major city such as consumption habits, food supply areas, transport network, etc. Moreover, some policies and actions discussed in

this report such as food pricing policies, transportation policies etc. have a nationwide focus and can only be addressed as national policies and as an integral part of the economic policies of the government.

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LIST OF ABBREVIATIONS USED

- MIN: Department of National Economy
- GOZ: Government of Zaire
- DOA/DR: Department of Agriculture and Rural Development
- DOT: Department of Transportation
- LIC: Low Income Countries
- Z.: Zaires, unit of currency
- CNATRA: National Transport Office
- SNCZ: National Zairian Railway Company
- SGA: Societe Generale d'Alimentation (General Food Company)
- ECOP: Economat du Peuple (People's Store)
- TVA: Tennessee Valley Authority
- IRESE: Institute of Social and Economic Research at the
National University of Zaire (UNAZA)
- UNAZA: National University of Zaire
- DAIPN: Presidential Domain at Nsele: where poultry, eggs,
vegetables, fruit, milk and concentrated feeds are
produced
- INS: National Institute of Statistics
- CEAC: Zairian Control Office - charged with inspection of
exports and imports
- CECCPANE: Commercialization Center for Agricultural Products
of the Northeast - supported by CIDA
- SZNF: Private Zairian Shipping Company

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1. INTRODUCTION AND SETTING OF THE STUDY

Traditionally, agricultural development has received low priority in the developmental strategy of Zaire. The industrial, urban-led strategy of development has resulted in large import requirements for major food grains and meat, rural to urban migration and urban unemployment, large urban-rural income differentials and lack of opportunities for the majority of the population who are in agriculture to purchase improved inputs and consumer goods.

Since several years now, the GOZ is aware of this. The year 1968 was proclaimed the year of agriculture with the operation "retroussons les manches" (roll up our sleeves). In 1971, agriculture was declared the priority of the priorities and a policy of "indépendance du ventre" (independence of the belly) was announced. Repeatedly, it has been and still is affirmed that self-sufficiency in the major foods is a top priority. New agricultural policies are being conceived and tried out and the short, medium and long term strategies for implementation are being discussed and evaluated, e.g. agricultural stabilization program, agricultural recovery program 1978-1980. The recurrent and the investment budgets of the Department of Agriculture (DOA) are now increasing at a faster pace than those of most other departments. Yet Zaire is still suffering from a severe food crisis and urgent actions are needed.

This crisis is not new. Prof. Lumpungu Kamanda wrote in 1974: ".the agricultural problems of Zaire would have passed unnoticed and would not have been called a "crisis" if the cities had not suffered

from it". (Lumpungu, 1974). The crisis situation became apparent in 1974 when rapidly rising food prices and relative scarcities of food developed in the major cities. The recent drought in Bas-Zaire and in certain areas of Bandundu exacerbated the growing food crisis in the major cities and particularly in Kinshasa. 1/ The perceived main causes of this crisis have been described many times and can be found in any paper or document of the state of agriculture in Zaire since 1973. 2/ The present food crisis is characterized by very high food prices at the retail level, unduly large marketing margins and relatively modest if not low prices to agricultural producers in most parts of the country. For the Kinshasa market, only

1/ In Bas-Zaire, relative to 1977, food production in 1978 was only 37 %. However, food production in the Kwilu subregion was nearly normal, except for the occurrence of bovine pest and poultry pest. A similar drought occurred in Bas-Zaire in 1964 and in 1950.

2/ In this context, it is interesting to read the papers presented at the following colloquia or seminars:

--IRES seminar on agricultural problems in Zaire, 4-8 March 1974

(cfr. "Cahiers Economiques et Socioux" of IRES)

--the agricultural colloquium held at Nsele in April 1976

--the first national seminar on rural development in Zaire,

Department of Rural Development, 2-12 May 1978.

those food producers in Bas-Zaire and Kwilu close to the main roads receive relatively high food prices. Thus, most farmers are not benefitting from the very high food prices which urban consumers have to pay; the price signals from consumers are not being adequately transferred through the vertical commodity assembly system back to the producers.

The serious shortage of basic foods in Zaire (manioc, maize, rice, groundnuts, plantains) is seen by many as the main cause of the present food crisis. If only an abundance of food could be created, as the reasoning goes, then marketing problems would disappear, and food would become cheap in the urban centers. Transportation difficulties are also pointed to as a major, if not the major reason for the present food scarcities in the cities.

These basic beliefs prevail with many government officials and are popular among traders and middlemen. It puts the burden of the present food crisis squarely with the Department of Agriculture and Rural Development (DOA/DR) and with the Department of Transportation (DOT). They are presently under considerable pressure. The DOA is trying to increase the number of agricultural projects, to improve the ones currently in operation and to conclude conventions with major business enterprises to engage in food production for their personnel. The DOT via the Office des Routes is repairing some roads, bridges and ferries, and tries to improve the performance of OMATRA and ONOR; Yes, she further believes that the persistent high food prices in the major cities cannot only be

explained by insufficient agricultural production in the hinterland and by high transport costs. The rural and urban food marketing system itself with its structure and rules of conduct must be held responsible too for the poor marketing performance.

The marketing of agricultural products in Zaire has always been a major bottleneck as ecological conditions are generally favorable to a large number of crops. But virtually no research has been undertaken on the structure, conduct and performance of the rural and urban marketing system (except for transportation) which serves both producers and consumers. By giving full expression to the demand that exists for the various products in the different outlets, a properly functioning marketing system would act like a suction in drawing production off the farms into the various transportation modes and channels of distribution. Such a marketing system would provide the incentives for maximizing production in the food supply areas, for finding low cost ways of bringing it to the cities and for affording facilities for orderly and efficient distribution of the food products. Instead, however, the many short-comings that prevail have the opposite effect. The limitations inherent in the present marketing system not only narrow the opportunities for many farmers but also deprive most consumers of large quantities of food and other agricultural commodities which could be produced locally. The resulting lack of those incentives which a properly functioning marketing system could provide has resulted in a level of production lower than that which is warranted by the available resources.

Improvements in Zaire's traditional agriculture are to a large extent dependent on improvements in the agricultural marketing structure (including transportation) which would narrow the gap between farm price and consumer price, reduce waste and spoilage, and generally increase the amount of food reaching the consumer in good condition and at a reasonable price.

More emphasis on food marketing is justified by the high proportion of incomes spent on food by urban households in Zaire. Furthermore, as about 70% of the population is engaged in agriculture, improvements in food marketing would lower costs to consumers, increase the amount, quality and variety of food available, and raise farm income which would have widespread effects on general human welfare in Zaire.

Finally, it is important that food marketing research in Zaire contributes toward the solving of the food crisis. Problem solving emphasis will make research relevant to the needs of the country and will promote food marketing as a field of study and research. This will also avoid wasting scarce research talent and resources on irrelevant issues. A crisis situation is at hand. A crisis usually develops from delays in institutional adaptations to new conditions and new needs. Thus, a crisis situation usually induces reforms and transformations which would otherwise not have been possible. This chance should not be lost.

2. OBJECTIVES OF THE STUDY

The overall objectives of the study can be formulated as follows:

1. to describe the present rural and urban food marketing system in Zaire with special emphasis on the build-up of marketing margins, the degree of competition, the price efficiencies and the adequacy of the physical transport and distribution facilities;
2. to analyze the present food marketing system described in 1, and to make comparisons with what it realistically might be, i.e. how the marketing performance might improved. Special topics for analysis are: government price fixing policies, the assembly of food in the major producing areas, the adequacy of public market facilities, the improvement of the present facilities, the efficient use of the existing supermarkets and their extension into low income areas.
3. to identify and recommend measures by which the people of Zaire, its government and its aid partners might make progress towards a more efficient and better performing rural and urban food marketing system so that the food crisis can be alleviated and can be avoided in the future.
4. The final goal of the study is to determine whether and, if possible, how the production and income of small farmers can be increased through improvements in the food marketing system such that the quantity and quality of domestically produced foods reaching the major consumption centers can be increased and made available to the population at a much lower cost

than is presently the case.

Within the context of this overall objective, a research team, in close collaboration with UNAZA, the Office of Plan, DEN and the DOA will undertake the following tasks in an agreed upon timeframe and budget constraint:

- (a) utilizing existing information, identify the major producing areas and based on among other things, a brief reconnaissance to each of these areas, GOZ agriculture development objectives and plans and the availability of funds, recommend and priority rank the areas which should be included under this marketing study;
 - (b) analyze the marketing/transport system of the selected areas in terms of efficiency of operations, degree of competition, marketing margins, price efficiencies, geographic coverage, storage facilities and processing facilities. Also undertake order of magnitude assessment of existing and potential production levels;
 - (c) analyze wholesale and retail marketing activities in the major consumption centers in terms of marketing margins, efficiency of distribution, storage facilities, nature and degree of competition, price efficiencies.
4. Based on 1-3 above; identify gap between current marketing levels and potential marketing levels and major constraints to closing that gap in terms of communications, prices,

transportation, storage, processing, agriculture policy and other factors.

5. Identify and recommend measures by which especially the private sector, but also the GOZ and its said partners might make progress toward the alleviation of these major constraints.

3. GENERAL FRAME OF REFERENCE

The economic development process in Zaire involves the transformation of a rural, agrarian-based economy to a more urban, industrialized one. As industrialization and urbanization occur, there is increasing specialization of labor and greater dependence on market processes as a coordinator of production and consumption activities.

The food system accounts for a large proportion of total output of goods and services in Zaire. More than half of the population is employed in food production, including for home consumption and for sale. As the rural population migrates toward urban centers, a need is created for a more extensive and complex set of food marketing services.

As agriculture will become more commercialized, farm families may become increasingly dependent upon some purchased food items, farm production inputs and other industrially produced items that flow from the cities to rural trading centers.

Most urban consumers spend more than half of their total income on food and of this, more than half on marketing services: assembly, transport, processing, wholesaling, retailing.

In the context of this study, it is argued that marketing does not begin at the farm gate end with the consumer purchase. Rather, it is involved in decision-making activities at all stages of production, processing, distribution and consumption.

Agricultural marketing relates to economic aspects of the environment within which agriculture operates, including internal

and external marketing systems for both domestic and for export and import, the availability of transportation facilities, storage capacity and in general the structure and organization of agricultural markets.

Following RILEY a.o. (1970), Market Coordination is defined as the complex and dynamic process by which producers, distributors and consumers interact by exchanging relevant information, establishing conditions of exchange and accomplishing the physical and legal exchange of economic goods.

It is unlikely that a progressive and efficient marketing system will automatically arise through the competitive interchange of firms in the marketplace (Collins and Holton, 1963). Severe environmental constraints discourage or may prevent small marketing firms from expanding their businesses and adopting innovations.

The difficulties and complexities of marketing processes and their significance to economic progress have often been underrated in Zaire, at heavy cost to economic development. Attention in national planning and investment effort has too often focused excessively on production, under the assumption that, once crops are produced and roads and railways built, a marketing structure will spring up almost automatically. Positive action is necessary to develop market infrastructure and institutions which increase marketing efficiency and provide for better marketing services. According to the author's viewpoint, the role of the Government in food market coordination in Zaire, taking into account present history, should be:

--serving as a catalyst in fomenting private sector

activities that are desired by the community.

- provide rules which ensure equitable and reasonably stable relationships among market participants.
- provide market information, research and extension when these services are not effectively provided by the private sector. Such services are essential to effectively coordinate the marketing system.
- finance investments in market infrastructure such as roads and other transport facilities (CNATRA), wholesale and retail market facilities when the private sector is not providing these. Recent history has provided strong evidence that the Government should not become a direct participant in agricultural product marketing and more specifically in food wholesaling and retailing functions (Economat du Peuple, S. G. A. Tembe na Tembe hypermarket, ONACER and most of the other marketing offices which after a short life span have been abolished). 1/

This set of viewpoints is supportive of the private middleman and is against direct government intervention in food marketing activities wherever it can be avoided. If enough freedom of action, including the setting of prices, 2/ is left to the private marketing sector, it is the author's belief that a workably competitive rural

1/ Still, ONPV was established as a major food marketing entity with virtual monopoly power. Will history repeat itself?

2/ A whole section is devoted to this issue in this report.

and urban food distribution system will be arrived at. In this context, special attention should go to the conditions of entry into the food marketing business, i.e. credit and tax policies and technical assistance for new entrants.

Competitive interaction in the urban food distribution system should ensure that cost savings be passed on to the consumer and to the farm producer thus reducing the likelihood that excessive profits would be retained by the more efficient food distribution entities.

Consumers should benefit through expanded supplies of a higher quality product delivered regularly at reasonable prices. Truckers-traders should operate more efficiently with more stable supplies and producers should benefit by having a dependable market outlet at stable, remunerative prices which provide sufficient incentives to increase productivity and output.

The income redistribution effects of reductions in food prices favor low income families who spend a much higher percentage of their income for food than the higher income families. As many other development policies have a tendency to widen the income gap between the rich and the poor, food marketing reform program should receive high priority if the objective of a more equal distribution of income is to be pursued.

It should also be pointed out that food marketing reforms aimed at increasing the productivity of human as well as other resources might reduce employment opportunities in this segment of the economy. If the labor thus released cannot be absorbed in new

distribution institutions or in other sectors, unemployment and underemployment might increase. This issue, however, is not specific to food marketing reforms as many development programs, such as for instance mechanization, might have undesirable employment effects which policy makers must be concerned with.

4. PREVIOUS STUDIES AND RESEARCH ON FOOD MARKETING IN ZAIRE

The food marketing system in Kinshasa has never been studied in detail. There have been scattered attempts (cfr. bibliography), looking at one particular aspect of the system, but a complete study has never been carried out.

The latest cross-section household budget survey which also provided information on consumption habits and nutrition in Kinshasa was carried out at IRES in 1968 (Houyoux, 1973). 1/ Most per capita consumption figures and income elasticities of demand used for demand projections are based on this study. The time has probably arrived to repeat this study in order to come up with current information on:

- the different sources of household income
- household budgets and the structure of household expenditures: food, housing, clothing and other expenses
- consumption patterns, particularly the per capita consumption of rice, but also of maize, seems to be increasing rapidly.
- income elasticities of demand for the basic food staples
- nutrition: consumption of energy, proteins a.o. nutrients.

1/ This study was later extended to other cities: Kisangani, Bukavu and Lubumbashi.

However, the scope of such a study is beyond the terms of reference of this proposed food marketing study, which is estimated at 10 to 12 months and which must go well beyond a household budget survey.

Some recent studies have been carried out on nutrition, particularly with respect to food fortification and improving diets based on manioc (University of Colorado study, IVS, Charles Alexander). Presently, a team from Tulane University is studying nutrition in Kinshasa (4 zones), Bas-Zaïre and Popokabaka (Kwango). Preliminary reports have been published on nutrition levels in Kinshasa and Bas-Zaïre.

The marketing of maize in Zaïre has recently been studied by a team from Kansas State University, Food and Feed Grain Institute (Sorenson a.o., 1976). They particularly emphasized transport, storage losses, improved facilities for maize storage, pricing a.o. problems.

A Canadian team (CIDR) is studying ways and means of improving the marketing of agricultural products from the Northeast (mainly the Kivu region) for the Kinshasa market. The organization set-up for this purpose, CECOPANE (Comite pour l'Etude de la Commercialization des Produits Agricoles du Nord-Est), is planning on organizing several field surveys in the Northeast.

The DOA together with FAO undertook a major census of agriculture in Zaïre in 1976. This agricultural census of Zaïre consisted of 16,000 randomly selected agricultural units in the traditional sector, about 0.5% of all units in the sector, and

farmers were interviewed three times over the period March 1970 to March 1971. A census was also made of the modern sector. The preliminary results were published in 1974, and the definite results in 1976. According to some sources, the census results are not very reliable. A new FAO sponsored census is now in preparation for 1980-81.

In 1971-1973, the DOA together with FAO also undertook a survey in order to construct a food balance sheet for Kinshasa and to calculate per capita consumption of major food products, calories, protein and fats. For this purpose, check points were established on the major roads coming into Kinshasa in order to estimate the amount of produce arriving. This procedure was repeated for the railroad and for the ONATRA port. Imports and exports of food products were derived from INS statistics and OZAC monthly export and import statistics. IRES collaborated in this study and a food balance sheet was arrived at. However, the author believes that it is always a tedious exercise to even get a rough idea of exactly how much food is arriving at a city like Kinshasa. If such a study is now undertaken, a certain food gap will be arrived at. One can argue about the magnitude of this gap but this is beside the point. It is not important to know exactly how big the gap is; what matters is why there is such a large gap, what are its main causes and what plan of action can be prepared to reduce and wipe out this gap and arrive at an abundance of low cost basic foods.

The division of agricultural statistics of the DOA has included in its work program for 1979, what they call "enquete areolaire II". In the first phase of this survey, a list of households was drawn up (the frame). They are now in the process of designing the questionnaires for this survey. The survey aims to collect information on demographic structures, the marketing of agricultural products (production, destination of production, economic operations), labor inputs and agricultural tools. The scope of this survey is nationwide. The project leader is Ms. Nadya Alexander and USAID is supporting this study, in cooperation with FAO. 1/

The food marketing research team should make a brief review of past and current studies on the marketing of agricultural products in Zaire. This includes research results and information on the following topics:

- the decision making process of the farmers
- food assembly and collection in rural areas
- food storage at the village level
- the transportation system/marketing system
- cultural elements in the marketing of food crops:
 - taboos, ethnic closed groups of buyers and sellers, etc.
- analysis of marketing channels
- price controls and their effectiveness at different
 - stages in the marketing channel

1/ Based on the document 'Activites du Projet Statistique, annee 1979, Bureau de Methodologie, by Mabala Kipulu.

- the processing of agricultural products in Zaire
- degrees of competition in the assembly, wholesale and retail markets
- marketing information systems
- studies on marketing margins and cost structures
- studies on food storage in urban centers
- agricultural policies in Zaire with an impact on food production and marketing
- the effects of direct government intervention in the production and marketing of agricultural products.

Although this list is not exhaustive, it does identify the kinds of studies that are important inputs in the proposed food marketing study.

5. POPULATION GROWTH AND THE DEMAND FOR FOOD

Nobody knows with a fair degree of precision the actual population of Kinshasa or of the other major urban centers of Zaire. In Kinshasa, the population is estimated to be around 2,500,000. Based on U.N. statistics, Kinshasa was the fastest growing city in the world over the last decade, doubling its population in less than 10 years.

According to J. Boute (1978), Kinshasa is growing at an annual average rate of 7.5% over the period 1975-1980 and it is estimated that this rate will drop to 6.5% over 1980-1985. Over the same two time periods, all urban centers grow at 6.82% resp. 6.31%, the rural areas at 1.52% resp. 1.54% and the country at 3.16% resp. 3.27%, or resp. 22 and 21 years to double the population of Zaire. It is expected that rural to urban migration will slow down in the 1980's. However, because of higher rates of natural increase in urban centers, it is projected that the proportion of the total population of Zaire in urban centers will increase from 28.7% in 1975 to 34.2% in 1980 and to 39.5% in 1985. By the end of this century, Zaire will have close to 50 million inhabitants, half of which will live in urban centers.

About one-fifth of the total population of Zaire occupied in the modern sector resides in Kinshasa. Wages distributed in Kinshasa represent about 60% of the total monetary wages distributed in Zaire (Lumpungu Kamanda, 1975). Kinshasa has 64% of the motor vehicles of the Republic and over 70% of its cars. Every day there are about 500 more mouths to feed.

With such an urban explosion, probably no LIC-government could

improve or even just maintain an acceptable level of social institutions and services in health, education, market infrastructure and distribution.

According to the DOA, the commercial demand for locally produced food such as manioc, maize, rice, and fish will continue to grow for the next decade at an average 20-25% per year. This follows from the population growth rate, the rural to urban migration, rising incomes per capita and changing consumer habits. Although the quoted growth rate appears very high, there is no question that the demand for basic food is increasing rapidly. In Table 1, the apparent consumption of basic foods for Kinshasa for 1969/1970 is presented. This Table is based on 'MOUYOUX' (1973) survey of household budgets, consumption habits, nutrition and ways of life in Kinshasa. At that time, for up to 150 Z. income per year, mainly locally produced items were consumed. Above this level, more imported items were consumed.

In Table 2, apparent and projected average per capita consumption of cereals in Zaire is presented. Particularly the rapid rise in the consumption of rice and wheat which replace manioc as a basic food should be noticed. Table 3 lists the imports of maize, rice, sugar, and meat in Zaire over the period 1970-1980.

Lack of recent reliable data makes it difficult, if not impossible, to estimate the effective demand for basic food or for that matter, how much food is actually arriving at Kinshasa and how much of it is actually consumed.

USAID/Kinshasa carried out a food balance analysis for Kinshasa,

for the most important staple foods (manioc, maize and rice) for the period January 1978 to September 1979. The rough analysis appears to indicate that supplies have not been and may not be for the next year adequate to meet the estimated (physiological) demand for these foods. Particularly manioc, the basic staple food of Kinshasa, is in short supply.

There is an estimated diversion of about 40% of grain supplies to the breweries and for livestock feeding. There are also indications that rice is being diverted to non-Kinshasa markets, although initially allocated to Kinshasa.

Currently high basic food prices indicate that present supplies are certainly not adequate. However, it is estimated that food supplies would be just adequate if there would be no diversion to the breweries, the feed mills or to other countries.

The proposed food marketing study should answer the following essential questions with respect to the demand for food:

1. The expected annual growth rate in the commercial demand for locally produced foods such as manioc, maize, rice, groundnuts, fish per major urban center in light of the estimated population growth rates of these centers, the expected rise in per capita incomes over the period 1980-1990 and changing consumer habits.

2. The expected annual growth rate in the commercial demand for the same food produced after the same period for the breweries and for livestock feeding per major urban center.

4.

3. In light of 1 and 2, and the expected demographic evolution in each urban center, determine major consumption areas, per basic food product.

4. Establish priorities among those major consumption areas identified under 3.

TABLE 1: APPARENT CONSUMPTION OF BASIC FOODS FOR KINSHASA
(BY INCOME GROUPS 1969/1970)

Commodity	Income Groups in Z. Per Month Per Household 1/					
	<15.0	15.1- 20.0	20.1- 25.0	25.1- 35.0	35.1- 60.0	60.1 +
(Consumption in Kg./Adult/Year)						
Cereals	18.0	28.0	37.4	48.7	67.3	76.6
of which						
Maize Flour	0.6	1.1	0.7	1.3	2.2	2.7
Rice	3.3	4.7	6.8	9.7	15.6	23.1
Bread	13.6	21.4	27.7	35.0	46.6	43.8
Tubers and Plantain	68.7	103.0	118.3	136.5	148.8	112.6
of which:						
Cassava 2/	65.9	99.6	114.0	130.7	135.9	91.4
Legumes	8.1	9.6	11.2	13.4	13.6	10.3
of which:						
Groundnuts	2.5	3.1	3.5	5.3	4.5	2.9
Haricot Beans	4.9	5.5	7.0	7.4	8.6	7.1
Beer	7.5	12.1	20.7	35.8	45.4	72.4

1/ Population having up to 20 Z./Month income is about 65% of total.

2/ Includes cassava roots, cassava flour and cassava paste.

Source: IRES, Résultats de l'Enquête sur les Conditions de vie à Kinshasa, May 1971, quoted in SORENSON (1975).

TABLE 2: APPARENT AND PROJECTED AVERAGE PER CAPITA
CONSUMPTION OF CEREALS IN ZAIRE IN KG/CAPITA

Source	Year	Maize	Rice	Wheat	Cereals Total
FAO <u>1/</u>	1965	15.0	5.0	3.4	30
	1970	15.3	7.7	3.5	30
	1975	16.0-16.7	8.3-9.1	3.9	31-32
	1980	16.8-17.8	9.3-10.4	4.3	33-40
TVA <u>2/</u> Apparent	1970	19.3	9.1	5.5	35.1
	1971	20.5	9.6	5.8	36.0
	1972	20.6	8.7	6.2	36.6
	1973	22.0	11.9	6.0	41.0
	1974	22.3	10.8	6.2	40.4
TVA Projected	1980-Low	22	11.0	6.4	40.6
	1980-Med	24	11.5	6.7	43.5
	1980-High	26	12.0	7.0	46.4
	1985-Low	24	11.5	6.7	43.5
	1985-Med	26	12.0	7.0	46.4
	1985-High	28	12.5	7.3	49.3

Source: from SORENSON (1975).

1/ TVA Fertilizer Study for Zaire, USAID/Kinshasa, 1975. (FAO date as quoted).

2/ TVA Fertilizer Study for Zaire, USAID/Kinshasa, 1975.

TABLE 3. IMPORTS OF MAIZE, RICE, SUGAR AND MEAT, 1970-1980, REPUBLIC OF ZAIRE

(in 1,000 MT)

Year	Maize	Rice	Sugar	Meat & Offal	Prepared Meat
1970	63.5	25	15.0	11.9	1.4
1971	86.8	25	21.0	2.8	1.8
1972	103.7	30	18.0	14.6	2.2
1973	82.4	28	23.0	13.5	1.5
1974	90.6 ^{2/}	14	27.0	16.5	1.8
1975	107.0	25	9.3	15.5 ^{2/}	1.6 ^{2/}
1976	110.00	85	24.8 ^{2/}	17.5	1.6
1977	110.00	35	30.0	16.0	1.7
1978	105.0	12 ^{2/}	35.0	19.0	1.8
1979	^{1/} 96.0	10	41.0	18.0	1.8
1980	^{1/} 90.0	10	41.0	17.5	1.9

Source: Les Indicateurs Agricoles, Bureau d'Etudes, Direction Etudes et Politique Agricole, Departement de l'Agriculture, Kinshasa, October 1977.

^{1/} Projected

^{2/} Estimation

6. CONSUMPTION HABITS AND MAJOR FOOD SUPPLY AREAS

Manioc is the major staple food of Kinshasa, either in the form of "chikwange" (paste) or of "foufou" (manioc flour often mixed with maize flour). In Lubumbashi, maize flour is the most important basic food. In Kananga and Mbuji-Mayi, a mixture of maize and manioc flour (bidia) constitutes the basic diet. Plantain bananas (lituma) are very important in Kisangani, together with manioc. Rice is a preferred food in most cities but its high price excludes mass consumption. It is estimated that 30 to 40% of the rice and maize consumed in Zaire is imported. There is an important consumption of bread in all the major cities; nearly all the wheat necessary for breadmaking is imported via Matadi as wheat production in the highlands of the Kivu has nearly disappeared. 1/

The consumption of animal proteins in the major urban centers is quite low compared with other African countries. It is estimated at 9 kg per capita versus 15 kg in Abidjan and 15 kg in Dakar (Lumpungu, 1975).

1/ It may be important to note that most of the by-products of the wheat milling operations at MIDEMA in Matadi are exported to the European community, as these products, originating from ACP-states, have preferential access to the European market. Thus, most of these by-products are not available in Zaire for the production of concentrated animal feeds.

The consumption of fresh, canned and dried, smoked and salted fish (makayabo) is relatively high in Zaire, more important than the consumption of meat. The local production of fish, either from the inland lakes (Mai Ndombe, Lac Mobutu, Lac Idi Amin, Lac Tanganyika a.o.), streams and rivers and from ocean fishing (PEMARZA company) is quite important but it is difficult to even get a rough estimate of total fish production in Zaire. Still, considerable quantities of dried and canned fish are imported.

Presently, Bas-Zaire and Bandundu (mainly Kwilu subregion) are the major supply areas for the Kinshasa market for manioc and maize. Most of the locally produced rice consumed in Kinshasa arrives by river barge from the Bumba area (Mongala and Bas-Ulélé subregions). Fruits and vegetables for the Kinshasa market are produced in the immediate vicinity of Kinshasa (Ndjili, Nsele, etc.), in Mbanza-Ngungu in Bas-Zaire and in the Kivu. Fresh vegetables, beans and potatoes arrive in Kinshasa from the Kivu either directly by plane (one of the major actions of ONPV) or by truck from Butembo in the Kivu to Kisangani and from here by ITB (fast river boats for passengers, mail and perishable products operated by ONATRA) to Kinshasa. CECOPANE, a project sponsored by Canada, aims at promoting food products from the Kivu in Kinshasa.

Most, if not all, food produced in Bas-Zaire for the Kinshasa market arrives by truck via the ~~road~~ road. The quantities arriving by rail are minimal although a lot of non-perishable imported

foods are shipped to Kinshasa from Matadi by train.

Food from the Bandundu region is transported to Kinshasa by truck, the principal means of transport, or by river barge for the more bulky products such as manioc.

Although Kinshasa has several slaughter houses (Ndjili, Kingabwa, Nsele) most animals are slaughtered at their ranch of origin and the meat is transported to Kinshasa by truck from Bas-Zaire (mainly the JVL-ranch at Kolo, - 15,000 head of cattle) or from Bandundu (Kwilu area: J.V.L. ranch at Mushi with - 12,000 head of cattle and cattle in the Progress Populaire d'Idiofa project). From other origins such as N. Ubangi, Kivu, Kasai or Shaba, the carcasses are air-freighted to Kinshasa.

In Table 4, the major food supply areas for Kinshasa over the 1968-1970 period are given. Table 5 presents this information for Lubumbashi. (1970 data).

The proposed food marketing study should analyze consumption habits and the present major food supply areas in terms of the following:

1. The change in consumption habits in the major urban centers of Zaire over time. This is mainly the substitution of bread, rice and/or maize, for manioc. This point follows from the proposed study of the expected annual growth rates in the demand for locally produced foods cfr. the section on population growth and the demand for food.

2. The major food supply areas for Kinshasa and the other priority centers for manioc, maize, rice and groundnuts over the period 1970-1978. This can be estimated from ONATRA transport statistics,

transport statistics from private shipping companies, SNCZ and the estimated supplies transported by road. cfr. IRES' road traffic studies for Kinshasa.

Table 4: MAJOR FOOD SUPPLY AREAS FOR KINSHASA
(AVERAGE 1968-1970)

Region	Cassava		Maize		Rice		Groundnut	
	%	M.T.	%	M.T.	%	M.T.	%	MT
Bas-Zaire	88.7	99,987	-	-	-	-	6.1	246
Kwilu River	8.0	9,018	44.9	3,482	-	-	69.6	2,802
Kasai River	2.2	2,480	3.4	264	1.1	123	10.4	419
Kasai Occidental	0.1	113	20.6	1,599	6.4	717	-	-
Kwango-Wamba Rivers	0.6	676	0.2	16	-	-	12.5	503
Sankuru River	-	-	-	-	1.7	190	0.5	20
Fimi-Lukenie River	0.4	451	2.2	171	2.4	269	0.5	20
Mongala River	-	-	26.3	2,041	3.6	403	0.2	8
Bumba	-	-	1.1	85	44.6	4,995	-	-
Dumba-Mbandaka	-	-	0.4	31	12.8	1,434	-	-
Vicicongo Railway	-	-	0.6	47	16.4	1,837	-	-
Lulonga River	-	-	0.2	16	5.0	560	-	-
Ruki River	-	-	0.1	8	3.6	403	-	-
Kisangani Region	-	-	-	-	2.4	269	0.2	8
Totals		112,725		7,760		11,220		4,026

NOTE; This table excludes supplies transported by road from the Kikwit-Kenge Region. No clear indications of the importance of this marketing channel are available but will undoubtedly develop with new road.

Source: ~~original unpublished data and mission estimates of supplies from producers~~
(From IBRD Report PA118a, quoted in SORENSON (1975)).

Table 5: MAJOR FOOD SUPPLY AREAS FOR LUBUMBASHI
(1970 date)

Region	Maize		Maize Flour		Cassava Root		Cassava Flour	
	%	M.T.	%	M.T.	%	M.T.	%	M.T.
N. Shaba & Kasai	7.2	2,002	2.1	326	3.0	454	11.5	463
Bandundu	42.0	11,676	-	-	10.6	1,603	-	-
W. Shaba	5.8	1,612	0.8	124	76.3	11,540	57.0	2,294
Maniema	36.3	10,091	-	-	0.8	121	-	-
Haut Shaba	8.7	2,419	97.1 ^{1/}	15,060	9.3	1,407	31.5	1,268
Total		27,800		15,510		15,125		4,025

Region	Beans		Groundnut		Rice		Millet	
	%	M.T.	%	M.T.	%	M.T.	%	M.T.
N. Shaba & Kasai	1.4	26	0.9	30	9.4	189	-	-
Bandundu	-	-	1.2	40	0.5	10	-	-
Maniema	84.4	1,557	1.1	37	67.3	1,349	-	-
Haut Shaba	13.9	256	12.5	421	20.6	413	41.1	458
Total		1,845		3,365		2,005		1,115

^{1/} Includes maize flour produced from imported maize.

SOURCE: From IERD report No. PA118a, quoted in SORENSON (1975).

7. AGRICULTURAL PRODUCTION AND MARKETING CONSTRAINTS IN

THE MAJOR FOOD PRODUCING AREAS

The basic working hypothesis underlying this proposed Scope of Work is that Zaire can feed itself even under present production technologies, and that difficulties and constraints in food marketing, including transportation and specific government interference and policies such as price fixing legislation, are responsible for the persistent shortages of basic foods in the major urban centers of Zaire.

At the production level, it is generally believed in Zaire that land is abundantly available (only about 1.5 percent of the total land surface is cultivated), that capital goods are produced on the farm in traditional agriculture but that labor bottlenecks, mainly during land clearing and soil preparation, limit agricultural production. However, these hypotheses have not been sufficiently tested in the field. Are seasonal labor bottlenecks really the limiting factor, under existing cultural practices and technology? Are the production incentives and motivations too weak to yield a surplus production, or are the resources seriously misallocated?

These and other questions can only be answered with micro-economic village level studies in selected areas.^{1/} In this respect, the research proposal advanced by Dean Linsenmeyer (1974) is an excellent example of the kind of studies that should be undertaken to

^{1/} The author realizes that these studies fall outside the scope of this food marketing study. However, the importance of such micro-level studies cannot be stressed enough.

gain insights in small holder decision making and farm management. Mention should also be made of the author's doctoral thesis research on cotton production, marketing and processing in northern Zaire (Tollens, 1975).

The studies carried out on rice production in the Turumbu paysannat (Yalibwa) in the Yangambi area in 1975-1976 under the direction of this author are also an example of the kind of micro-economic research needed to understand individual and collective production decisions.^{1/}

The agricultural production potential of various regions in Zaire and the major constraints impeding the realization of this potential have been studied since 1971 on behalf of the Presidency by SICAI.^{2/} As these studies were contracted out by the Presidency to SICAI, only a limited number of copies of the various reports were circulated. The report on the northeast (Kivu and Haut-Zaire) was published in 1974. The agricultural sector report was prepared

1. These studies were carried out by students in the Department of Agricultural Economics at the Faculty of Agronomy, UNAZA-Yangambi. The principal studies referred to are:

- Tshibaka Mukendi (1975) - Labor Utilization.
- Ntamulyango Baharanyi (1975) - Intercropping and Risk.
- Kilumba Ndayi (1975) - Incomes and Expenditures.
- Ngoy Kamadi (1976) - Cobb-Douglas Production Functions.
- Libendele Lobuna (1976) - Marketing of Rice.

2. *SICAI. Société Sino-congolaise d'Activité Industrielle (Italian-Zairian Company for Industrial Activity).* This consulting firm was engaged by the Presidency for the Inga Shaba hydro-electric projects, the Maluku steel mill and for various regional development studies.

by Guy Verhaegen, S.J.^{1/} and Cit. Mwanza (now Department of Plan), and Cit. Ilunga Mbundu. SICAI is finishing or finished a similar study for Equateur (already printed), Bas-Zaire, Bandundu and Kasai regions.

A research team from the University of Brussels, Department of Sociology, Institute Solvay, under the direction of Prof. Doucy did a nationwide study in Zaire in 1976-77 for the Presidency on rural incomes and living conditions. Their study^{2/} should also shed some light on rural incomes, production incentives and sociological constraints on agricultural production.

CECOPANE is studying food production constraints in North Kivu. About 30 enumerators are collecting information on production and marketing conditions, including road transport, in this area. Thus, this proposed food marketing study should concentrate on the other high agricultural productivity areas in Zaire. In this context, the study team should determine:

- (1) Which rural production areas should serve which urban centers i.e. what are the major production centers, per basic food product, for each major urban center.

1. M.S. economics, London School of Economics. He worked previously at ONRD and IRES, and from 1974 to 1977, he was a professor of agricultural economics at the Faculty of Agronomy at Yangambi. He is presently at CEPASS, Kinshasa
2. The author has not yet seen their report, but a copy should be at the Presidency.

2. What are the main criteria for determining major production areas for each urban center.

The following elements are to be considered in determining these criteria:

- a. The physical production potential, per crop, in function of the resource base (including human resources) and ecological conditions. The planning essay elaborated by B. Van de Walle (1960) at INEAC will be useful in this respect.
 - b. The production potential in terms of past achievements, going back to pre-independence levels of production. A good reference on this point is the INEAC 1910-1960 "Volume Jubilaire".
 - c. Access to major consumption centers as a function of the existing transport and marketing infrastructure, the per unit marketing costs associated with it and the risks involved i.e. the marketing constraints.
3. Establish priorities among the thus identified major production areas for each major consumption area (cfr. section on population growth and the demand for food) according to the criteria developed under 2, and in light of the inputs required to remove the major marketing constraints.

8. TRANSPORTATION CONSTRAINTS

For an outside observer, it is incomprehensible how a country like Zaire, endowed as it is with natural conditions conducive to an abundant food production (climate, soils) cannot feed itself. An excellent transportation network exists, the Zaire river and its tributaries, and there is no reason why Bandundu, Equateur, Haut-Zaire and Kivu regions could not supply the Kinshasa market with an abundance of food. However, at present, these regions are more or less cut off from Kinshasa because the main state controlled transportation system, ONATRA, cannot really be relied on for the shipment of food, and because of the poor state of most of the roads. Whatever these regions now put on the Kinshasa market mainly arrives via fairly expensive privately operated river transport companies (Demoulin, S.Z.N.F., S.G.A., the major breweries, etc.), or by truck from Bandundu region.

The deficient transport system in Zaire has been held responsible by many for the persistent shortages of food in the cities. Since 1970, a lot of funds have been pumped into the transportation infrastructure with the creation of the Office des Routes. Each and every document on agricultural development in Zaire dwells at length on the formidable transportation problems. In short, the following deficiencies are listed:

- poor maintenance of the main roads and particularly the feeder roads.
- ferries and bridges which are broken down or dangerous to use.
- insufficient operating capacity at ONATRA which results in the long transportation delays.

- theft and pilferage of commodities transported by ONATRA thus, high risk transportation.
- lack of spare parts for trucks and shortage of new trucks.
- shortages of gasoline and diesel fuel and exorbitant prices for fuel on the "black" market.

Thus, transport difficulties are a major bottleneck and are to a large extent responsible for the price signals at retail not being transferred back to the food producers.

So much thought and effort has already been devoted and is still directed towards improving Zaire's transport infrastructure but it remains a major constraint on the efficiency of food marketing. However, the author is also convinced that whatever ambitious efforts are undertaken to improve transportation in Zaire, there will be a major transportation constraint for a long time to come because of the high cost of maintaining and building roads, the long distances involved, the continuing effort which is needed and finally, the low density of agricultural production in Zaire at present technologies.

The author believes that efforts to rehabilitate roads should be concentrated on those food producing areas where actual or potential production densities are sufficiently high (e.g. Bas-Zaire, Kwilu and parts of Mai-Ndombe for the Kinshasa market) to warrant intensive use of these roads which makes the road investments pay off. Of course, the main access roads from urban centers to the interior always need proper maintenance.^{1/}

1. Examples for the Kinshasa and Kinshanga markets are: Kinshasa-Matodi, Kinshasa-Kikwit-Kenge-Kananga-Mbuji-Mayi, Kikwit-Bandundu, Atula-Gemena, Gemena-Businga, Bumba-Aketi-Bute-Poko-Isiro and NiNia-Mambasa-Bunia and Mambasa-Beni-Lubero-Goma-Bukavu. This list is by no means exhaustive but as the author has travelled on these

Most truckers-traders choose to purchase only in those areas where transport costs are relatively low and profits relatively high, leaving the more remote areas with fewer, if any transport alternatives. Thus, particularly the lack of good feeder roads is blamed for the high road transport costs.

The main road communications between Bandundu and Kinshasa are fairly good since the ferries on the rivers Lufimi and Kwango have been replaced by bridges. River transport utilizing the Zaire river, Kwilu and Kwango rivers is perfectly feasible during the wet season but is nearly impossible on the Kwilu and Kwango during the dry season because of insufficient water volume.

There are now many private transporters operating and competing with ONATRA on Zaire's rivers. Their rates are usually twice to three times those of ONATRA and they basically skim off the cream of the transport market for ONATRA. As they concentrate on the transport of merchandise, vehicles, spare parts, fuel, machinery, coffee and other high value per unit weight commodities, they do not have enough capacity to transport bulky food such as manioc, plantains, maize, groundnuts. Unless the confidence in ONATRA can be restored, much of the interior of Zaire and particularly Equateur, Haut-Zaire and Kivu regions will not be able to supply Kinshasa with basic food.

As an example, Bas-Uele and parts of Haut-Uele which, according to this author (1973), have probably one of the highest production potentials of Zaire, are presently nearly isolated

from the rest of the country.^{1/} The Mungbere-Bumba SNCZ railway (ex-CVZ), 60 cm gauge, has only two locomotives operating on it and transports mainly persons, merchandise and coffee as there is not enough capacity to transport other goods. (Mokonda, 1978). The Bas-Uele is endowed with some of the best soils of Zaire and used to be a major producer of rice, cotton, coffee, maize, groundnuts and other food crops. This subregion is potentially a major supplier of food for the Kinshasa and Kisangani markets.^{2/} But there is not one agricultural development project in operation in this vast area. The Uele railroad and the major roads are a major constraint on the development of this region and confidence must be restored in ONATRA and in SNCZ before this vast food production potential can be realized.

Transport charges in the ONATRA river/rail system are not high (Table 6). There are thirteen classifications of freight and basic foods (maize, manioc, rice, groundnuts) receive very favorable rates, i.e. class A or B. Per unit transport costs are low because of the degressive transport rate policy (sliding scale) which favors transport of low value per unit of weight produce over long distances. Contrary to common belief, the transport costs on public transport facilities are not high, if it was not for theft, pilferage and long delays.

^{1/} Most of the coffee produced in 1978 in these subregions was exported fraudulently to Sudan, Uganda, R.D.A. or Rwanda. The highest coffee yields of Zaire are obtained in Bas-Uele.

^{2/} About the same could be said of the Maniema subregion in W. Kivu which used to be a major producer of rice, cotton and food crops.

As a general rule of thumb, when the transport cost per ton and per km on ONATRA's river network is put equal to one, the comparable fare on the railroad is three and transport by truck is about ten, given good roads.

As long as ONATRA's river transportation system is a high risk operation for the shipping of food products from the interior to Kinshasa, the only major supplies reaching the city will be via trucks from Bas-Zaïre and Kwilu and from other areas via privately operated river barges and boats.

In conclusion, the proposed food marketing study should specifically address itself to the following questions:

- a. What are the food producing areas where road rehabilitation should receive priority i.e. the main roads plus the connected feeder roads, bridges and ferries.
- b. Are there any local institutions capable of maintaining these roads in these areas e.g. via subcontracting with the Office des Routes.
- c. How many trucks are there operating now in a particular food producing area compared with for instance, five years ago. The logbook kept at all ferries in Zaïre might be a good source of information on this point.
- d. What is the average transport cost for trucks per ton and per km.
- a. What is the average transport rate charged for shipping food by private transport companies and by ONATRA.

- f. What is the average percent of theft and pilferage at ONATRA and at private shipping companies for food coming from the main producing areas.
- g. Is there insufficient transport capacity (ONATRA and privately owned) by river at the major food producing areas; what is the average in transit storage time at loading and at unloading in the river ports.
- h. How much and what is the effect of government interference in transport e.g. roadblocks, harrassment.

Table 6: ONATRA Transport Rates for Maize, Manioc and Rice from Kisangani and Bumba to Kinshasa, zaires/metric ton (rates applicable for March 1979)

Products	Kisangani	Bumba	Specification
Maize	2.01	2.01	handling
	3.80	3.90	transit
	<u>28.20</u>	<u>23.70</u>	<u>freight</u>
	34.01	29.61	total
Manioc	2.01	2.01	handling
	3.80	3.90	transit
	<u>28.20</u>	<u>23.70</u>	<u>freight</u>
	34.01	29.61	total
Rice	2.01	2.01	handling
	3.70	4.10	transit
	<u>29.70</u>	<u>25.00</u>	<u>freight</u>
	35.41	31.11	total

Source: Direction Commerciale, ONATRA, Kinshasa, February 27, 1979.

9. DESCRIPTION OF THE FOOD MARKETING SYSTEM WITH EMPHASIS ON THE KINSHASA MARKET

A. Locally Produced Basic Foods

The bulk of food production for Zaire's urban centers comes from a large number of small subsistence type farms. Manioc, maize, bananas, fruit and vegetables, etc. are mainly produced for home consumption, but the excess is marketed when buyers are available. However, there are some commercial producers in Bas-Zaire and Kwilu region which specialize in the production of manioc, maize or fruit and vegetables for the Kinshasa market.

Rural markets are found in most villages and are organized two to three times per week. Most truckers-traders buy at these markets: they may also visit individual farmers when no market is organized on that particular day. The trade of the main locally produced foods is almost completely in the hands of Zairian nationals.

Most of the staple foods marketed in Kinshasa are purchased by merchant truckers buying at rural markets or at farms in rural areas, mainly in Bas-Zaire or Bandundu. These truckers-traders then transport the products to Kinshasa where sales are most often directly made to semi-wholesalers, retailers and even to consumers in the central market or in the different markets in the zones. As some products are perishable, the traders like to dispose of the merchandise as fast as possible.

Truckers seldom have an established place of business; their truck serves as a grading, packing and storage warehouse. Yet these truckers perform (through franchise associations) an important marketing

function of assembling food products from large numbers of small producers, transporting the products to urban areas and distributing them to other middlemen or to consumers. They provide the necessary link between small geographically scattered producing units and small retailing, wholesaling or consuming units. Only a small part, mainly rice, sugar and vegetables passes through supermarkets or self-service stores.

The food thus assembled and transported receives little protection from the tropical heat. Products are ordinarily transported in bulk or in sacks. There is no grading to promote buyer confidence and thus, each item that is received is inspected and counted. Thus, the movement of products from the farms to the marketing centers in Kinshasa is a costly process due to inefficient handling, spoilage and waste as a result of bruising and mashing. A high percentage of the food staples is marketed through the municipal "wenze's" or small markets which can be found in each zone.

Locally produced fresh fruits and vegetables, eggs, poultry and dairy products (DAIPN of Nsele) tend to move through specialized marketing channels i.e. direct sales in their own retail stores (e.g. DAIPN has a selling point at the central retail market of Kinshasa) or direct delivery to hotels, restaurants or the major supermarkets.

Finally, there is no suitable livestock market in Kinshasa. The necessary slaughtering facilities for the proper handling of animals exist but ranchers prefer to slaughter locally and ship the carcasses to Kinshasa and to other cities by truck or plane instead

of the live animals. This has probably to do with unreliable transport services of live animals by ONATRA.

B. Imported Foods

The imported foods are channelled through the main wholesale distribution houses e. g. SEDEC, Interfina, Solbena, Sapa, JVL, Ecop, Chez Yaya, Nogueira, Hassan a. o. which sell these products in their own supermarkets or superettes and also sell wholesale or semi-wholesale to retailers. Via these semi-wholesalers and retailers, these products find their way to the different retail markets.

The Government intervention is quite strong with respect to imported food items. Importers need to obtain an import license and corresponding access to foreign exchange. There seems to be no consistent government policy with respect to imported foods, particularly since there are large food shortages in Zaire which make massive food imports mandatory.

C. Wholesale Markets

The wholesaling function is a critical element to the performance of any food marketing system. However, Kinshasa and the other major cities have no real wholesale market. The wholesaling function exists for certain products such as meat, dried fish, imported cereals or locally produced rice or maize. Often, it is difficult to distinguish between wholesaling and retailing operations. A lot of selling operations which are classed as retailing are in fact semi-wholesaling as f. i. bags of sugar, rice or peanuts of 1 to 5 kg are finally sold cup by cup or glass by glass.

Distribution at the wholesale level can be defined as everything which is not distribution at the retail level. Retail activities are those which bring the product directly to the final end-user i.e. the consumer.

The wholesaling function is generally diffused and rarely specialized. The same operator can combine wholesaling and retailing functions. Presently the facilities used in wholesaling food are scattered throughout the cities. The largest single concentration of operators in Kinshasa is in the central market and at pont Kasavubu. The larger wholesalers supply the smaller ones who could not take advantage of large volume purchasing, direct buying and importing.

The wholesaling function exists in several dimensions. For locally produced food products, wholesalers may buy their produce from assemblers-truckers. These act between the farmer and the wholesaler and they may operate for the account of the wholesaler. There seems to be limited purchases on a fixed commission basis and auctions for food products do not exist in Zaire.

Barriers to changes in the wholesale system seem to be exclusive dealership arrangements for imports of canned goods as well as for locally produced foods and particularly for locally processed foods.

D. Supermarkets, Superettes and Stores

Kinshasa has a fairly large number of supermarkets, superettes and these units are concentrated primarily in the higher income groups, expatriates as well as Zairois. They stock mainly

imported foods and fresh fruits and vegetables, either locally produced or imported.

These supermarkets and self-service grocery stores do not play a significant role in the distribution of major staples such as manioc flour and leaves, maize flour and rice, although for this last item, they occasionally stock it in 5 to 10 kg plastic bags, when a large quantity has been imported or when food aid is channelled through these supermarkets.

Finally, there are many small stores in Kinshasa which sell locally produced non-perishable and imported foods together with locally manufactured consumer goods.

All the foreign owned supermarkets and superettes were nationalized in November 1973 and were managed by either para-statal organizations as S.G.A. (Société Générale d'Alimentation), ECOP (Economat du Peuple) or by Zairian private citizens. With the announcement of the measures of "rétrocession" in 1976-1977, the food stores were returned to their former owners, who had to associate themselves with a Zairian counterpart.

Kinshasa is endowed with one of the largest, if not the largest modern super or hypermarket in Africa, with 11.000 m² of selling space. This facility is now closed and the underground level is flooded with water.

In 1975, the government decided to have a "magasin témoin" constructed in each zone of Kinshasa, following the experience of other African countries such as Sénégal and Ivory Coast. The purpose of these

"witness" stores was to reduce the retail price levels for food and to show the population that price reductions were possible. The ECOP was supposed to supply these stores. However, as food shortages prevailed, the operation failed for lack of sufficient supplies in the stores. Finally, several of the physical facilities built for the program were converted into local courts of justice.

E. Retail Markets

The major retail market for food products in Kinshasa is the large central market in the zone of Kinshasa which depends directly from the urban commissioner. Each zone in the city of Kinshasa has its own retail market (24 in total) and furthermore, there are many small markets ("wenze") in the quarters", about 72 in total.

The central retail market in Kinshasa is well constructed, with cemented floors and covered by a roof, with concrete tablets to expose the produce and stainless steel plates for displaying meat, fish and fruits and vegetables. There is also possibility of food storage including cold storage facilities. However, this central market is terribly congested and is now much too small to fulfill its role adequately.

The "wenze's" consist of uncovered open space, mostly without concrete floor or water drainage canals, where makeshift individual stall in tinboard, wood and carton allow the retailers to display their products. For the wenze's, there are no facilities to properly grade, store, weigh or efficiently handle produce. Parking space is usually very limited around the wenze's which results in congestion.

Both wholesale and retail operations are carried on in the

wenze's, often by the same individual. The most prevalent type of market price and supply information is market observation and word of mouth reporting.

10. GENERAL DIAGNOSIS OF THE PRESENT FOOD MARKETING SYSTEMS IN KINSHASA AND IN OTHER URBAN CENTERS OF ZAIRE AND FORMULATION OF HYPOTHESES

This general preliminary diagnosis of food marketing problems in the major cities of Zaire is based on an assessment of the present situation through direct observation, previous studies, secondary data, and a few in-depth interviews with market participants and public officials.

Although each urban center has its own distinctive characteristics, there appear to be a number of common difficulties with the organization and performance of their food systems. Generally, the larger urban centers (Kinshasa, Kananga, Mbuji-Mayi, Lubumbashi and Kisangani) are growing very rapidly, doubling in size over a period of 9 to 15 years, depending on the city. Existing urban food distribution systems are typically composed of a mixture of many very small neighborhood food stores, some specialized food outlets, a large number of traditional retail markets (wenzes) where small scale, highly specialized stall operators are grouped together, a large central congested traditional retail market with a large number of small scale stall operators and finally, a number of large, modern food stores or supermarkets concentrated in the high income neighborhoods.

There is some limited evidence that some wholesale-retail markets, particularly in Katanga and in Shaba, are ethnically closed. Only commercants belonging to one particular, dominant tribal group are allowed to operate on the market. Merchants not belonging to

this tribe are constantly harrassed, their truck is sabotaged, etc. There seems to be no evidence of this on the Kinshasa market or on markets in northern, central or eastern regions.

For Kinshasa, the congestion of the central retail market impedes efficient operation and drives up the cost of food distribution. The market has become much too small. The conditions and facilities of the other retail markets in Kinshasa, the wenzes, even the larger ones, are far from satisfactory. They are also congested, have no unloading docks, no sorting areas, no cleaning facilities, limited parking space for trucks, no concrete floors, no, or inadequately covered selling spaces, no storage facilities, unsatisfactory hygienic and sanitary conditions, particularly for perishable products. About all they provide are small stands (make shift) for the operation of retail business. As a result, there is a proliferation of selling points (kiosques) throughout the city and of itinerant peddlers. There is a very large number of retailers in Kinshasa, their per unit sales are very small and most low income consumers shop several times a day.

It is important that urbanization plans for Kinshasa (and for the other major urban centers) reserve open spaces for future market locations, including access roads, rail lines, parking space, etc.

The wholesaling functions are relatively small scale and

specialized by product.^{1/} There is no wholesale market as such. Each day, retailers spend large amounts of time assembling small lots of merchandise to be resold through their small stores or on the wenzes. As the urban centers have grown into large cities, the traditional small scale and poorly coordinated wholesale-retail food systems become increasingly unsatisfactory. The transport arrangements become more costly, consumers often receive low quality products and they must spend unreasonable amounts of time shopping for the family food supply.

The price signals and related market information do not reach the farmers through the urban retail-wholesale system. Thus, farm production is not aligned properly with consumer demands, quantitatively and qualitatively. The producers are frequently forced with uncertain product prices, small scale and oligopolistic assembly markets, lack of reliable information on current market conditions and poor transportation linkages with the cities.

Public policies in food marketing in Zaire reflect a strong mistrust of the intermediaries in the vertical commodity assembly systems. This is reflected in the various price and marketing margin fixations, direct government intervention in various aspects of food marketing including assembly and distribution, e.g. ONACER, ONPV, ECOP, CECOFANE and various inspections

^{1/} It is interesting to note that in Africa perishable products are usually traded on an open market while imported foods and non-perishables usually transit via wholesalers before arriving at the market or at the stores.

and regulatory practices. Little emphasis has been put on ways and means of fomenting a progressive, competitive and efficient private sector in food marketing.

Public efforts to improve food marketing have often hampered efficient marketing operations and have failed to provide conditions which facilitate effective market coordination. The unnecessary costs associated with poorly coordinated markets are evidenced by closed down supermarkets for lack of produce, abortive attempts at direct government intervention e.g. ONACER, chronic shortages of basic food items and a general tendency towards monopolization of distribution channels (the quota system) by private companies. for imported foods but also for locally produced cereals such as rice and maize.

Merchant truckers obtain price information by direct observation in the various wenzes where they visited. Since most of the trucker's purchases are at small concentration markets where farmers most frequently deliver products by hand, carried on the back or on the head, truckers-buyers are in a favorable bargaining position. The poorly educated farmer with small amounts of produce, poor market information and few if any alternative buyers is usually unable to bargain for "fair" prices. Only farmers which group together in a "groupement de solidarite" and hire a truck to get their produce to the Kinshasa market, as is happening in some parts of Bas-Zaïre, may benefit from the high food prices prevailing in the Kinshasa market.

The assemblers, by withholding demand, exercise monopsony power which tends to reduce the price of the agricultural product which the farmer offers. Such monopsony power exists because in most food producing areas, there are few merchants truckers relative to individual farmers or because there is limited competition among the merchants truckers themselves. As a result, most farmers, except for those well situated along the major roads, receive a price which is close to the minimum producer price fixed by the DOA and DEN.

According to Prof. Lumpungu Kamanda (1975), one sack of fofou (manioc flour) cost in March 1975 officially 2.50 zaires, but the price actually paid on the market of Kinshasa oscillated between 7 to 8 zaires. The farmer in the producing areas of Bas-Zaire received 1.75 zaires, thus a relationship of 4-5 to 1. In February 1979, this relationship still seems to hold, more or less, but more research is needed to demonstrate this.

Producers are given little incentive to invest additional inputs (i.e. labor, capital or land) to attempt increasing output or improving quality. Thus, farmers follow extensive production practices whereas virtually all farming in Bas-Zaire and Kwilu because of the proximity and size of the Kinshasa market, should be on a very intensive basis.

The absence of a dynamic and orderly marketing system has the effect of maintaining a status quo of small scale pro-

duction, unbalanced competition dominated by monopsony power in the relationship between buyers and producers and low levels of productivity. Basic marketing inefficiencies such as inefficient handling methods, excessive congestion, excessive wastes, selling by count, packaging in odd containers, lack of reliable market price information and unnecessary instabilities and uncertainties add to distribution costs. These make it difficult for many operators to remain in business under competitive conditions. These added costs are also reflected in the high food prices and/or low quality produce, thus placing additional burdens on food budgets which for most Kinosis are already stretched to the limit.

There is a need for professional training and follow-up of traders and shop owners, particularly in accounting, business management techniques and attitudes towards competition. OPEZ has a major responsibility in this area but it suffers from insufficient budgets. It is important that women as well as men have access to professional training as many retail activities are carried out by women. Particularly when short or medium term credit is granted to traders or shop keepers should professional training and extension be included in the terms of granting a loan.

Also, there is considerable scope for the extension of the use of standardized weights and measures in retailing operations. Many food products are still sold by the bag, can or basket.

There is no market news service (mercuriale) available on an official basis, which would collect daily price information in the municipal markets and disseminate it through, for instance,

radio programs. However, the combining of retailing and wholesaling operations in the same markets may seriously reduce the value of the government's price information to producers and distributors.

To conclude this section on a general diagnosis of the present food marketing systems in Kinshasa and in other urban centers of Zaire, the following hypotheses are advanced which should be tested out in the proposed food marketing study for high priority food producing areas and for high priority consumption centers.

Hypotheses to be Tested in the Food Marketing Study

Hypothesis 1.: with the present production technologies and resources, enough food can be produced to create an abundance in the major urban centers. Not enough food has been produced because of insufficient real incentives for the food producers (smallholders and plantation-type).

Hypothesis 2.: there has been a tendency to monopolize certain marketing channels for basic foods, particularly at the wholesaling level, with the tacit consent of certain government authorities.

Hypothesis 3.: certain food markets in Zaire are ethnically closed which stifles effective competition on these markets.

Hypothesis 4.: prices for the basic foods at the retail markets in the urban centers are high for lack of effective competition among wholesalers-retailers.

Hypothesis 5.: the price fixing legislation in Zaire has a negative effect on the production of basic food by smallholders and by large plantation type companies (sugarcane, palm oil, cattle, maize).

Hypothesis 6.: the import-and export policies for agricultural products favor certain participants in the food marketing system and have the effect of restricting competition in the market.

Hypothesis 7.: the performance of the government as a direct participant in the food marketing system has consistently been below the performance of the private sector carrying out the same marketing functions.

11. IS THERE A NEED FOR NEW WHOLESALE MARKET FACILITIES?

The major inadequacies of the present wholesaling system in Zaire have already been described. The position of food wholesalers is one of strategic importance with respect to strategies for improved market performance in the urban centers.

Not many wholesale markets for food products exist in Africa, except for meat and fish products. A new wholesale market facility is now operating in Abidjan and in Lome.

The author believes that, to take Kinshasa as a focal point, the creation of one major wholesale market probably located in the southeast section of Kinshasa, i.e. where most of the expansion has taken place and will probably continue to take place, could probably increase the efficiency of wholesale and retail distribution by fostering competition and inducing efficiencies. Such a facility would have to be constructed at the convergence of the major roads from Bas-Zaire and Bandundu, and, if possible, a rail terminal connecting it directly with the Matadi port. The area needed would ideally be several hectares in size and would comprise the following facilities:

- parking space for trucks and cars
- unloading docks
- storage facilities, including cold storage; for the different food products.
- clearing and grading facilities

--communications equipment (telephone, telex, public address)

an administrative building

--selling space where buyers, sellers and brokers can meet.

The area should have a concrete or tarmac floor, with water drainage and the permanent facilities should be covered for protection against bad weather. Such a facility should probably be aimed at serving an urban population of up to 5 million people, the projected population figure of Kinshasa in the early 1990s. However, construction could be in successive phases, as the population grows.

The author believes that such a modern wholesale facility could offer the following advantages over the present situation:

- A. As demand and supply will be concentrated in one place, competition will be fostered, the price formation process will become more transparent and the exchange process will be more efficient (allocative and price efficiency).
- B. Retailers would be able to procure all their products at one central place thus reducing considerably transport costs as they now have to visit several wholesalers scattered all over the city to obtain the quantities of goods they like to stock. It is expected that transport services will develop between the new central wholesale market and the different zones as most of the transport

business for the retailers will originate from the wholesale market.

- C. Physical handling will become more efficient as the new market will provide sufficient space for parking, sorting, grading and unloading at dock height and assigned for fork lift materials handling, conveyor belts, etc.
- D. As storage of products, perishable and non-perishable, will be centralized in warehouses, there will be economies of size in storage and relatively less losses and spoilage will occur.
- E. Of particular importance will be improved marketing information about supply and demand conditions, price formation and marketing margins. A mercuriale (market prices list) could be established, circulated and broadcast.
- F. Perishable foods could be traded under correct hygienic and sanitary conditions.
- G. The distribution of food aid could be channeled through the wholesale market, thus facilitating its distribution. As better market information would be available, the release of food aid could be programmed such as to avoid upsetting the prices of domestically produced foods.

There is one more important reason why the establishment of a large, central wholesale market could possibly have an important cost reducing effect and lead towards improved market performance.

The main existing supermarkets are generally not interested in ex-

panding their operations in low income areas where they would specialize in the major food staples (manioc, maize, rice, plantains, sugar, palm oil, dried fish, etc.). The principal reason advanced is that this would require additional organizational capacity, which is already scarce, to procure these food products. They simply do not know how they would supply their stores as they cannot buy these foods in large quantities and because they are not interested in "moving up" in the marketing channel, i.e. organize the collection and assembly of locally produced food products in the main production areas and transport them to Kinshasa.

In other words, the main supermarkets existing in Kinshasa cater to the high income classes, not only because this is the most profitable business, but also because they cannot buy basic food products in large quantities since there is no organized wholesale market.^{1/}

Thus, the existence of a large wholesale facility for basic food products could induce the existing large supermarket operators to expand their operations in low-income areas. Such supermarkets specializing in an efficient, mass volume, low cost

^{1/} Several major supermarket managers indicated that they would not be interested in running the hypermarket "tembe na tembe" as they fail to see how they could stock the shelves with basic food products.

basic food distribution system could have an important cost reducing effect. They could also decongest the large central and the smaller local retail markets.

Two major criticisms against the establishment of a wholesale market may be raised:

- A. A large wholesale market will not be practical as it will increase transport costs for retailers. A large central wholesale facility might reduce total transport costs, if it is well located, as it will avoid visiting several specialized wholesalers now scattered over the city. Some sort of intra-city transport system might be considered with light pickup vehicles, up to one ton, which assures regular transport from the wholesale market to the different wenzes. Such a system of "intra-city utility transport vehicles" operated by the city exist at Abidjan where several hundred Renault 1000 kg light trucks marked "ravitaillement des marches" assure the movement of goods between the different markets (Jansonius, 1975).
- B. The criticism that the major wholesalers will not move to the new wholesale market. In order for the wholesale market to be successful, wholesalers and retailers must use the market. Certainly, new facilities, well planned and designed, offer a certain attraction. But it is not sure that established wholesalers will leave their own

facilities and move to the wholesale market. Sufficient incentives must be offered for this purpose, e.g. tax advantages, credit advantages, etc. If the major wholesalers can be induced to invest in the new market, e.g. in warehouses, office space, etc., then their participation is assured.

In light of the foregoing, it is therefore proposed that within the scope of this food marketing study, a pre-feasibility study should be undertaken with respect to the establishment of a new wholesale facility in Kinshasa. This explorative study should be seen as studying one of the possible ways in which urban food marketing performance could be improved. Three types of study are necessary in this respect:

- A. Economic Studies. The main purpose of such studies is to define the perspective of the development of food marketing in Kinshasa from a qualitative and a quantitative viewpoint. They concern the agricultural production areas where food will be produced for the wholesale market; the demographic evolution of the city; the existing channels of distribution and the characteristics of the distributors, wholesalers, retailers, transporters, processors; a profile of the urban consumer i.e. incomes, consumer expenditure patterns, and food consumption patterns; the price formation process and the existing marketing information system. The proposed food marketing study will answer most of the

questions raised.

- B. Technical Studies. The determination of a possible optimum location and size of the wholesale market, in accordance with a general urbanization plan, the expected flow of produce to and from the market and in order to minimize as far as possible transport distances to the several retail markets. In this respect, the government departments concerned should be consulted (the urban commissioner and the Departments of Commerce, Economics, Finance, Plan, Agriculture a.o.) together with the major wholesalers and the representatives of the retailers.
- C. Administrative and Legal Studies. Of capital importance for the well-functioning of the wholesale market is the choice of the organization or institution charged with the management of the facility and the inherent problems of involving various government departments. A distinction should be made between on the one hand the institution which in fact owns the wholesale market and determines the guidelines for the operation of the market and on the other hand, the institution charged with the daily running of the market which could be an independent, autonomous organization set up for this purpose.

This pre-feasibility study of a new wholesale market should include a benefit-cost analysis i.e. an estimation of the total cost of realization and of the potential benefits to be expected from it over time. In the end, the pre-feasibility study should answer the question whether a feasibility study should be undertaken or not.

12. FOOD PRICING POLICIES

Food pricing policies are very important as they determine the incentives to the millions of traditional farmers and to the millions of participants in the production-transport-distribution system.

The Department of National Economy (DEN) in cooperation with the Department of Agriculture (DOA) fixes minimum producer prices (floor prices) for most export crops and for the following food crops: palm nuts, paddy 1/, maize, cassava-chips (cossettes) and peanuts. The regional commissioners can fix a minimum producer price equal to or above the one fixed by DEN and can also fix floor prices for products not covered by the DEN price legislation. The DEN also fixes a maximum wholesale price (ceiling price) for the following products, ex-factory: rice, palm oil, sugar, maize flour, cattle. The marketing margins and profit rates at wholesale and at retail levels are fixed as a percent of the fixed prices.

The minimum farm gate prices for most agricultural products were established in October 1967. Periodically, the DEN or the regional commissioners raised the prices. It is generally believed that the farm gate prices tend to stabilize near the fixed minimum price because of oligopsonistic or monopsonistic power of traders and middlemen. The periodic raises are usually only a belated reaction to the general increase in the price level (inflation) and are usually granted with

1/ unhulled rice

considerable delays.

The author believes that it is nearly impossible for DEN or the regional commissioners to set prices according to increases in costs of inputs or the cost of living, particularly when inflation rates approach 100% per year, as is presently the case. Moreover, the lagged adaptations in the price fixings have consistently undermined the profitability of food production, as well on traditional farms as on large agro-industrial estates such as sugarcane plantations, cattle ranches, palm oil plantations. The resulting shortages in nearly all basic commodities have resulted in large imports of some of these commodities (rice, maize, meat, sugar). These imports are made possible and are encouraged by the overvalued exchange rate of the Zaire currency. Moreover, because the maximum wholesale prices for processed food products such as palm oil, rice, sugar, dried fish, etc. are well below the prevailing market prices in neighboring countries, and particularly the Republic of Congo, some of these products find their way frequently to the other side of the Zaire river, against payment of hard currency (CFA francs). The very high prices paid for these products at the retail markets of Kinshasa can be attributed in part to the scarcity provoked by these exports.

The farming population in Zaire is generally found responsive to economic incentives including prices and to the availability of marketing and transport facilities, as well for the products they sell as for consumer goods they want to buy. This has been clearly demonstrated in empirical studies carried out by students of UNAZA preparing

their end-of-study "memoire" in the Faculty of Economics at Kinshasa and the Faculty of Agronomy at Yangambi. The most dynamic regions in this respect appear to be Bas-Zaire, Kwilu, Ubangi, Northern Kivu and Eastern Kasai, the most populated rural areas of Zaire. However, favorable product price/factor relationships should be accompanied by improved seeds and planting materials, fertilizers and other modern inputs, and an effective, well motivated extension service in order to have their full effect. At present, extension work is mainly concentrated in isolated projects although an extension service is present throughout the country. Lack of means of transport, communications and motivation in general (no concrete "package" to extend) and lack of coordination with local and central authorities reduces the extension work force to tasks of survival.

In itself, the minimum producer price may fulfill a useful role, if it is fixed at a "reasonable" level which provides the farmer with enough incentives to continue producing, to invest in agriculture and to have a lifetime commitment in farming. However, these minimum producer prices lose their meaning if they are not revised each time there is a change in the economic environment and if the farmer remains isolated i.e. when traders-truckers do not show up regularly.

A major constraint on domestic food production has been and is a lack of sufficient "real" incentives. Although at times the monetary prices received by farmers appear sufficient, the real price in terms of purchasing power may be quite low. This is particularly true since the measures of Zairianization when many suppliers as well

outlets disappeared. Merchandise (cloth, salt, cigarettes, kerosene, soap, dried fish, canned pilchards, etc.) is now hard to find in rural areas and its prices are high relative to those in the cities, thus reducing the real income of the farmer. This is also because most merchandise is shipped into the interior by plane, truck or private barge because of theft, pilferage, and long delays at ONATRA.

As long as a food shortage situation prevails in Kinshasa, the government is unable to control (galloping) food prices, be it at the different open air markets or at major supermarkets or superettes. Only the well established wholesale trade houses seem to respect the maximum price regulations in effect for sugar, palm oil, maize flour etc., and for certain imported food items because they are regularly inspected. Small traders are much more difficult to control and semi-wholesalers and retailers are generally held responsible for the large marketing margins found between wholesale prices and what the consumer finally pays. Prices usually double and even triple between the wholesale level and the consumer. Thus, the prices consumers have to pay are two to three times the fixed official prices. Prices of imported foods such as rice, maize flour etc. are aligned upwards to those of the locally produced foods, taking into account a price differential for better quality which usually characterize the imported products (long grain imported rice with no broken grains versus short grain, broken rice; imported white sugar versus brownish, unrefined local sugar).

Presently, most price fixed by the government for agricultural products, at the producer level as well as at wholesale level, are in the

process of being revised. One can seriously question the merits of this exercise.

As the only immediate alternative to insufficient food production is the import of these commodities and since food production is not being sufficiently stimulated, it is believed that it would be preferable to abolish gradually the price fixations and let demand and supply find its real equilibrium price in the market. In the short to medium term, the prices of domestically produced foods will align upon those of comparable imported foods, with due allowance for import taxes (if any) and transport costs. This measure would have three positive effects:

- fraudulous exports of locally produced foods
(maize, rice, palm oil, meat, etc.) would disappear
as they would become unprofitable
- the high marketing margins witnessed for domestically
produced foods which accrue to the middlemen would
decrease considerably
- domestic producers of food would receive a big
boost as prices paid to farmers and food processors
would increase.

However, this policy change should only be introduced when the official exchange rate for the Zaire currency corresponds fairly closely to the "real" rate of exchange i.e. when the Zaire currency is not seriously overvalued. In the absence of this pre-condition, massive imports of basic foreign exchange and which would seriously

handicap domestic food production. 1/ Thus, some further devaluations of the Zaire currency are a pre-condition to restoring a free market price mechanism.

Low real returns to food producers are causal factors in the agricultural crisis facing Zaire but are also a consequence of the agricultural crisis. Farmers should benefit from the high food prices in Kinshasa; the crux of the problem is to find ways and means of getting the price signals to the farmers i.e. fomenting price efficiency in the food marketing system. The different price fixing regulations seem to be a major stumbling block on the road towards more price efficiency which would induce allocative efficiency i.e. more resources going into food production and more dynamics at the farm level.

In the proposed food marketing study, the price fixing regulations for food should be analyzed carefully in light of the problem areas and issues raised above. As price fixing regulations are at the heart of the internal economic policies of Zaire, and not only for food products, it will probably be very difficult to change the basic system of price fixing regulations. The food marketing study should clearly demonstrate the negative effects of the price fixing legislation the positive effects for certain products or areas, if any, and the ways and means of (gradually) changing the pricing regulations within the institutional environment of Zaire. As this is a very important aspect

1/ It has been reported to the author that in the course of 1973, massive imports of maize occurred in Shaba and Kasai at a price of \$US 157 per metric ton of cif Sakania. This corresponds to about 27 k/kg. The price paid for domestically produced maize was much higher at that time.

of national economic policies, a concerted effort of the major donors might be necessary to achieve the changes called for. A working group should be set up for this purpose as part of the proposed food marketing study.

13. SEASONAL PRICE VARIATIONS

Seasonal price variations for the major food products in Zaire have been analyzed for Kinshasa using monthly time series data over the period 1961-1970. They were published by REYNS and WILLEKENS (1973) as summarized in Table 7. Prof. Lumpungu Kamanda extended this study, using the same methodology, to other major cities of Zaire for which IRES time series data are available (Kananga, Lubumbashi, etc.).

It is interesting to note that the major staples of Kinshasa such as chikwangue and all other manioc products, and rice show the greatest within a year price variations (amplitude over 30%). For Lubumbashi, maize and maize products which are the major food staples for this city also have the greatest seasonal price variation. The major cities in Kasai, Kananga and Mbuji-Mayi, have greater seasonal price variations than either Kinshasa or Lubumbashi.

The seasonal price maxima for perishable agricultural products appear in what is called "période de soudure", i.e. when the previous harvest is nearly exhausted and before the new harvest is in, thus during the rainy season. For manioc products (except manioc leaves), rice and groundnuts, the seasonal price maxima for Kinshasa occur from December to April and for manioc leaves (saka-saka) from July to October.

These seasonal price variations, because of their great amplitude, have important implications for the timely programming of imports, and particularly of food aid. As manioc products are difficult to store under tropical conditions (the wet season) when the roots

are harvested, the majority of the manioc producers cannot benefit from high seasonal manioc prices. 1/ Thus, the adverse price and income effects on manioc producers are minimal during the seasonal price maximum.

Moreover, since the majority of the Kinshasa consumers which are on a fixed food budget have to reduce their purchases of manioc during the seasonal price maximum, food aid is mainly needed during this period, i.e. from December to April. It is during this critical period that manioc from North of the Equator (Ubangi, Mongala and Uélé) where the dry season is then occurring should saturate the Kinshasa markets (cfr. section on transportation).

To be able to use the data in the food aid study, the studies on seasonal price movements, using monthly price time series data since 1970. These data are regularly collected by IRES and are available, at least for Kinshasa. A FORTRAN IV computer program developed for the calculation of the seasonal price movements is available at IRES-Kinshasa. Thus, the updating could be done at a small cost.

1/ During the rainy season, it is very difficult to dry the fermented manioc roots. In Bas-Zaire, most of the manioc roots have to be fermented in water to eliminate the bitterness substances (cyanides) which are poisonous.

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TABLE 7: Intensity of Seasonal Price Movements
for Food Products in Kinshasa, in %,
Over the Period 1961 - 1970

Amplitude	>30%	20-30 %	10-20%	<10%
Chikwangue (Manioc paste)	Potatoes	Bread in slices	Corned beef	
Manioc Flour	Avocados	dried meat	sardines	
Manioc Chips	Tomato paste	fresh fish	coffee	
Manioc Roots		smoked fish	lemonade	
Manioc Leaves		dried fish	palm wine	
Rice		salted fish		
Pineapple		bananas		
Onions		dry beans		
Tomatoes		spinach		
		peanuts		
		salt		
		margarine		
		palm oil		
		tea		

Source: Reyns and Willekens, Cahiers Zairois de la
Recherche et du Développement, ONRD,
Kinshasa, Vol. XVI - 1 - 73, p. 35.

14. PROPOSED DATA COLLECTION AND FIELD RESEARCH

In order to meet the objectives set out for this proposed food marketing study, the information specified hereafter needs to be collected by means of sample surveys or a census and using a structured questionnaire.

A. Information on Food Production Areas

Method: A farm business type sample survey^{1/} of food producing households in the major food producing areas which have the highest priority ranking cfr. section on the agricultural production and marketing constraints in the major food producing areas.^{2/}

Objective: The following quantitative information is to be collected:

- food production per farmer
- yields
- food storage systems and storage losses
- prices received and total farm income from the sale of food and non-food products

^{1/} A detailed description of this type of survey can be found in Tollans (1975a), Tollens (1975b), Kearl (1976) and Spencer (1972).

^{2/} As such a survey is already planned in North Kivu in the CECOPAN project with CIDA funding, there is no need to include the Kivu region within the scope of this project, although this region is potentially a very important producer of food (vegetables, potatoes, fish, meat) for the Kinshasa market.

- cash expenditures for production (production inputs, hired labor, etc.)
- household expenditures (how income is spent)
- number of buyers (traders-truckers) for each food product
- conditions of sale (degree of buyer competition)

Qualitative information is to be gathered on the major constraints on expanding food production as viewed by the farmer (open ended questionnaire).

3. Information on Food Assembly, Transport and Distribution

Method: A sample survey of traders-truckers serving the main food producing areas of the major urban centers.

Objective: The following information is to be collected on a crop by crop basis:

- number of buying and loading points in the food producing areas per trip
- distance travelled during assembly before the truck leaves for the city
- prices paid to farmers per crop
- duration of transport between producing areas and unloading in urban centers and distance covered
- transport cost per ton and per km
- tonnage of produce transported
- transport losses per crop
- number of unloading points in the city
- prices received from wholesalers-retailers in the city per crop

- number of buyers at unloading in the city (degree of buyer competition)
- duration of storage before leaving for the city and after arriving in the city (if any)
- major transport bottlenecks
- risk involved in the transport business (breakdown, harassments, etc.), including the impact of cultural (ethnic) elements, taboos

C. Information on the Return Trip from the Consumption Center to the Food Production Areas

Method: The same sample of traders-truckers mentioned in point E above will be surveyed on the conditions of the return trip.

The following information is to be collected:

- type, tonnage and value of the merchandise purchased or picked up in the city
- number of loading points in the city
- credit facilities granted for the purchase of merchandise
- number of unloading points in the food producing areas
- conditions of sale of the merchandise

D. Information on Transport by Rail and Waterways (Public and Private)

Method: A sample survey of users of ONATRA's rail and river transport services and of users of privately operated river transport services.

Objective: The following information is to be collected:

- duration of transport between producing areas and docking at major urban centers

- ownership of the barges if privately owned
- duration of storage at loading and at unloading points
- conditions of storage and storage losses during transit
- transport costs including handling and storage
- incidence of theft or pilferage, spoilage and losses
- tonnage
- value and type of produce or merchandise shipped upstream,
downstream or to and from the urban railroad station
- degree of satisfaction of this type of transport

E. Information on Wholesaling Activities

Method: (a) a census of all major wholesalers operating in a particular city and dealing in locally produced foods.

(b) a sample survey of wholesalers, stratified according to the following criteria: size of business, type of food products handled.

Objective: The following information is to be collected:

- the major characteristics of the wholesalers: legal status, ethnic affiliation, age, training, size of business (turn-over, per basic food product), debts outstanding (may be difficult to know) or means of financing, storage capacity, transport capacity and rate of utilization of these capacities, degree of product specialization. This type of information should be collected in the census. The Department of Economy, in collaboration with the I.N.S. (National

Institute of Statistics) and ANEZA (National Association of Zairian Enterprises) in the past conducted censuses where this type of information is collected.^{1/}

--the conduct and performance of a sample of wholesalers stratified according to size of business and type of food products handled. The following information is to be collected: duration of storage of food products, losses during storage, efficiency of product handling and distribution, degree of competition with respect to the buying and selling of produce i.e. number of persons or institutions to buy from and to sell to and relative importance of these market partners, occurrence of collusion or other price fixing agreements, buying and selling conditions (credit granting, discounting, reciprocity agreements, etc.), accounting procedures, breakdown of marketing margins (itemized), estimation of profit rates, the decision making process in the market place.

F. Information on Semi-Wholesaling and Retailing Activities

Method: a sample survey of semi-wholesalers, retailers and retailing activities, stratified according to the type of food products handled.

Objective: the following information is to be collected:

--the major characteristics of these semi-wholesalers and retailers, age, ethnic affiliation, size of business

^{1/} For instance: "Enquete sur les Enterprises," published in 1968

(turnover per basic food product), profession of husband and wife, debts outstanding or means of financing, storage capacity (if any), ways and means of transport, degree of product specialization, degree of competition for the buying of produce from wholesalers and for the sale to consumers (numbers of wholesalers to buy from, price fixing agreements, etc.), buying and selling conditions, breakdown of marketing margins (itemized) and estimation of profit rates.

G. Information on Consumers in the Major Consumption Centers^{1/}

Method: a sample survey of consumers, stratified according to income class and consumption habits (ethnic affiliations).

Objective: the following information is to be collected:

- the major characteristics of the consumers i.e. composition of the household, age, ethnic affiliation, degree of schooling of the head of the household, income class and consumption habits
- prices paid for the basic food products bought on the markets or at the stores, quantities bought of these products over a period of time (one week, for instance), time spent shopping, evaluation of the quality bought i.e.

^{1/} In setting up this survey, one should keep in mind that IRES since 1960 is regularly collecting retail prices at the stores, supermarket, central market and the different wenzes for the most important food and non-food products. IRES uses this price information to construct its monthly retail price indexes for food and non-food products at markets, stores, etc.

degree of consumer satisfaction, (packaging, freshness, sanitary conditions, etc.), transport costs (if any) to shop for food.

H. Information on Large Companies Involved in Food Production and Marketing. Several large companies such as PLZ, MADAIL, JVL, SIEFAC, SCAM, Nogueira, BRALIMA, UNIBRA, etc: are directly involved in the production and marketing of basic food for the Kinshasa market, either for their own account or for the account of other companies. In fact, the DOA and the DEN are encouraging the large manufacturing and food production and distribution companies established in Zaire to grow food for their own workers. For this purpose, the DOA and DEN have signed conventions with several large companies. This policy also fits in with the operation called "TALO EKITA" i.e. lower food prices in the cities.

Although this policy i.e. make manufacturing companies or the breweries grow food for their workers or for their own use, goes against the principles of economic specialization heralded by Adam Smith, one cannot ignore the impact that this policy might have on food marketing in Zaire.^{1/}

^{1/} Most economists hold specialization in production and distribution responsible for the rapid growth of the western economies during the 19th and 20th centuries, together with technological progress and other factors.

Some of these companies produce food on large estates with tractor mechanization e.g. Nogueira at the DOURI ranch, others provide seeds, tools and extension services to traditional producers e.g. MADAIL in the Kwilu, and guarantee the farmer that his production will be bought up by them.

Information should be collected on the role and impact of the large companies in food production and marketing for particular urban centers. It is proposed that the major companies should be visited for this purpose and that an assessment should be made of their impact.

15. SAMPLING METHODS, DEVELOPMENT OF QUESTIONNAIRES, CHOICE AND TRAINING OF ENUMERATORS

The sample surveys proposed for this study should be tailored to the particular type of information to be collected. The following types of surveys are proposed:

A. Sample survey in the high priority food producing areas

It is proposed to select a number of villages by purposive sampling i.e. select a number of villages close to the main roads, railroad or waterways, some villages at average distance from the main transport roads and some villages in areas which are considered more or less isolated or distant from the main transport network. In each of the selected villages, the farmers to be interviewed will be selected by random sampling from a frame that needs to be developed for this purpose (a list of all farmers living in the village). The village head usually has such a list from the CPM (head tax) collection or from crop impositions.

B. Sample survey on food assemblers, truckers, transporters

On a particular day, transporters on a main access road to a major urban center can be asked to respond to the questions of the questionnaire. To facilitate interviewing, the purpose of the survey should be made quite clear and some incentive might be offered to facilitate cooperation (a bottle of beer, or a symbolic present). Also, if any checkpoints are already established on the road, interviewing should take place at such checkpoints in order to reduce further harassment. As there is a distinct seasonal pattern in the movement of food

from production areas to the cities, interviews should be scheduled in each of the main seasons i.e. once at or just after harvest and once during the "période de soudure" when there is less food reaching the city.

C. Sample of Truckers-Traders moving from urban centers to the main food producing areas

Same as in 2. This survey could be combined with the survey described in 2.

D. Sample survey of users of transport services by rail or waterways (publicly and privately operated)

It is proposed that on a particular day, a random sample of the users of such transport services are interviewed at the ONATRA port, at privately owned unloading docks (beaches) and at the railroad freight station. Again, the scheduling of such interviews should take account of the seasonal patterns in food production.

E. Census of all major wholesalers

Such a list could probably be obtained at ANEZA or at the DEN, but first of all, a precise definition must be agreed on of whom qualifies as a wholesaler.

F. Sample survey of wholesalers, using as a frame the census list of all wholesalers

The sample would be stratified according to two major criteria: Product specialization and size of business per product or group of products.

G. A sample survey of semi-wholesalers, retailers and micro-retailers

As no reliable frame will be available to select from, it is proposed that a random sample be taken of the zones constituting the

urban center, including a priori the central retail market in the sample because of its importance. Of the zones thus selected, it is proposed that a list is drawn up of all the retail markets (wenzel's) existing in each zone. In a second random sampling procedure, the retail markets to be selected for interviewing will be arrived at.

Semi-wholesalers, retailers and micro-retailers operating on these markets will then be selected for interviewing on a particular day using a random sampling procedure similar to the one IRES is using for the recording of retail market prices.

H. A sample survey of consumers in a high priority urban center

Of the retail markets selected in 6, a number of consumers may be interviewed on a particular day using a random method for the selection of these consumers. As the focus of this survey is on the marketing of basic foods which are mainly traded on the retail markets, it will probably not be necessary to interview consumers shopping at particular stores or supermarkets nor will it be necessary to visit these consumers at home.

Size of the samples

The size of each of the samples to be drawn from a population will depend on two factors: the value of the information to be collected and the size of the total survey budget available to the researchers.

Development of the survey questionnaires

Questionnaire design is of crucial importance for the success of any structured survey. The literature on this subject is abundant

and it may suffice here to refer to Tollens (1976), (Kearl, 1976), 1/ (Riley, 1970) a.o.

Choice of enumerators

It is proposed that an agreement be made with IRES to secure the services of the enumerators (enquêteurs) of IRES, at least for the surveys focused on the Kinshasa market. For other urban centers in Zaire, enumerators might be hired specifically for the proposed surveys. Contacts should be made with INS and with the Statistics Division of the DOA to explore the possibility of utilizing the services of their enumerators.

Enumerator Training

This is a very important activity which usually takes from two weeks to a month, including on the spot training and familiarization with the survey operation. The quality of the filled-out survey questionnaires depends to a large extent on the quality of enumerator training i.e. if all the questions and procedures are correctly understood.

1/ This prominent book on social science data collection in Africa to which this author collaborated is available in French from AID/Washington, Technical Assistance Bureau.

16. TIME SCHEDULING AND ORGANIZATION OF THE STUDY

The following activities are involved in the proposed surveys and the time required to complete these activities is estimated as follows:

1. getting official government clearance for the research project--
setting up of a steering committee--contact with national and
regional authorities--area familiarization. Two weeks
2. (a). development of survey questionnaires and forms.
(b). ordering of specific materials and equipment for the surveys,
assuming transport vehicles are available.
(c). hiring of field supervisors and/or survey assistants. Four weeks
3. development of sampling frames, stratification of the population,
drawing of the sample. Two weeks
4. hiring of field enumerators, training of field enumerators,
organization and running of a pilot survey. Four weeks
5. (a). contacting the selected farmers, traders, truckers, whole-
salers, retailers, consumers and operating the survey,
supervision and checking the survey results.
(b). termination of the survey, contract termination with
enumerators and survey assistants. Six months
6. compilation and handling of the survey data. Two weeks
7. analysis of the survey data. Three months
8. write up of the research report. Two months
9. publishing of the research report. One week
10. distribution of the research results--discussions with
government authorities. One week

Estimated total time: 15 months

The Setting Up of an Advisory Committee

A high level advisory committee should be set up to guide and direct the proposed food marketing study. Representatives from the following departments, institutions and organizations should constitute this committee. It includes the public sector leaders as well as the private sector.

Department of Plan
USAID
IRES-UNAZA
Department of Agriculture/Rural Development
Administration du Territoire
Department of National Economy
Office des Routes
ONATRA and SNCZ
Urban Commissioners
OPEZ
Representatives from the private sector: commercants,
wholesalers, retailers, ANEZA

This committee should meet every two months to review the research progress made, to offer advice on particular problems encountered and to evaluate alternative courses of action about market reform in light of the research results obtained. This committee will review, modify and adapt the recommendations of the consulting research team experts.

Support from high level government officials will be necessary to carry out this study as marketing studies are always sensitive..

17. PROPOSED QUALIFICATIONS AND COMPOSITION OF THE STUDY TEAM

In the opinion of the author, the research team to be contracted for this proposed food marketing study should be composed as follows and should have the following qualifications:

- A. The research team leader should ideally be an agricultural marketing economist with experience in Africa, the marketing of agricultural products in rural areas as well as in urban food marketing systems analysis. It is important that he has a "system" view of how marketing operations take place from the farmer including his decision making process up to and including the final urban consumer.
- B. An agricultural economist or an economist with an interest in agricultural marketing who would study government policies with reference to the marketing of food products i.e. pricing policies, import and export policies for food, governmental marketing offices and other direct attempts to intervene in the marketing process. He must have a macro, policy oriented perspective.
- C. An agricultural economist or an economist with extensive experience in the setting up and running of survey data collection in rural areas as well as in urban centers. He will be directly responsible for the proposed data collection by means of structured surveys.
- D. A specialist in urban food marketing economics should be hired for three months to do the pre-feasibility study of a new

wholesale market facility in Kinshasa and/or in other high priority urban centers. He should have experience in the study of wholesaling and retailing activities. The LAMP Center (Latin American Market Planning Center) at Michigan State University did studies in northeastern Brazil, Columbia, Bolivia, Costa Rica and Puerto Rico on this subject, financed by USAID/W, with Kelly Harrison, Donald Henley, Harold Riley and James Shaffer. The LAMP Center could possibly provide an expert for this particular part of the study.

- E. Short term consultants should be hired for this proposed food marketing study for their advice and cooperation with respect to specific parts of this study. The following topics are singled out for bringing in a consultant:

(1) Questionnaire design and enumerator training. This is a crucial element in the proposed food marketing study where the expertise of qualified, experienced (in Africa) scientists might be very helpful. The following individuals are suggested: Prof. Carl Eicher (MSU), Prof. Derek Byerlee (MSU, now on leave at CIMMYT), Dr. Dunstan Spencer (now at WARDA), Dr. David Norman (Kansas State University - particularly for the surveys focused on food production areas), Dr. Eric Tollens (at CLEO, University of Leuven, Belgium): The period of consultation should be one month.

(2) Analysis of the survey data. This contribution in the analysis of the survey data, in the testing of the proposed hypotheses and in the methods of analysis to be used could potentially

improve the quality of the study. It is proposed that a senior agricultural marketing economist be hired for this purpose for one month. The following individuals are suggested: Prof. Harold Riley (MSU), Prof. James Shaffer (MSU), Prof. Kelly Harrison (MSU), Prof. Bruce Johnston (Stanford FRI), Prof. Peter Timmer (Stanford FRI).

F. Zairian researchers. At each and every stage of this proposed food marketing study Zairian researchers from UNAZA, the Bureau d'Etudes and the Division of Statistics of the DCA, the DEN and the Department of Plan should be associated with the conception and execution of the study i.e. data gathering, surveys, analysis of the data, formulation of recommendations and conclusions. As there is not much experience in Zaire with the kind of studies proposed in this document and since there is not much emphasis at UNAZA on teaching and research in agricultural and food marketing, this study project will have important training aspects.

BUDGET FOR AGRICULTURE MARKETING STUDY

I. US Dollar Costs

<u>A. Staff</u>	<u>Time</u>	<u>Home Office</u>	<u>Field</u>	<u>Total</u>
1. Project Co-Director	(18 mos)	30,000	100,000	130,000
2. Data Collection Specialist	(18)	20,000	80,000	100,000
3. A-B-D Students (15000 ea)	(18)	30,000	90,000	120,000
4. Logistics Specialist	(12)		25,000	25,000
5. Marketing Policy Specialist	(6)	15,000	30,000	45,000
6. Questionnaire Design Specialist	(2)		20,000	20,000
7. Data Processing Specialist	(2)	10,000	10,000	20,000
		<hr/>	<hr/>	<hr/>
		105,000	355,000	460,000
<u>B. Vehicles</u>				
1. Pickup 7 ea.	\$10,000			70,000
2. Motorcycles 6 ea.	\$1,500			9,000
				<hr/>
				79,000
<u>C. Equipment/Materials</u>				
1. Typewriters 3 ea.	\$1000			3,000
2. Field Survey Equipment				10,000
3. Memeographing Machine				2,000
4. Office/survey materials paper, pencils, etc.				5,000
				<hr/>
				20,000
D. Data Processing (in US)				<hr/>
				50,000

TOTAL US COSTS \$ 609,000

II. Zaire Costs

	TOTAL
A. Consulting Fee for Steering Committee	
15 members ea. Z.100/meeting for 6 meetings	Z. 9,000
B. <u>Staff Costs</u>	
1. Field Supervisors 6 for 12 months ea. Z.240/mo	17,300
2. Enumerators 12 mos x 50 ea. Z.120/mo	<u>72,000</u>
	Z.89,300
C. <u>Transportation</u>	
1. Gas 20,000 km/vehicle ea. 20 ltr/100 km 1,000 ltr x Z.1.43/ltr x 7 vehicles	11,000
2. Maintenance 7 vehicles ea. Z.2,000	14,000
3. Bicycles 50 Z.600 ea.	30,000
4. Charter Costs	100,000
5. Per Diem	<u>50,000</u>
	Z.205,000
Total Zaire Costs	Z.294,000
Say	Z.300,000

PROJECT
STEERING
COMMITTEE

Department of Plan
Department of Agriculture/RD
1975-1987A
Department of National Economy
Office des Routes
ONATRA
SNCZ
Department of Territorial Administration
Urban Commissioners
OPEZ
ANEZA
- Commerçants
- Wholesalers
- Retailers

STUDY DIRECTOR
CO DIRECTORS

POLICY
SPECIALIST

DATA
COLLECTION
SPECIALIST

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LOGISTICS
SPECIALIST

DATA PROCESSING
SPECIALIST

QUESTIONNAIRE
DESIGN/ANALYSIS

BAS ZAIRE

KWILU

KASAI

BAS ULELE

ANIEMA

ABDC

SUPERVISOR

ABDC

SUPERVISOR

ABDC

SUPERVISOR

ABDC

SUPERVISOR

ABDC

SUPERVISOR

ENUMERATORS

ENUMERATORS

ENUMERATORS

ENUMERATORS

FRONTIERS

LIST OF PERSONS MET

1. Mr. H. Adriansens, Chef du Secteru Agronomie, Belgian Cooperation Mission
2. Mr. Yvon Brunette, project CECOPANE, Kinshasa
3. Cit. BurhamaNtibonera, head, Bureau d'Etudes, Department of Agriculture
4. Mr. Decalon - INTERFINA
5. Mr. D. Desmedt, Chef du Secteur Economique, Belgian Cooperation Mission
6. Mr. Devuyt, conseiller, Bureau d'Etudes, Department of Agriculture
7. Mr. Dooms, P.D.G. ONPV, Kinshasa
8. Cit. Fulama, Directeur Commercial, Ets. CHEZ YAYA
9. Prof. Kika Mavunda, Faculty of Economics, National University of Zaire, Kinshasa
10. Cit. Kinkela, statistiques agricoles, Department of Agriculture.
11. Mr. Kohn Lancker, Cie. JVL, Kinshasa
12. Mr. Lecluyse, Cie. JVL - SIEFAC
13. Mr. Marticou - SOFIDE
14. Cit. Mbaya, centre de documentation, Department of Agriculture
15. Cit. Mokonda, chef de travaux, Faculty of Economics, National University of Zaire, Kinshasa
16. Mr. Moreau, delegue general, Caisse de Stabilisation Cotonniere, C.S. Co.
17. Cit. Mukendi Mbuyi Tshingoma, Secretary of State, Department of Agriculture
18. Prof. Mulumba Lukoji, Commissioner of State, Department of Plan
19. Cit. Mwamba, directeur au Department du Plan
20. Cit. Mwanza, directeur au Department du Plan.
21. Cit. Ngumbu Mussa, Department of Rural Development
22. Mr. Antonio Nogueira, Ets. Nogueira
23. Cit. Nzolamesa, representant adjoint, Compagnie Suviere, Kinshasa
24. Mr. Stafanovic, FOA, statistiques agricoles, Department of Agriculture
25. Mr. Veisse, Directeur, SEDEC
26. Mr. Verschueren, Head, Belgian Cooperation Mission, Kinshasa

BIBLIOGRAPHIC REFERENCES

- AGRICPA - Ministère de l'Economie et des Finances, "Halles et Marchés de Côte d'Ivoire. Abidjan, Côte d'Ivoire, 4 Vols. 1974.
- BAECK, L. "Enquête Budgétaire des Congolais Évolues de Léopoldville", Bulletin du Centre d'Études des Problèmes Sociaux Indigènes, No. 38, 1957. 75-110.
- BOUTE, Joseph. "La Population du Zaïre d'ici 1985", Zaïre - Afrique, No. 131, Kinshasa, Janvier 1979. 5-13.
- BOUTE, J. and de SAINT MOULIN, L. "Perspectives Démographiques Régionales", Département du Plan, Kinshasa, 1978. 87p.
- Cahiers du EEAU. "Accès Routiers de Kinshasa - Tropical Ravitailment", Bureau d'Études d'Aménagement Urbain, No. 1, Kinshasa, Octobre 1975. 24pp.
- CAPRASSE, P. and BERNARD, G. "Les Conditions de Vie des Familles d'Enseignants a Léopoldville". Cahiers Economiques et Sociaux, Vol. VII, No. 4, Decembre 1965. 411-454.
- CARDWELL, Lucy and McCABE, James. "Transport Cost and Other Determinants of the Intensity of Cultivation in Rural Zaïre". Yale University, Economic Growth Center, Center Discussion, Paper No. 227, April 1975. 35pp.
- COLLINS, N.R. and HOLTON, R.H. "Programming Changes in Marketing in Planned Economic Development". Kyklos, Vol. 16, January 1963. 123-134. (Reprinted in Agriculture in Economic Development, edited by Carl Eicher and L.W. Witt, McGraw-Hill, 1964.)
- DÉPARTEMENT de l'AGRICULTURE. "Recensement de l'Agriculture 1970 Résultats Définitifs", Statistiques Agricoles, Kinshasa. Juin 1976.
- DÉPARTEMENT de l'AGRICULTURE. "Bilan Alimentaire 1970-1974", Direction des Études et Politique Agricole, Division de la Statistique, Kinshasa. Août 1968.
- DÉPARTEMENT de l'AGRICULTURE. "Enquête sur les Pertes dues à la Secheresse, 1978. Direction des Études et Politique Agricole, Division de la Statistique, Kinshasa. Septembre 1978. 14pp.
- DÉPARTEMENT du PLAN. "Agricultural Recovery Program 1978-1980", Kinshasa, 1977.

- DIAMBRA-HAHOUCOT. "Le Ravitaillement d'Abidjan en Produits Vivriers Non Importés", Publication Provisoire, Abidjan, Côte d'Ivoire. 1974.
- de SAINT MOULIN, Léon and DUCREUX, Maurice, "Le Phénomène Urbain à Kinshasa: Evolution et Perspectives", Études Congolaises, 13:4, 1969. 20-30.
- de SAINT MOULIN, Léon. "Unité et Diversité des Zones Urbaines de Kinshasa", Cultures et Développement, Université Catholique de Louvain, 1969-1970, 2:2. 363-387.
- de SAINT MOULIN, Léon. "Quelle est la Population de Kinshasa?", Congo-Afrique, No. 42, Février 1970. 65-77.
- FAO. "Le Développement des Systèmes de Commercialisation des Produits Alimentaires dans les Grandes Zones Urbaines", III. L'Afrique Francophone. Rapport sur la Consultation d'Experts sur le Développement des Systèmes de Commercialisation des Produits Alimentaires dans les Grandes Zones Urbaines en Afrique Francophone. Dakar, Sénégal, 8-17, Decembre 1975.
- FAO. "Marketing, A Dynamic Force in Agricultural Development", The World Food Problem, Report No. 10, Rome. 1970.
- HAYNES, P.H. "The Technology of Production and Use of Manioc in the Environs of the INERA Station at Mvuazi", a draft report on a survey conducted by P.H. Haynes and Ketuabanza Mfutu, INERA, Mvuazi, November 1976. 20pp.
- HOUYOUX, J. "Budgets Ménagers, Nutrition et Mode de Vie à Kinshasa", UNAZA, Presses Universitaires du Zaïre, Rectorat, Kinshasa. 1973. 303pp.
- HOUYOUX, C. and J. "Les Conditions de Vie dans Soixante Familles à Kinshasa", Cahiers Economiques et Sociaux, IRES, VII, No. 1, Kinshasa, March 1970. 99-132.
- HOUYOUX, J. "Kisangani, Étude des Budgets Ménagers", SICAI, Rome. 1972. 127pp.
- HUYBRECHTS, Andre. "Transports et Structures de Développement au Congo: Étude du Progres Economique de 1900 a 1970", Paris: Editions Mouton, 1970.
- IBRD, "The Economy of Zaire (four volumes)", World Bank, Report No. 821-ZR, July 23, 1975.
- IBRD, "Economic Conditions and Prospects of Zaire", World Bank, Report No. 1407-ZR, April 13, 1977.

- INEAC, "Volume Jubilaire de l'INEAC 1910-1960", Bulletin Agricole du Congo Belge et du Ruanda, INEAC, Bruxelles, Yangambi, 1960. Ministère du Congo Belge et du Ruanda Urundi.
- JANSONIUS, J. "Le Ravitaillement et le Système de Commercialisation des Produits Alimentaires à Abidjan". Consultation FAO, . Dakar, Sénégal, 8-17 Decembre 1975.
- JURION, F. and HENRY, J. "From Shifting Cultivation to Intensified Agriculture". Brussels: Institut National pour l'Etude Agronomique du Congo Belge, INEAC, 1967.
- KASEKO Utshudi Lombala. "Application de la Fonction de Production Cobb-Douglas dans une Agriculture Paysanne. Cas des Paysans Producteurs de Riz à Yalibwa", UNAZA, Yangambi, Memoire de Fin d'Etudes, 1976. 98pp.
- NEARL, Bryant, et al. "Problems of Social Science Data Collection in Africa and in the Middle East", Agricultural Development Council, Research and Training Network, New York, 1976. (Also available in French at USAID/TAB.)
- KEJE, P.E. "L'Evolution a l'Approvisionnement et la Consommation de la Viande dans la Ville de Kinshasa depuis 1963-1971. Kinshasa: Université Nationale du Zaïre, unpublished thesis, 1972.
- KIBANGULA, A.G. "Les Problemes de la Distribution des Marchandises au Congo", Kinshasa: Université Lovanium, unpublished thesis, 1965.
- KILUMBA, Ndayi. "Détermination de Revenus, Récoltes et Depenses Chez les Planteurs de Riz dans la Localité de Yalibwa, Memoire sous la Direction de E. Toilens, Yangambi, UNAZA, Yangambi. 1975.
- KINKELA Savy Sunda. "Impact du Coût de Transport dans la Commercialisation de Quelques Produits Agricoles - Riz, Mais et Manioc du Zaïre", UNAZA, Yangambi, Memoire de Fin d'Etudes, 1976. 106pp.
- KISOKA, A. "La Commercialisation des Denrées Agricoles dans la Province du Haut-Zaïre", Kinshasa: Université Nationale du Zaïre, unpublished thesis, 1972.
- LAMBRECHTS, A. and BERNIER, G. "Enquête Alimentaire", Problemes Sociaux Congolais, Bulletin CEPSE, Vol 51, 196, 07-25.
- LIDENDELE Lobuna. "La Commercialisation du Riz dans la Zone des Yanga (Haut-Zaïre)", UNAZA, Yangambi, Memoire de Fin d'Etudes, 1975. 79pp.
- LINSENMEYER, Dean. "An Economic Analysis of Maize Production in the Kasai Oriental Region of Zaïre: A research Proposal". Michigan State University, African Rural Employment Research Network, Working Paper No. 2, May 1974.

- LUKUSA, T. "Aspects de la Distribution des Biens de Consommation au Congo", Kinshasa: Université Lovanium, unpublished thesis. 1965.
- LUMBU, L. "Contribution à l'Étude des Prix à Kisangani, Aspects Statistiques", Kisangani: Université Libre du Congo, unpublished thesis, 1971.
- LUMPUNGU Kamanda. "Les Problèmes d'Approvisionnement des Centres Urbains en Produits Vivriers", Séminaire Consavré au Développement Agricole au Zaïre, IRES, Kinshasa 4-8 Mars. 1974.
- LUMPUNGU Kamanda. "Approvisionnement et Distribution des Produits Alimentaires à Kinshasa", Consultation d'Experts sur le Développement des Systèmes de la Commercialisation des Produits Alimentaires dans les Grandes Zones Urbaines en Afrique Francophone, FAO, Dakar, Sénégal, 8-17 Décembre 1975.
- LUNDU, U. "Approvisionnement de la Ville de Léopoldville en Produits Vivriers", Kinshasa: Université Lovanium, unpublished Thesis, 1963.
- MADIBWILA, Z. "L'Economie Agricole du Territoire de Bulungu", Kinshasa: Université Lovanium, unpublished thesis, 1970.
- MBO, S. "Étude sur l'Approvisionnement de la Ville de Kinshasa en 5 Produits Vivriers Locaux (1965-1970)", Kinshasa: Université Nationale du Zaïre, unpublished thesis, 1972.
- MBUYI, A. "Les Structures Commerciales à Mbuyi-Mayi en 1967", Lubumbashi: Université Officielle du Congo, unpublished thesis, 1968.
- MINGIEDI Mambu Mikalo. "L'Étude Agro-Economique du Bas-Zaïre basée sur le recensement Mondial de l'Agriculture", Kinshasa: Université Nationale du Zaïre, unpublished thesis, 1972.
- MINISTÈRE du DÉVELOPPEMENT. "Enquêtes sur l'Approvisionnement de Bangui. Résultats Définitifs", Service Technique des Statistiques, République Centrafricaine, 1974.
- MIRACLE, Marvin. "Agriculture in the Congo Basin: Tradition and Change in African Rural Economics", Madison: University of Wisconsin Press. 1967.
- MOKONDA Banya Nsamba. "La Pénetration des quelques villes au Zaïre: l'Exemple de l'Uélé", UNAZA, Cahiers Economiques et Sociaux, IRES Vol. XVI No. 3, Septembre 1978, 281-305.
- MOKONDA Banya Nsamba. "L'Economie Agricole du Nord-Est du Zaïre dans l'Impasse", UNAZA, IRES, Lettre Mensuelle No. 12, 1978.

- MOMFO, Mulop. "Étude Agro-Economique de la Zone de Bulungu", UNAZA, Yangambi, unpublished thesis, 1974.
- MUKOKO, P. "Les Débuts des Grossistes Congolais, 1959-1964", Kinshasa: Université Lovanium, unpublished thesis, 1964.
- MULUMBA Gandu, A. "Commerce Internationale des Produits Vivriers à Travers les Organismes de Transport au Congo", Kinshasa: Université Lovanium, unpublished thesis, 1969.
- MUZANKOM-NSELE, J.B. "Economie et Commercialisation des Produits Agricoles dans le Territoire d'Idiofa", Kinshasa: Université Nationale du Zaïre, unpublished thesis, 1972.
- NGINDU, B. "Organisation Administrative du Marché Central de Kinshasa et Tarification de Certains Produits et Services Vendus", Kinshasa: Université Nationale du Zaïre, unpublished thesis, 1972.
- NGOY Hamadi. "Étude du Facteur "Capital" chez les Planteurs de Ric à Yalibwa", UNAZA, Yangambi, Memoire de Fin d'Études. 1976.
- NTAMULYANGO Baharanyi. "Analyse Économique des Associations de Cultures chez les Paysans Turumbu de Yalibwa", UNAZA, Yangambi, Memoire de Fin d'Études, 1975. 77pp.
- ONATRA. "Plan d'Action 1973-1980 et Programme d'Investissement", Kinshasa 1972.
- PRESIDENCE de la REPUBLIQUE. "Étude Socio-Démographique de Kinshasa 1967, Rapport Général", R.D. du Congo, ONRD, INSETATF, 1969, 192pp.
- REYNS, A. and WILLEKENS, F. "Le Mouvement Saisonnier des Prix des Produits Agricoles sur les Marchés de Kinshasa", Cahiers Zairois de la Recherche et du Développement, ONRD, XVI-1-73, Kinshasa. 31-53.
- ROUGE, Bernard. "Contribution à l'Étude, La Réalisation et la Gestion de Centres de Distribution et Marchés de Gros de Produits Alimentaires Adaptés aux Exigences Africaines", Consultation...FAO, Dakar, Sénégal, 8-17 Decembre 1975; . Semmaris Rungis-Ingenierie.
- SORENSEN, L. Orlo, PEDERSEN, John R. and IVES, Norton C. "Maize Marketing in Zaïre", Report for USAID; Food and Feed Grain Institute, Kansas State University, Manhattan, Kansas 66506. 1970.
- STENCZEK, D.S.C. "Micro-level Farm Management and Production Economics Research among Traditional African Farmers: Lessons from Sierra Leone", East Lansing: Michigan State University, Department of Agricultural Economics, African Rural Employment Paper No. 3. 1972. 29pp.

- TENNESSEE VALLEY AUTHORITY. "Supplying Fertilizers for Zaire's Agricultural Development", National Fertilizer Development Center, Muscle Shoals, Alabama 35660 AFR (TV) 18-75, November 1975.
- TOLLENS, Eric F. and KAMUANGA, Mulumba. "Essai d'Analyse du Marché du Mais au Zaïre", Annales de la Faculté d'Agronomie, Vol. 2, Kinshasa, Presses Universitaires du Zaïre. 1974.
- TOLLENS, Eric F. "Les Effets du Contrôle des Prix sur l'Efficacité des Systèmes d'Approvisionnement et de Distribution des Produits Vivriers en Afrique", Conférence, Le Développement des SystèmesDakar, Sénégal, 8-15 Décembre 1975. 18pp.
- TOLLENS, Eric F. "An Economic Analysis of Cotton Production: Marketing and Processing in Northern Zaire", Michigan State University, Ph.D. Thesis. 1975.
- TOLLENS, Eric F. "Problems of Micro-economic Data Collection on Farms in Northern Zaire", Michigan State University, Department of Agricultural Economics, African Rural Employment Working Paper No. 7, June 1975. (Also available in French.)
- TOLLENS, Eric F. "Proposed Micro-level Research on the Food Grain Subsector in Zaire", Presented at the Second Annual Conference of the African Rural Employment Research Network, Njala University College, Njala, Sierra Leone, November 28-December 1, 1973.
- TOLLENS, Eric F. "An Analysis of Research on Agricultural Economics, Rural Development and Unemployment in the Republic of Zaire", Kinshasa: Université Nationale du Zaïre, July 1973.
- TSHIBAMA Mukendi Muntu. "Étude de l'Utilisation du Travail chez le Planteur de Riz dans la Localité de Yalibwa (Turumbu)", UNAZA, Yangambi, Mémoire de Fin d'Études, 1975. 83pp.
- VAN DE WALLE, B. "Essai d'une Planification de l'Économie Agricole Congolaise", Brussels, INEAC, Série Technique No. 61, 1960.
- VERHAEGEN, Guy. "Les Principaux Facteurs Sociaux Affectant la Production Agricole", IRES, Université Lovanium, Cahiers Économiques et Sociaux, Kinshasa, Vol. VI, No. 3-4, 1968.
- VERHAEGEN, Guy. "Rationalité Économique et Agriculture Traditionnelle", IRES, Université Lovanium, Cahiers Économiques et Sociaux, Kinshasa, Vol. V, No. 2, Juin 1967.
- VANHAESEN, Guy. "Les Problèmes de la Production Agricole au Zaïre", Annuaire Congolaise, Kinshasa, Vol. 12, No. 1, 1969. 3-22.

WARWICK, Donald P. and LENINGER, Charles A. "The Sample Survey: Theory and Practice", McGraw-Hill Book Company, 1975.

YUMAINE Muzawa, "Organisation des Marchés des Produits Vivriers et Maraichers du Zaïre. Cas du Nord-Est", Premier Séminaire National sur le Développement au Zaïre, Kinshasa du 8 au 13 Mai 1978.