
**REVIEW OF DOCUMENTATION
ON CAMEROON'S FOOD CROP
PRODUCTION,
PROCESSING AND MARKETING**

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REVIEW OF CAMEROON'S FOOD PRODUCTION, PROCESSING AND MARKETING

Introduction

As a result of socio-economic variations and environmental, climatic and demographic diversity of Cameroon, the potentials for food crops production are quite high. Perishability and seasonality of most food crops, poor marketing system, and inadequate processing technologies to preserve and conserve food products, constitute a great challenge to the country in her effort to attain and maintain food self-sufficiency. Consequently, it is necessary to reorient policy measures and projects geared towards promoting small and medium size enterprises to stimulate the marketing system and sustain the food sector of the economy.

In view of the above, the United States Agency for International Development (USAID) Cameroon proposes to reorientate its food crops research/outreach and Higher education projects in Cameroon in order to improve the usefulness of their outputs in Agribusiness and Cooperative development and in the commercialization of food crops in domestic and regional markets.

The present review, which is funded by Cameroon Agricultural Policy and Planning (CAPP), National Cereals and Extension Project (NCRE) and USAID Cameroon, is therefore intended to provide background information for this purpose. The main objective is to develop an inventory of all studies and reports that have been written on food production, processing and marketing in Cameroon and to provide:

- a) a description of the general problems and constraints of Cameroon's foodcrop sector, and
- b) Technical Information Sheets covering the following for each of the major food crops:
 1. Name of crop,
 2. Total production of crop, nationally and regionally including five year trend,
 3. Post-harvest losses,
 4. Total quantities consumed,
 5. Types of products made from the crops and estimated consumption rates for each.
 6. Quantities and forms of products marketed ,
 7. Major marketing areas,
 8. Existing marketing facilities,
 9. Farm gate prices and trend over five years,
 10. Consumer prices and trend over five years,
 11. Existing processing and transformation technologies and costs,
 12. Availability of technologies for improving production, transformation and processing,
 13. Production marketing and processing constraints
 14. Export prospects,
 15. Supporting institutions availability,

16. Current policy strategies,
17. Donor activities,
- 18, Contact persons in the private sector.

To carry out the above terms of reference, the team of experts used information contained in existing documents from:

- National Cereals and Extension Project, Nkolbisson,
- Institute of Agronomic Research, Yaounde,
- Department of Economics, University of Yaounde,
- Department of Geography, University of Yaounde,
- Ministry of Commerce and Industrial Development,
- Ministry of Plan and Regional Development,
- Food and Agricultural Organization(FAO) of the United Nations, Yaounde,
- U.N Development Program Regional Information Centre, Yaounde.
- Ministry of Agriculture (CAPP), Yaounde,
- National Library, Yaounde,
- Food market, Yaounde,
- Economic commission for Africa (MULPOC), Yaounde,
- Centre for Agronomic Research, Maroua (IRA),
- Food market, Maroua,
- Institute of Agricultural Research(IRA) Station, Ngaoundere,
- Institute of Animal Research(IRZ) Centre, Ngaoundere,
- University of Ngaoundere Library,
- Union Central des Cooperatives Agricoles de L'Ouest(UCCAO), Bafoussam.
- University of Dschang Library,
- Provincial Delegation for Agriculture, West province,
- IRA Station, Fombot,
- Sub-Delegation for Agriculture, Fombot,
- Provincial Delegation for Agriculture, N.W Province,
- North West Development Authority(MIDENO), Bamenda,
- Food Market, Bamenda,
- Postharvest Service, Bamenda,
- Tomato canning company (SCAN) Fombot,
- IRA Station, Njombe
- Fonds d'Investissement pour des Micro realisation Agricole du Cameroun(FIMAC), Buea,
- Women's Food marketing cooperative, Buea,
- IRA Centre, Ekona,
- Pan African Institute for Development, Buea and
- University of Douala

Field visits were made in the North West, South West, West, Littoral, Central, Adamawa and Far North provinces. During these visits, government and private institutions including individuals involved in food crop production, processing, and marketing were consulted. Some important food crop markets were also visited. Finally, the consultants also drew from their experiences and knowledge of Cameroon' food crop sector.

GENERAL PROBLEMS AND CONSTRAINTS OF FOOD CROPS IN CAMEROON

The general problems and constraints of the food crops sub-sector are discussed under the following headings:

- a) Production,
- b) Post-harvest technology
- c) Marketing,
- d) Institutions,
- e) Policy, and
- f) Socio-cultural.

PRODUCTION PROBLEMS AND CONSTRAINTS

Cameroonian food crop producers are confronted by a number of production problems and constraints. These have been identified to include land tenure, cropping systems, technical know-how, pests/diseases, climatic/edaphic and demographic problems and constraints [1,4,5,and 16].

Land tenure system

The socio-cultural nature of most of the ethnic groups in Cameroon is characterized by an extended family structure and communal ownership of land. Community land under the custody of traditional rulers is divided among the extended families or clans which in turn subdivide the land among family members and friends. The purchase and sales of land is a foreign concept in most rural areas where land is considered as sacred family property which must be protected and reserved for family members and descendants. With time, the land is shared out in ever decreasing portions to the expanding family members.

The end result is that since land is generally not a private property of the individual, it receives little or no investment for productive and profitable farming. It is also not easy to consolidate the fragmented holdings and this in itself is a handicap to agricultural development. Those who are capable and willing to practice extensive farming usually lack adequate land especially in the more densely populated and/or rapidly growing population areas [6].

Cropping systems

In most regions of Cameroon, farmers traditionally practice mixed cropping for several reasons. In the forest zone, which is largely sparsely populated, the major reason for this practice is linked to the expensive and tedious nature of the initial phase of production -- forest clearing and the initial preparation of land for planting. Consequently, the tiny areas that farmers succeed to

develop are used for growing all the crops that provide all or most of their food and cash needs. Sometimes, over seven crops are grown on the same plot. In the savannah zones, and especially in the West and North West provinces with dense populations, the shortage of farm land is the principal reason for mixed cropping. One of the common reasons given by farmers in all the zones is that less labour, time and money is used to grow most of their food and cash crops on one plot [6, 9].

Although it is advantageous and perhaps profitable to the farmers given their traditional state of the art, the mixed cropping system hinders easy and rapid introduction of modern farming technologies which are based mostly on monoculture. Also, intensive mixed cropping with poor tools and little productive inputs (fertilizers, pesticides and improved planting materials) rapidly impoverishes the soils.

Production technology

Most rural farmers use traditional technologies and ill-adapted tools in the production of both food and cash crops. They generally lack modern tools & equipment, improved or high yielding disease/pest resistant crop varieties, and modern techniques of tilling, planting, harvesting, and storage. They also have inadequate knowledge and means for applying available modern and more suitable technologies to their environments. The problems of adapting foreign technologies to local environments and of developing appropriate technologies to these environments are also serious constraints to increased production and productivity.

Climatic and edaphic conditions

The tropical climate favours the existence and propagation of several crop, livestock and human diseases which are caused by fungi, bacteria, insects and nematodes. These diseases adversely affect the health of crops, animals and farmers, and consequently productivity and production.

Excessive rains of the rain forest and draught of the Sahel region also adversely affect the productivity of their soils. There is excessive water erosion, leaching and water-logging of the soil in areas of the forest zone of the south. Wind erosion and baking of soils is a major problem in the sahel region of the north. All these increase farmers' handicaps. They also increase costs, reduce yields and consequently the incomes of the farmers.

Crop sanitation

The chemicals and equipment required to control the many pests and diseases imposed by the tropical climate and soil conditions as indicated above are scarce and expensive to the rural farmers. Farmers also lack the financial means and skills to identify and control these diseases and pests. Some of those who have the effective demand for these inputs do not often have them supplied on a timely basis on account of poor communication facilities and bureaucratic bottlenecks.

Demography

The population of Cameroon (about twelve million) is increasing at the rate of 3% per annum and urban population growth is estimated at the rate of over 7% [12] This alarming rate of urban population growth is due mainly to the high rate of rural to urban migration. This migration involves the active and more receptive youths of the rural areas. Consequently, the active and productive farm population has been decreasing in the rural and food production zones, leaving a less active population of aging farmers and children to handle food production for Cameroon.

POSTHARVEST PROBLEMS AND CONSTRAINTS

Despite the successes of government and donor agencies in the improvement of production systems through research, a number of reports have highlighted a persistence and even an increase in postharvest losses of food crops in Cameroon [7,8]. This has been attributed in part to a number of problems and constraints in the postharvest sub-sector. These include inappropriate harvesting techniques, poor and limited transportation systems, rudimentary pre-storage and storage technologies, and inefficient traditional processing and packaging technologies [7,8 & 17]

Harvesting technologies

Generally, harvesting in most parts of the country is carried out with hand and crude local tools such as machetes, hoes, sticks and diggers [8]. The use of chemical/mechanical harvesters which improve efficiency and reduce losses is limited to the few existing corporations. This is due to lack of capital and credit facilities, and to ineffective information on the availability of improved technologies to farmers.

Transportation

Most food crop production in Cameroon takes place in rural areas, which are far away from the consumption centres--the urban areas. The absence of adequate all-season transport infrastructure hampers the movement of food to marketing centres. The transportation of goods by head load, animals, canoes, and unsuitable vehicles aggravates food spoilage and increases losses. Improvements to this situation are hindered by the lack of credit, low farmer incomes, and inadequate information [1].

Pre-storage and storage practices

Harvested crops intended for storage are usually handled in special ways that may involve sorting, curing and/or drying [8]. Such pre-storage practices are intended to reduce contamination, spoilage, and environmental hazards that may shorten the shelf life of the stored produce. Existing practices in Cameroon have largely remained rudimentary mainly because of limited resources, lack of credit facilities, and inadequate institutional support and information to farmers. Improved storage technologies and infrastructure are also lacking due mostly to insufficient capital

and ineffective information dissemination. Climatic conditions of each region affect the gravity of the pre-storage and storage problems. For example, due to prevailing dry conditions in the northern provinces, small-scale drying and storage of cereals, grain legumes and processed root and tuber products encounter less problems than in the humid forest zone of the south.

Processing technologies

Technologies that exist for the transformation of cereals, grain legumes, root/tubers, and leafy vegetables into a broad variety of local products include drying, milling and fermentation. However, in Cameroon these technologies are rudimentary and rely on local and inefficient implements which yield inconsistent and unhygienic products. Such products have precarious shelf stability and eating qualities and are limited only to certain socio-cultural groupings. Farmers' access to existing improved technologies is limited by inadequate capital and information. However, some private concerns and parastatals presently utilize improved and sometimes "a state of the art" technologies in oil extraction, corn and rice milling, and fruit processing[7].

Packaging

Packaging is still depended on traditional technologies and materials such as leaves, sticks and wood. Even so, only a small portion of the food intended for the market is so packaged. A greater bulk is marketed in open utensils with the obvious attendant health, environmental and regulatory problems. Improvements through the use of metal, plastic and improved wood packaging materials has been timid and limited to private concerns, public corporations and others who have both the information and capital.

Although there is no known simple inexpensive technology that by itself makes a profound impact on the post harvest sector of food crops in any region of Cameroon, such an impact can however be achieved through a combination of location specific organization, problem identification, training, and information, credit and adapted technology.

MARKETING PROBLEMS AND CONSTRAINTS

The problems and constraints identified within the structure, conduct and performance of Cameroon's marketing system involve transportation, market channels, information, standardization, market facilities, finance and price policy.

Transportation

Several deficiencies are found in the transportation domain of the

food crops marketing system of Cameroon. A few good roads link up the urban areas but farm to market roads are both unpaved and poorly maintained. In the rainy season particularly, regular market connections are hard to establish between most parts of the country due to poor road infrastructure. Also, means of transportation such as vehicles are inadequate and unreliable. Consequently, in most cases transportation is a major marketing cost component. It accounts for about 50% of the total marketing costs and in some cases up to 70% especially as production and consumption areas are separated by long distances [1]. Transport constraints also aggravate post harvest losses with a great deal of repercussions on the supply and demand balances due to the resulting limitations on the flows of food commodities.

Nature of marketing channels

The perishable nature of most food crops makes it difficult to expand their market areas. Consequently, their distribution channels are short and concentrated within specific locations. Seasonality of food crops also raises the problem of distribution between regions. The food crop market is dominated by a large number of small agents who handle very small quantities of the commodities. Bulky food crops such as root and tubers have a low ratio of value to the bulk and weight of the commodity [15]. Consequently, only the few agents able to invest in adequate transportation facilities benefit from economies of scale by handling larger quantities over time and space. Generally, because of the low volume of trade among the marketing agents, scale advantages in the handling and transportation of food commodities originating from remote areas, are very limited. As a result of this situation, marketing margins and consumer prices are higher than they would have been under a more efficient system [1].

Market information

Most of the large variety of food crops produced in Cameroon is consumed within the country and the consumption of certain commodities is limited to their areas of production. This is due in part to the limited free flow of information on prices and supply within the marketing system. There is no established means by which producers and traders know current demand and supply situations in the different parts of the country. The absence of such an information system has an adverse effect on the prices of food products within and among markets. Efficiency in the supply of available quantities of commodities at the right time and place and in forms demanded is a measure of the performance of a marketing system. The forces of demand and supply drive prices up and down until an equilibrium price is established. As a result of inadequate flow of information, the quantities of food items marketed vary greatly over time and space, and so do the prices.

Standardization

Reliable representative market prices of food crops are difficult to come by in Cameroon because the prices vary widely depending on

the quantity of the product, the demand and supply forces, the bargaining power and the whims of the buyer and the seller. The limited and inconsistent scales and uniform units of measurement make prices of food items somewhat ambiguous since the true quality and quantity of certain products are unknown. There is also clear evidence of inefficient handling, packaging and storage of food items in local markets. In the absence of grading, standardization and inspection for sanitation, quality is low and losses are high.

Market facilities

In most local and some urban centers, market stores, stalls and spaces for foodstuff are grossly inadequate and many of those available are inappropriate. Most of the food is marketed in the open air with little or no protection from flies and other hygiene and health hazards. Sanitary facilities such as toilets, water, electricity and refuse collection and depots are limited and poorly maintained in many markets. The absence of such facilities creates an unhealthy environment which inflates social and direct marketing costs. Consequently, food marketing in Cameroon has remained small-scaled, uncoordinated, and disorganized. It has a high cost per unit of healthful food delivered to the consumers [1].

Finance

Short and long-term credit facilities for food marketing activities are very limited. Government policy had directed the bulk of credit to the production and marketing of export crops. Since the volume of transaction by participants in the food market is relatively small, they can hardly afford equity capital for investment in the system and this constitutes a major handicap in the development of the food marketing system.

Pricing policy

Distortions and uncertainties also exist in the food marketing system of Cameroon. Policies designed to stabilize food prices have not been successful. They have instead tended to accentuate price fluctuations and instabilities in the system. It is rightly the forces of supply and demand that have served as efficient indicators in sending signals to producers and consumers.

INSTITUTIONAL PROBLEMS AND CONSTRAINTS

The public and private institutions that serve Cameroon's food sector include Research, Extension service, Cooperatives, Financial bodies, public administration, and non-governmental organizations. Their role is to provide policy, manpower, information, finance, organizational leadership, efficient technologies and market infrastructure/facilities. They have so far achieved their objectives only to a limited extent in the food sector.

Research institutions

The Institute of Agronomic Research (IRA) is in charge of the development and adaptation of crop production technologies for the benefit of the sector. The faculty of Agriculture of the new university of Dschang (formerly the university centre of Dschang) is in charge of training, research and outreach activities. Other governmental and non-governmental organizations also contribute to these objectives. However, the postharvest programs in these institutions are limited due to insufficient trained manpower, finance and limited research and development (R&D) programs. Postharvest programs such as marketing, regulations, and policy formulation in this area are not adequately emphasized.

Extension services

The extension service of the ministry of Agriculture has been in charge of liaising information/technology generating institutions with the end users. To improve the rather bureaucratic nature of the service, IRA introduced the testing and liaison units (TLU) in some parts of the country. The recent World Bank Training and Visits (T&V) extension system is another recent introduction. However, in both the old system and the recent innovations, contribution to the improvement of the postharvest sub-sector is still minimal due mainly to limited programs, inadequate trained manpower and financial/material resources.

Financial institutions

Of the numerous financial institutions in the country, only the Agricultural Credit Bank (Credit Agricole) and FIMAC and foreign donors actively support farming organizations. Most of the beneficiaries of such support are large scale (usually cash crop) organizations. The small cooperatives, small scale farmers, and subsistent farmers have only been timidly supported by these institutions. The support to postharvest programs has been minimal due mainly to a lack of a well defined policy, limited trained manpower, and lack of information in that domain.

Cooperatives

Although large cooperatives such as the North West Cooperative Association (NWCA) and Union Central des Cooperative Agricole de l'Ouest (UCCAO) exist in the country, their main objective has been the production and marketing of the so called cash crops (coffee, cocoa, and cotton). There has been little or no attention to food crops, let alone postharvest interventions. Smaller cooperatives whose activities are focused on food crop programs are often restricted to remote regions and have limited access to credit, improved technologies and resource persons.

Training institutions

All public institutions had been geared towards training civil servants neglecting the needs of the private sector. The output of these institutions has been inadequate in terms of numbers and quality even for the public positions for which they are trained.

Also, the content of training has not been sufficiently geared towards meeting the needs of the clients. For example, programs to equip trainees to meet the challenges of the post harvest problems are very limited and even non-existent in some of the schools. Also, the former Ngaoundere university Centre placed too much emphasis on Research and Development of advanced Technologies with little or no effort to research and develop appropriate low-cost technologies for the small-scale farmer/entrepreneur. To add to this problems, the advent of the Land Grant System at the University Centre of Dschang was viewed by the powers concerned as a threat to the existing extension service. All these have been constraints to the development of the food crop sector and especially the postharvest sub-sector.

Public administration.

Four ministries intervene almost independently in the food crop sector. The Ministry of Scientific and Technical Research is responsible for research-related activities, the Ministry of Commercial Development and Industries for marketing, The Ministry of Plan and Regional Development for policy and food security, and the Ministry of Agriculture for the transfer of technologies. The lack of coordination allows for inconsistencies, conflicts and inefficient resource allocation and utilization.

Non-governmental institutions

Individuals, religious bodies and other private organizations (both national and foreign) intervene at various levels and degrees in rural and urban development. Some of their programs include interventions in the food sector. However, lack of coordination, adequately trained manpower and conflicts of interests hinder the effectiveness of their interventions.

POLICY PROBLEMS AND CONSTRAINTS

Until recently, government policies in the food crop sector have been largely inappropriate and ineffective. There are several reasons for this situation at the institutional, formulation/implementation and regulatory levels.

Institutions

Unlike export crops, the production and marketing of food crops in Cameroon has been left entirely to the private sector. Also, the institutional structure in agriculture is complex and fragmented. There are overlapping policy authorities which include the ministries of Agriculture, Livestock Breeding and Animal Industries, Commercial and Industrial Development, Territorial Administration, and Health [15]. Their actions affect prices, handling, weights & measures, grades & standards, and food flows. There are also basically autonomous entities such as research institutions, cooperatives, parastatals and other non-governmental

organizations involved in food crop production and marketing. As mentioned earlier, the lack of adequate coordination among these institutions and organizations has made it difficult to implement policy decisions and render production and marketing services in a coherent and timely manner. Production and marketing activities require flexible and quick decisions which cannot come from government institutions and organizations which are faced with organizational problems and plagued with managerial and financial constraints. They consequently have limited influence in food crop development.

Policy formulation and implementation

Formulation and implementation of policy in the food crop sector has also been fragmented and uncoordinated since they come from several uncoordinated ministries and institutions. It is therefore difficult to formulate and implement coherent strategies.

Regulations

Government had promulgated a number of laws and regulations in its attempt to regulate the production, marketing and transportation systems as well as prices of food products. Price control policy regulated the system of price determination, sales, movement of commodities and other marketing practices which tended to affect prices in a speculative manner. The ministry of Commercial and Industrial Development is in charge of the implementation of the price control policy. Practically the price control system was workable only to a limited extent and only on processed products such as rice, eating oils, sugar, bread and drinks. It fixed factory prices based supposedly on the production cost while the retail prices of locally produced food products were subjected to a system of administered prices. This system created some economic difficulties as only a limited number of wholesalers were authorized to deal with certain commodities. They soon created artificial scarcities of certain commodities causing unjustified price increases and posed many problems in the distribution of food products.

The policy of issuing business licenses was soon found to be discriminatory and to restrict entry into the food marketing system thus limiting competition. Theoretically also, there are regulations on weights and measures in the food marketing system. These are hardly respected especially as most of the marketing activities are undertaken in the open air. The regulations are therefore ineffective and this renders the qualitative assessment of the market output difficult. However, it is important to note that the ineffective implementation of these regulations has inadvertently been regarded as a "blessing" to Cameroon's food sector [15]. Producers and consumers prefer the process of determining price by bargaining and this has helped to sustain price determination in this sector through the forces of supply and demand. The inter- and intra-regional flow of commodities is also seriously handicapped by road blocks set up by the forces of law and order.

The current structural adjustment program of Cameroon previews new policy measures which attempt to correct past failures. The policy of trade liberalization at the various marketing stages is a step towards the right direction.

SOCIO-CULTURAL PROBLEMS AND CONSTRAINTS

Cameroon is made up of many ethnic groups with diverse cultures. They have different languages, religious beliefs, tastes/preferences, and attitudes towards production and consumption of food. Some of these factors have tended to act as constraints to rapid agricultural development.

Language constraints

Most farmers, and particularly the female farmers, who produce most of the food crops, are illiterate. They can speak neither French nor English, which are the two official languages and the languages used by the extension staff. Communication between the farmers and the extension staff/ subject matter specialists is limited and seriously hampered when the staff and specialists are not of the same linguistic origin as the farmer they are dealing with. The number of extension workers is inadequate and it is expensive and even impracticable even in the long-run to envisage the training of extension staff from and for each linguistic group. The transfer of food production, processing and marketing technologies to the farmers and other participants is thus adversely affected by language barriers.

Differences in tastes and preferences

Each of the many ethnic groups has its own tastes and preferences for foods. They have different attitudes towards new crop varieties and towards processed foods. This factor increases the problem of introducing new and improved varieties of crops to most parts of the country. It also increases food processing constraints since each processing technology must overcome many different types of resistances to tastes, texture, colours etc. of the transformed product in order to have them acceptable to most consumers.

Religious and cultural beliefs

Diverse religious and cultural beliefs of the many ethnic groups affect the production, distribution and consumption of various foodstuffs in Cameroon. Certain cultures are known to have resisted the introduction of certain improved production techniques (ridging across the slope for example) and some consider the production and consumption of certain nutritious crop and animal products as taboo. Although most of these attitudes are gradually changing especially in urban areas, they still constitute in some regions, a serious constraint to the production and consumption of the foodstuffs that meet their urgent nutrient requirements [12].

Division of labour by gender

In most rural societies in Cameroon, food production is exclusively the duty of women while cash crops and livestock production as well as other revenue generating activities are reserved for the men [6]. Because of cultural barriers, it is difficult in some areas for the extension workers, who are for the most part male, to have direct communication with the women even though women are expected to be their major target as far as food crop production is concerned. Often, women do not have and are not allowed easy access to funds needed for the purchase of food crop production inputs such as fertilizers, pesticides and improved planting materials. These and other problems linked to the cultural dichotomy between the rights and duties of men and women in the various societies constitute serious constraints to the development of the food crop sector of Cameroon.

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