



Intsormil

TRIP REPORT

OUAGADOUGOU, UPPER VOLTA

BY

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MAY 7 - 22, 1983

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☆ International
Sorghum/Millet

☆ Collaborative Research
Support Program
(CRSP)

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Institute of Agriculture and Natural Resources
University of Nebraska-Lincoln



Contract No. AID/DSAN/XII-G-0149

Trip Report - INTSORMIL
Ouagadougou, Upper Volta
May 7 - 22, 1983

Traveler: Dr. Philip C. Abbott, Associate Professor,
Department of Agricultural Economics, Purdue
University, West Lafayette, IN

Purpose: To support in-country research on agricultural policy implications for millet and sorghum technologies in Upper Volta. Mr. Michael Roth, a research associate with PRF-5 had arrived in Ouagadougou a week earlier, and Ms. Ann Bukowski and Mr. Kimsey Savadogo would arrive within a month. As principal investigator of the project, Dr. Abbott was establishing initial contacts with the AID mission, the Government of Upper Volta and other relevant institutions in Upper Volta.

Places Visited: Ouagadougou, Upper Volta and nearby villages (see attached itinerary and list of contacts for details.

Major Accomplishments:

1. Established a basis for joint research efforts with AID; the Direction Etudes et Projects. Ministry of Rural Development, Government of Upper Volta; Farming Systems Unit, SAFGRAD; and ICRISAT.
2. Reviewed importance characteristics of Upper Volta's economy and policy environment as it affects technology adoption for sorghum and millet, in order to better direct the overall research effort. Discussed the state of the Upper Volta economy and its agricultural sector with numerous individuals.

Observations:

The purpose of this trip to Ouagadougou, Upper Volta was to support initiation of in-country research on agricultural policy implications for millet and sorghum technology adoption in Upper Volta. Mr. Michael Roth, who arrived in Upper Volta on May 1, will be in country for six months. He will be working with the USAID/Upper Volta mission and with the Directorate of Studies and Projects in the Ministry of Rural Development. Dr. Abbott, who is one of the principal investigators of the Purdue INTSORMIL project PRF-5, has come to Upper Volta to help make initial contacts with the Government of Upper Volta and the agricultural research community in Upper

Volta and to provide guidance to Mr. Roth in beginning his work. Additional INTSORMIL supported research in Upper Volta will commence shortly when A. Bukowski and K. Savadogo arrive in Upper Volta in June. Dr. Abbott began laying groundwork for their efforts, as well.

Mr. Roth will be working in office space provided by the Directorate of Studies and Projects (DEP) in the Ministry of Rural Development (MRD). He is providing micro computer equipment to DEP/MRD on which he will conduct his research and which will be used now and in the future by the Government of Upper Volta. Mr. Daouda, the director of DEP, is serving as Mr. Roth's counterpart, and Mr. Roth is receiving excellent cooperation and enthusiastic interest from the entire staff of DEP. Other agencies in the Government of Upper Volta have been very cooperative in discussing our research objectives and methodology, as well.

Mr. Roth will also be receiving substantial support from the agricultural research community in Upper Volta. Close ties with SAFGRAD and in particular the Farming Systems Unit have been established. The support of that Purdue staffed project has been instrumental in getting this project off the ground, and we will be relying on their research results in completing this research. Contacts have also been established with ICRISAT, and Peter Matlon of that organization has indicated a strong interest in this project and a willingness to contribute his time to the effort. He has already been of considerable help in identifying relevant information.

Ms. Bukowski and Mr. Savadogo will be located at the Farming Systems Unit of SAFGRAD and will be utilizing data collected by Dr. Mahlon Lang of Purdue. Ms. Bukowski will be concentrating on an analysis of the marketing system in Upper Volta, with special emphasis placed on marketing opportunities of village farmers. Mr. Savadogo will be using consumer

panel information to develop an understanding of the urban demand for grains in Upper Volta. His study will focus on the effect of changing consumer preferences on the demand for millet and sorghum. Each of these efforts is an integral part of the overall effort to understand the relationship between farmer behavior and the agricultural policy environment.

We are grateful to USAID/Upper Volta and particularly to John Becker, Agricultural Officer, who have provided excellent support and encouragement to this effort. His office provided excellent support to this mission and has been instrumental in establishing contacts with agencies of the Government of Upper Volta as well as setting up the arrangements between DEP/MRD and INTSORMIL project PRF-5.

A memorandum of Understanding between INTSORMIL, Purdue and the Government of Upper Volta will be forthcoming as a result of this mission. Problems with the french translation of the document drafted at Purdue as well as political disturbances in Upper Volta have made negotiation of a signed document during this mission impossible. Mr. Roth will pursue obtaining such a document and Mr. Becker at USAID/Upper Volta is assisting in this endeavor.

In the remainder of this report, background information on the situation in Upper Volta, which sets the stage for the research Mr. Roth will be conducting, is presented. General information on Upper Volta is followed by an analysis of the structure and problems of agriculture in Upper Volta. The role Institutions which formulate and implement agricultural policy and which conduct agricultural research are identified. References, an itinerary for this trip, and a list of contacts are also included at the end of this report.

Background Information

Upper Volta is a land locked country of 6-7 million people in Sahelian West Africa. It lies to the south and east of Mali, to the west of Niger, and to the north of the Ivory Coast, Ghana, Benin and Togo. It covers some 274,000 square kilometers. Of which about one-third is considered arable. The climate is primarily sudanic, although the northern part is sahelian, and the southern part is sudano-guinaen. Rainfall increases from an average of less than 500 mm per year in the north to over 1200 mm in the south. Hence, Upper Volta includes a diverse set of micro-climates within the semi-arid tropics.

Upper Volta's per capita income of about US \$160 makes it one of the poorer countries in West Africa. Its economy is primarily agricultural. The agricultural sector accounts for about 45 percent of GNP and between 80 and 90 percent of the workforce. The industrial sector contributes approximately 20 percent of GNP, while services including government contribute about 35 percent. Of the 10 percent of Upper Voltans who earn an income in excess of the poverty line for Africa (US \$205 per capita), only half live in rural areas. Given the fraction of land which is arable, and since health problems limit the habitability of parts of Upper Volta, those regions where agriculture is practiced are among the most densely populated regions of West Africa.

Upper Volta's population is increasing at an annual natural rate of about 2.5 percent, with a crude birth rate of 48 per 1000 per year. Emigration is an important part of determination of Upper Volta's population growth, since it reduces the overall annual population growth rate to 1.6 percent. Migration within Upper Volta is also important, as population pressure in the more densely settled regions of Upper Volta forces farmers to seek new lands.

The health of Upper Volta's population is poor by any standard. Infant mortality equals 161 deaths per 1000, while more than 270 of every 1000 children born die before the age of 5. The presence of onchocerciasis, trypanosomiasis, malaria and other diseases are also important factors limiting resettlement to the less densely populated regions of the country.

Education in Upper Volta is limited. Only 16 percent of primary school age children attend school, and only 3 percent of high school age children attend. The illiteracy rate of 91 percent is one of the highest in the world.

Most agricultural activity practiced on the densely populated Mossi plateau provides a subsistence existence at best. Marketed surpluses are seldom generated and deficits which must be met through food purchases paid by repatriated earnings of migrant workers in coastal areas. Cash crops (cotton, ground nuts, sesame, sheanuts, fruits and vegetables), which account for 60 percent of exports, are mostly grown in the less densely populated south and west. Hence, the majority of Upper Volta's population are dependant upon agricultural production from a modest resource base, with low and variable rainfall, and on soils of low fertility.

The consequence is that in 1975, which was a relatively good year, cereals production was only 180 to 190 kilograms per capita. During the worst drought years, domestic cereals production of 156 kilograms per capita provided only 73 per cent of caloric needs and 56 per cent of protein needs of the population. It is within this environment that the MED/DEP must plan agricultural investments.

Structure and problems of the agricultural sector

In this section, further details on the structure and problems of Upper Volta's agricultural sector are presented. At the outset it is important to note that agricultural statistics in such an environment are difficult to

collect, and discrepancies exist between alternative data sources. The data presented below are taken from the World Bank, FAO, GOUV, USAID, and other sources, and should be viewed as presenting only a general picture of the state of Upper Volta's agricultural sector.

Production

Millet and sorghum are the basic staple crops in Upper Volta. They account for 80 percent of the 2.4 million hectares of land under cultivation. A small amount of maize and rice are grown on about 90,000 hectares and 40,000 hectares, respectively. Sorghum, millet, maize, and rice production amount to around 650, 400, 60, and 30 thousand tons per year, respectively. These cereals taken together contribute approximately 80 percent of the domestic value of the output of Upper Volta's agricultural sector excluding livestock. Cereals production is highly variable from year to year, ranging from a high of 1,196 thousand tons in 1977 to a low of 812 thousand tons in 1974. Production is also variable across regions of Upper Volta, ranging from a high of 420 kilograms per capita in the Department of Banfora, where 4.1 hectares per capita of arable land are available, to 109 kilograms per capita in the Sahel region, where 2.8 hectares per capita are available. In the Ouagadougou Department, where 1.0 hectares of land per capita are available, cereals production amounts to 180 kilograms per capita on average. These numbers are subject to considerable inter-annual variation, as well.

Cash crops grown largely for export include cotton, oilseeds and oils, fruits, and vegetables. Cotton utilizes 70 thousand hectares and is concentrated in the south and west. Domestic cotton production equals about 4 percent of the acreage and 7 percent of the value of agricultural output. Fruits and vegetables are grown on a negligible amount of land but contribute 10 percent of the value of output.

Other important crops include fonio, feculents, and sheanuts. Livestock is another important part of Upper Volta's agricultural production and exports, accounting for 11 percent of GNP but occupying only 8 percent of the labor force.

External trade

Agricultural exports are an important component of Upper Volta's external trade. In 1977, agricultural exports accounted for 79 percent of total exports, with cotton alone providing 47 percent of total exports. Oilseeds provided 26 percent and vegetables 3 percent. The export value of fruits and vegetables had been slowly and steadily growing until 1978, when a substantial decline occurred. Cotton and oilseed exports have been growing rapidly, but export values for both have been highly variable. Since agriculture accounts for such a large fraction of total exports, increasing their level and stability is quite important to Upper Volta's economy. Also, since imports are substantially greater than exports, increased export earnings would reduce the balance of payments deficit. Even with large remittances from emigrated workers, Upper Volta continues to run a balance of payments deficit.

Agricultural imports are an important part of Upper Volta's trade picture as well. Agricultural imports accounted for 14 percent of total imports in 1978, and cereals alone were 12 percent of that total. Cereal imports have been increasing rapidly, and the cereals import issue is one of the important policy issues facing the GOUV. While representing only 5 percent of total cereals production, these imports raise a problem because they are largely preferred cereals (55 percent wheat and 38 percent rice). There is no wheat grown in Upper Volta and domestic rice production is about the same as imports. This wheat and rice is largely consumed in urban areas. With growing urban population and incomes, the demand for these imported

cereals will increase. However, Upper Volta's comparative advantage probably lies in the production of her staple crops, millet and sorghum, as they are better suited to the prevailing climate.

There is some formal and informal trade of millet and sorghum between Upper Volta and neighboring countries, but the quantities involved are not known. Such trade is largely between rural areas in neighboring countries or between rural areas and nearby cities in other countries, and probably doesn't have a large influence on preferred cereals demand in Upper Volta.

Internal trade

With highly variable rainfall, surplus and deficit areas exist in different locations within the country each year (although some areas such as the south and west are usually better off than other areas such as the Sahel). Because consumption data are not now collected, consumption levels in each region must be estimated from production data and estimates of external and internal trade. Internal trade among regions is handled both by private markets and by a government agency, OFNACER. OFNACER relies to some extent on local grain purchases and sales, but primarily on food aid, to achieve this redistribution. It must also maintain grain stockpiles to insure food security in the event of widespread drought.

Agricultural prices

The trend in agricultural prices in recent years is symptomatic of changes in underlying agricultural supply and demand forces. Millet and sorghum prices rose by a factor of six between 1968 and 1979 while domestic general price levels only doubled. Market prices of rice and groundnuts actually fell in real terms during the same period. Hence it appears that farmers saw strong price incentives to expand millet and sorghum production, and consumers saw some incentives to move towards the preferred cereals, heightening the preferred cereals problem described above.

Official prices tell a somewhat different story. Official sorghum and millet prices increased slightly faster than general domestic inflation from 1970 through 1979 but remained substantially below market prices. Official rice price increased more than 200 percent, and the difference between the official and market price for rice was far less than that for millet and sorghum. The differences between official and market prices and the ability of the government to achieve its policy objectives through market operations is another key policy issue.

Another issue related to agricultural pricing policy is the high transportation costs both within the country and to international trading ports. Given these high transport costs the use of international prices as a standard for policy may be less appropriate than for other countries. Currently most agricultural prices are somewhat below world prices, but the importance of the difference is unclear.

Remedies:

Several measures can be and are being utilized in Upper Volta to enhance the nutritional status of the population. These include:

- 1) Increasing production of subsistence crops, and pricing of outputs to provide production incentives.
- 2) Increasing production of cash crops and livestock, to generate export earnings and greater incomes for farmers.
- 3) Movement of people from the overcrowded regions with limited agricultural capacity to the more fertile and less densely populated regions, along with measures to improve health conditions in those regions.
- 4) Continued importation of preferred cereals, supplemented

by food aid.

- 5) Providing appropriate incentives to the agricultural sector by properly setting price and trade policy.

Along with each of these measures are associated problems which government planners must address. Currently, the information and tools to address these problems are lacking. The objective of this project is to increase the capability of the GOUV to address these issues and formulated appropriate agricultural policy.

In the process of analyzing these policy issues, several additional issues will need to be addressed. The questions of marketing system efficiency and infrastructure (ie. transportation and marketing costs) may represent an important limiting factor in the implementation of policy. Property rights and land tenure systems may also affect the implementation of policy and the adoption of new agricultural technologies. Equity considerations, such as food security, regional income distribution, and women's role in development are important issues which must be addressed by policy makers. Linkages to energy problems, such as the competition for land between agriculture and fuel wood production as well as the competition for labor between agricultural activities and wood gathering, are likely to emerge as important considerations. These issues must be addressed in the policy deliberations of the GOUV, so the capacity to address them must be developed.

Existing policy environment and institutions

The agricultural policies of the GOUV have been characterized as a growth oriented strategy mindful of regional disparities. Rural development is accorded the highest priority, although both food self-sufficiency and expansion of cash crop production are also considered important. GOUV policy objectives as contained in the last five year plan include the

following:

- 1) Increasing agricultural production while guaranteeing remunerative prices to producers and equitable distribution to consumers
- 2) Improving the quality of life and work in rural areas
- 3) Improving rural infrastructure
- 4) Redistributing population to more productive regions
- 5) Fostering cash crop production and development of mining and industry in a way which improves life in rural areas
- 6) Improving the educational system.

Policy is formulated and implemented through several different agencies which are described briefly below.

Regional development organizations

Eleven regional development organizations (ORDs) have been formed to create and implement regional development plans. The scope of the ORDs has recently been limited to agricultural development. ORD activities include extension, input distribution, credit, marketing, organization of farmer groups, data collection, and planning.

Ministry of Rural Development

The Ministry of Rural Development (MRD) is charged with the responsibility of implementing agricultural programs and policies at the national level and with providing support to the ORDs.

The Directorate of Agricultural Services (DSA) provides basic agricultural services to the ORDs. DSA also collects some national data and will be responsible for the extension activities within MRD.

MRD now directs a parastatal organization, the National Cereals Office (OFNACER), which implements cereals pricing policy throughout the country. OFNACER buys and sells cereals at official prices in an effort to achieve equitable distribution of consumption, maintenance of producer incentives, and maintenance of food security through establishment of food stockpiles and the distribution of food aid. The goals of OFNACER are often conflicting, and resources are seldom adequate to achieve those goals.

There are several other agencies within MRD related to the INTSORMIL project. One such example is the Volta Valley Development Authority (AVV) responsible for development of areas in the southern part of the country which have been cleared of onchocerciasis.

The Directorate of Studies and Projects (DEP) has recently been created within MRD to provide support to the Ministry by carrying out the following functions:

- 1) To establish and maintain a system for monitoring and evaluation of all projects undertaken within the MRD
- 2) To perform economic studies of planning and policy alternatives for the agricultural sector
- 3) To establish a system for and to conduct feasibility studies of potential agricultural projects in collaboration with the technical service directorates
- 4) To develop and implement an agricultural statistics system for the MRD.

Other relevant institutions

Not all agricultural policy is formulated and implemented by the MRD. Parastatals comparable to OFNACER exist in the commerce department to formulate and implement pricing policy for cotton (SOFITEX), oilseeds (CSPPA), and fruits and vegetables (UVOCOM). SOFITEX is also responsible for input

subsidies for cotton, and it sells fertilizers and pesticides to the ORDs. Agricultural production research is the responsibility of the Institute Voltaique de Recherches Agronomiques et Zootechniques (IVRAZ), which is part of the Ministry of Higher Education and Scientific Research.

International organizations conducting important food grain research programs include IRAT, ICRISAT, SAFGRAD, and CERCI. International research organizations dealing with cash crops include IRCT, IRHO, FAO, and UNDP. Livestock research is being conducted by CRTA. Few of these are closely integrated into the activities of the MRD.

Still other ministries and agencies are responsible for infrastructure development and external trade. Another parastatal, CINETRAN has a national monopoly on collection and processing of information and statistics using modern computer technology. The Ministry of Plans has the overall responsibility for coordinating activities of the various ministries in developing national plans.

In summary, there exist in Upper Volta, as in any country, a variety of institutions charged with parts of the overall responsibility for agricultural development. Policies exist to address the problems of Voltaic agriculture, but the information and analytical capacity to analyze and adjust these policies is limited. International donors are continually introducing new projects to Upper Volta which may or may not fit in with Upper Volta's agricultural sector development objectives. One purpose of this project is to introduce into the MRD and DEP the capacity to conduct policy analysis and evaluation in a more comprehensive fashion.

References

1. Agricultural Task Force, Program Analysis and Development Staff, REDSO/WA, An Assessment of West African Agricultural Development, Abidjan, Ivory Coast, December, 1981.
2. Development Alternatives, Inc., Agricultural Sector Assistance Strategy for Upper Volta, Washington, D.C., March, 1982.
3. "Final Report: Agricultural Policy and Food Strategy Seminar for Upper Volta", Ougadougou, Upper Volta, April, 1983.
4. Food and Agriculture Organization, Trade Yearbook, 1980, Rome, Italy, 1980.
5. International Bank for Reconstruction and Development. Upper Volta: Agricultural Policy Issues Study, Washington, D.C., 1981.
6. Service des Statistiques Agricoles, Ministry of Rural Development, Annuaire de Statistiques Agricoles, 1977, Ougadougou, Upper Volta, 1977.
7. Rural Development Unit, Conseil de l'Entente, Agricultural Policies of the Five Entente Countries, Abidjan, Ivory Coast, June, 1979.

Itinerary:

Saturday, May 7, 1983 - Abbott departs USA for Ouagadougou, Upper Volta

Sunday, May 8, 1983 - In transit, USA to Upper Volta

Monday, May 9, 1983 - Arrive in Ouagadougou, Upper Volta at 6:00 AM. Met with John Becker, USAID; Mahlon Lang, FSU, SAFGRAD; Mike Roth, INTSORMIL, PRF-5

Tuesday, May 10, 1983 - Met with Al Smith and Bonaventure Traore, USAID; Douhda, Director of DEP, MRD; Ron Steel, SRS, Judy McGuire, USAID.

Wednesday, May 11, 1983 - Met with Peter Matlon, ICRISAT; Mahlon Lang, SAFGRAD, Held demonstration of computer and simulation model with Becker, Lang, Smith, Douhda, and Samone from DEP

Thursday, May 12, 1983 - Field trip to ICRISAT experiment station and SAFGRAD field experiments.

Friday, May 13, 1983 - Met with Douhda and remaining staff of DEP. Searched Ouagadougou for solution to computer power supply problems.

Saturday, May 14, 1983 and Sunday May 15, 1983 - Holidays. Read literature collected, began to prepare report. Discussed strategy with Roth.

Monday, May 16, 1983 - Met with John Becker, Jay Smith, USAID; Assistant Director of Direction of Agricultural Services for GOUV

Tuesday, May 17, 1983 - Coup d'etat disrupts work. Met with U.S. Ambassador. worked on computer modelling effort and report. Met with John Becker, USAID.

Wednesday, May 18, 1983 - Met with Ron Cantrell, Director, FSU, SAFGRAD; Peter Matlon, ICRISAT.

Thursday, May 19, 1983 - Met with Mahlon Lang, FSU, SAFGRAD; and Bill Jaeger, FSU, SAFGRAD, Tombiano, University of Ouagadougou, School of Economics.

Friday, May 20, 1983 - Met with staff of the National Cereals Office, Government of Upper Volta. Met with Becker of USAID.

Saturday, May 21, 1983 - Depart for USA

Sunday, May 22, 1983 - Return to USA

Principal Contacts:

1. Direction of Studies and Projects, Ministry of Rural Development,
Government of Upper Volta
Duhda, Director
Samone
2. USAID
John Becker, Agricultural Officer
Al Smith
Jay Smith
Boaventure Traore
Yard Garba
L.C. Heilman, Assistant Mission Director
Judy McGuire
3. INTSORMIL
Mike Roth
4. FSU, SAFGRAD
Mahlon Lang
Ron Cantrell
Bill Jaeger
5. ICRISAT
Peter Matlon
Gene Perrier
6. University of Ouagadougou
Tombiano, Director of School of Economics