

931-1190

C 1 ? Upper Volta

PT WASH

APPLIED RESEARCH IN EASTERN UPPER VOLTA: MAJOR
FINDINGS AND RECOMMENDATIONS FOR
FUTURE PROGRAMS*

by

Gregory Lassiter, Assefa Mehretu and David Wilcock

August 1982

Department of Agricultural Economics
Michigan State University
East Lansing, Michigan
48824 USA

*Conducted under the terms of Alternative Rural Development Strategies
Cooperative Agreement AID/ta-CA-3.

MSU is an Affirmative Action/Equal Opportunity Institution

TABLE OF CONTENTS

	<u>Page</u>
I. BACKGROUND	1
A. Report Objectives	1
B. "Phase I": The USAID Integrated Rural Development Project	2
II. REVIEW OF PRINCIPAL RESEARCH FINDINGS	3
A. Results from Micro-Economic Studies	3
1. General Characteristics of Farming Systems	5
2. Economic Viability of Animal Traction at the Farm Level	6
3. Key Animal Traction Conclusions and Recommendations	7
4. Agricultural Credit and Marketing	10
B. Regional Planning	13
1. Overview	13
2. Structural Characteristics of the Eastern Region	15
3. Location Design for Basic Needs Services	18
III. ISSUES AND RECOMMENDATIONS FOR FUTURE PROGRAMS	20
A. Rural Development in the E. ORD-Phase II	20
1. Introduction	20
2. Technical Packages for Increased Agriculture Production	22
3. Development of Voltaic Institutional Capacity	24
4. Avoid "Defunding" Half of the E. ORD	26
B. USAID/E. ORD Food Production Management Assistance Project	27
1. Main Project Components	27
2. Project Management Issues	32
IV. BIBLIOGRAPHY	34
V. ANNEX	37

7

I. BACKGROUND

A. Report Objectives

Over the four year period, June 1977-July 1981, Michigan State University, under contract with USAID, furnished a technical assistance group to the Eastern Regional Development Organization (Eastern ORD) of Upper Volta, headquartered in Fada N'Gourma. During this period the MSU team provided approximately 25 person-years of technical assistance which was divided between applied research and agricultural extension program implementation activities. This report will focus on the applied research component of the MSU team work; as such it has two major objectives:

1. To provide an overview of some of the principal findings of the applied research studies conducted by the MSU team, and, based on that experience;

2. to identify major issues and make recommendations concerning the overall, multi-donor "phase II" funding of rural development activities in the Eastern region and specific aspects of the USAID project component.¹

These summary conclusions and recommendations are based in part on a three day "synthesis meeting" held in Fada N'Gourma, July 26-28, 1982, under the sponsorship of the Eastern ORD's Bureau of Economic Analysis and Planning and the GOUV Ministry of Rural Development.²

¹USAID Project No. 686-0244 "Eastern Region Food Production Management Assistance."

²The authors would like to provide a special note of thanks to their former E. ORD colleague, Jean-Martin Kambire, for his excellent work in planning and chairing the Fada Synthesis meeting.

B. "Phase I": The USAID Integrated Rural Development Project

Following a pattern of funding used by other bilateral donors in most of the other ORD's of Upper Volta, USAID began planning the provision of major material and technical assistance to the E. ORD in 1974. These project interventions were jointly planned with an FAO/UNDP group and resulted in a project paper document (23)¹ and a project agreement with the GOUV in 1975.

Throughout the six year life of the project there were three major objectives: (1) the provision of material infrastructure to help create a regional agricultural extension organization; (2) the building of the ORD's operational capacity through staff training and the provision of technical assistance; and (3) the execution of an experimental agricultural extension program in a number of "intensive zones" (ORD sub-sectors).

The infrastructure objective was largely met through construction activities (houses, offices, warehouses, an animal traction equipment assembly plant, etc.), and the provision of vehicles, office equipment, tools and operating funds. The agricultural program envisioned increasing per capita agricultural production and farmer income through the simultaneous introduction of a technical package (basically animal drawn field cultivation), facilitating short- and medium-term credit, improved extension instruction, expanded state marketing services and other ORD technical services. These objectives were specified in detail in the project paper (23), initially reviewed by an MSU study mission in 1975 (1), and evaluated two thirds of the way through the project by an excellent REDSO-Abidjan team (24).

The Michigan State University contract team was primarily involved only in parts of the second and third objectives. Team members were assigned

¹Numbers in parentheses refer to items in the attached bibliography.

positions within the E. ORD administrative structure and were, thus, responsible for not only their own contractual job definition, but certain ORD line responsibilities. This was both an advantage, in that it facilitated counterpart training and close working relationships with E. ORD colleagues, and a disadvantage, in that team members were not free just to focus on activities in the USAID-sponsored intensive zones. In addition, the fact that major components of the overall AID project (such as operating rolling funds, recurrent ORD budget support) were managed from a distance in Ouagadougou led to greatly diminished effectiveness and often put the MSU contract personnel in awkward positions (2).

Within an overall plan of work agreed to by the E. ORD, the MSU applied research activity had two major components:

a) a major, year-long farm level, micro-economic survey of 480 farm households living in twenty-eight villages in 12 agro-climatic zones across the entire Eastern region (which makes up fully one-fifth of the entire country of Upper Volta), and

b) a series of secondary data analyses and special surveys which were grouped under a general regional planning framework which was first suggested by MSU in 1975 (1) and spelled out in detail by Mehretu in 1978 (15). Summary highlights and recommendations from these two applied research components are covered in the subsequent portions of this report.

II. REVIEW OF PRINCIPAL RESEARCH FINDINGS

A. Results from Micro-Economic Studies

As noted in various project reports (1, 2, 23), the E. ORD knowledge and data base was woefully inadequate during the Phase I design period and throughout the initial years of Phase I implementation. Even the most basic of

SV

agricultural statistics, demographic data, and economic information were lacking. This seriously hampered both Phase I design and implementation efforts while jeopardizing any possibility for future project evaluation.

A major thrust of the USAID Phase I technical assistance component was the implementation of a large-scale farm survey. This survey was designed to provide a socio-economic data base to be used to: (1) evaluate the farm level impact of the current technical package (animal traction); (2) provide basic information for regional planning and project design; and (3) serve as a baseline for future comparative studies and project evaluation.

The survey monitored a sample of 480 farm households from 12 agroclimatic zones of the E. ORD region over the entire 1978-79 agricultural year. The sample was composed of two major subgroups: 355 randomly selected households which predominately utilized hand hoe farming methods and 125 households using animal traction (ANTRAC) which were purposively selected to represent the relatively most successful ANTRAC adopter as of 1978. Based on a combination of weekly and monthly interviews, micro-economic data were obtained on a wide variety of topics: farm size, yields, sales, purchases, labor time, demographic characteristics, and other technical and economic aspects of cropping, livestock, and non-farm activities. The survey methodology is documented in detail (3, 8), as is the history of its implementation (2).

To date, the 1978-79 farm survey has provided an extensive data base which describes various E. ORD farming systems in detail and provides a vast knowledge base on the rural economy in general. All computer data files¹ are catalogued and documented both at the CENATRIN computer facility in Ouagadougou

¹The entire data set consists of approximately 250,000 card images of data, distributed among 88 basic data files. To facilitate analysis, these basic files have been aggregated into six master files.

and at the MSU Computer Center. Access to this data base is possible for all interested parties with authorization from the E. ORD Director.

Since February 1980, the analysis of this data base has provided a series of reports on a wide range of topics: farming systems (4, 5, 6), animal traction (7, 8), agricultural credit (9, 10, 11, 12), and marketing (13). It is beyond the scope of this brief report to summarize the 1,000 pages of reports providing analyses of the farm survey data. Nonetheless, a few major generalizations provide useful guidelines for future implementation efforts in the E. ORD.

1. General Characteristics of Farming Systems
(as of the 1978-79 season)

a. Low Productivity. Conventional farming practices based almost entirely on human labor and hand hoe agricultural techniques, provide average farm households with only the thinnest margin of food self-sufficiency, and then only in average years.

b. Low Level of Monetization. Based largely on subsistence farming systems, less than 10 percent of most farmers' production passes through market channels, limiting the availability of cash for the purchase of inputs or for ANTRAC credit repayment.

c. Negligible Impact of Extension Efforts at the Farm Level. Only 1 1/2 percent of E. ORD households had obtained the ANTRAC technology as of 1978-79 and the adoption of other new farming practices (selected seed, insecticides, chemical fertilizer, etc.) were negligible, with the exception of fungicide seed treatment.

d. High Variability in Production Conditions and Resulting Crop Yields. One of the most striking characteristics of the traditional crop production systems in the Eastern region (and this has been recently confirmed in other

regions of Upper Volta by other research groups) is the extremely high degree of variability in crop yields. This is ^{due} largely to extreme heterogeneity in local production conditions--primarily rainfall, soil quality and slope--which causes wide variation in yields within given fields, among the fields of one farmer, among farmers in the same village and so forth. Attempts to control for the principle causes of variability in production conditions quickly produce problems of small sample size when measurement error can easily obscure any yield effects under observation. Methodologically this means that any attempts to measure the on-farm agronomic impact of new technologies should focus on homogeneous groups of farmers or what is commonly referred to as "recommendation domains."¹

2. Economic Viability of Animal Traction at the Farm Level

a. Limited Technical Impact. Among the sample of "relatively successful" ANTRAC households, given their average level of adoption of a complex and new production system relatively low levels of farm-level technical impact were observed. In terms of area expansion effects, an increase of only 10 percent in cultivated acreage per active worker was associated with ANTRAC use. Although individual farm observations and highly controlled on-farm trials indicated the potential for significant yield increases due to animal cultivation techniques, overall no appreciable increase in yield per hectare was found among current adoptors. A more substantial increase in labor productivity was demonstrated (8). Nonetheless, most households had adopted only ANTRAC plowing, rather than complete ANTRAC tillage (due primarily to a lack of weeding equipment) which minimized the technical change associated with ANTRAC

¹See Collinson, "Farming Systems Research in Eastern Africa: The Experience of CIMMYT and Some National Agricultural Research Services, 1976-81," MSU International Development Paper No. 3, East Lansing, Michigan, 1982.

adoption. Thus the farming systems, in terms of crop enterprise selection and husbandry practices, were little changed by ANTRAC use.

b. Negligible Economic Impact. Surveyed ANTRAC households demonstrated little discernible difference in income which was attributable to ANTRAC use. The limited production increases were barely sufficient to cover the additional costs of ANTRAC. Further, ANTRAC farming increases cash costs from 6 to 15 fold over those of hoe farming, despite the E. ORD credit program. Such massive cash flow requirements make the technology infeasible for average households. Only households with a substantial non-farm cash income or liquid assets can afford to adopt ANTRAC under current economic conditions. The economic performance of donkey traction, due to lower costs, is somewhat more favorable than that of oxen traction, despite its less impressive agronomic impact.

c. Potential of ANTRAC in the E. ORD. Based on field trials of plowing and phosphate fertilizer (7, pp. 61-62) and more elaborate analysis of survey data (7, 8) to estimate performance potential, the ANTRAC technology appears to have the potential to produce modest increases in farm income. For example, linear programming analysis (8) suggests that at peak performance levels, a 10 to 38 percent increase in income over hoe farming could be expected, depending upon the specific ANTRAC package adopted. Nonetheless, due to the long learning period (2 to 6 years) which defer these peak benefits, the average income increase over the entire investment cycle is only 0 to 25 percent, depending upon the package and discount rate used.

3. Key Animal Traction Conclusions and Recommendations

A range of specific recommendations concerning the future implementation of the ANTRAC program are detailed elsewhere (7, 8). The major conclusions are:

9X

a. At present, the E. ORD does not have a set of technical packages which are biologically stable and economically profitable at the farm level for the vast majority of rural households. An unfortunate gap in Phase I was the failure to concentrate resources to develop improved technical packages. The "packages" available today are mechanical in nature, with little in the way of improved agronomic input. We have stressed that even the mechanical parts of the package are not well adopted to farm conditions. Given the massive increase in funding envisioned in the joint Phase II effort for infrastructure and extension, the token amount of resources earmarked for applied research to develop technical packages is totally inadequate. Unfortunately, the largest Phase II participant (IFAD) has based its project upon the supposition that a proven technical package exists¹ and that a massive extension effort is in order. Such an orientation for Phase II is clearly misguided. The development of geographically specific, economically viable technical packages should be the number one priority of Phase II, and should precede the massive extension effort implicit in the IFAD proposal.

It has to be recognized that the process of technical package development is a long-term one particularly when we are dealing with dryland agriculture in the African savannah, dominated by land extensive farming systems. There are no short-run solutions for these farming systems on the edge of survival. A correctly designed system of on-farm research monitoring and evaluation, and package multiplication and extension should start to produce

¹"... a package of improved practices exists and farmers are receptive to the introduction of the modern technology" (25, p. vii).

some major improvements in farming systems only after five to ten years.¹ This is possible as well in the Eastern region as evidenced by this initial MSU work and by the first results of three years of intensive study by SAFGRAD and ICRISAT farming systems research teams.

b. A major lesson of Phase I was that the time required to develop a self-sustaining agricultural development strategy based on animal traction were seriously underestimated. The ANTRAC technology is more complicated and expensive at the farm-level than we assumed at the outset. The network of basic supporting services (extension, animal training, credit, equipment assembly and repair, veterinary services, etc.) is vast and complex. The institution building required to develop such a network is a long-term, expensive process.

Phase I essentially assumed only a one year learning period and a five year investment cycle for the individual farmer. Only a three to five year time frame was financed to develop infrastructure and ANTRAC supporting services. By contrast, MSU field research indicates that the individual farmer needs four to six years just to break even on an ANTRAC investment and fully ten years to realize any appreciable returns. Further, this longer time frame assumes the existence of a complete and effective support service network. Such a network probably requires ten to twenty years to develop in a region such as the E. ORD. Therefore, donors need to think in terms of a 10 to 20 year commitment to institution building in order to develop a self-sustaining ANTRAC farming systems.

In support of this long-term time frame it is of interest to note that numerous attempts to introduce donkey powered traction on the Mossi plateau,

¹For a critical evaluation of approaches and successes in this type of highly-focused adaptive research see, for example, Gilbert, Norman and Winch, "Farming Systems Research: A Critical Appraisal," MSU Rural Development Paper No. 6, East Lansing, Michigan, 1980.

1/8

begun in the early 1960s and including the development of the "houe manga," have in recent years begun to take hold and there has been a spontaneous private blacksmith development of new equipment and the evolution of a highly specific farmer-developed traction system which emphasizes pre-planting soil "sacrificiation" and post-emergence weeding both done with weeding attachments and not the moldboard plow as emphasized in the "package" recommended in the Eastern region.¹ It should also be noted that the Eastern ORD package was largely transplanted from the Bobo-Dioulasso area of southwest Upper Volta with no systematic attempt made to test and adopt it to the various cropping and land-use patterns present in the large Eastern region.

4. Agricultural Credit and Marketing

In addition to providing an overall description of farming in the Eastern region and a detailed analysis of the performance of the animal traction farmers, the 1978-79 farm survey also examined agricultural credit and agricultural product marketing in the region. In both cases these topics were analyzed from two points of view: that of the "formal" system (the ORD short- and medium-term credit program; and the GOUV--ORD and OFNACER--crop marketing efforts), and that of the "informal system" (private credit among farmers and merchants; private "farm gate" livestock and crop marketings)

The performance of the ORD medium-term credit system was critical to the extension of the "improved technical package" with 90 percent of oxen packages and 50 percent of donkey packages since 1975 purchased with ORD credit. Edouard Tapsoba analyzed the performance of this system both at the farmer and ORD levels (9, 11, 12). He found that the system was dominated

¹Personal communications with members of the SAFGRAD and ICRISAT farm systems research teams.

by two overall trends: high administrative costs (conservatively estimated to amount to 25 percent of the value of credit extended over the 1975-80 period) and poor repayment performance. The latter trend is illustrated by the fact that as of the end of April 1982, only 30.4 percent of the total amount of credit due the ORD at that time had been reimbursed.¹ Only a portion of the 70 percent unpaid balance can be attributed to farmer refusal to pay. A much greater proportion can be attributed to the ORD: poor record keeping, mismanagement and embezzlement, which are often characteristics of agricultural credit systems which are transferred to traditional rural areas. Another symptom of poor performance is the fact that many surveyed farmers were found to be unaware of the total amount of their credit burden or the precise terms of credit repayment.

Some of the administrative problems of the UKU credit systems have been eliminated through the recent creation of the national-level CNCA system.² This system, however, can already be criticized for its lack of flexibility, its failure to cover most ORD costs of credit administration and its insistence on the use of a voluminous, burdensome, and archaic hand recordkeeping system. Tapsoba's analysis of the informal credit system illustrates that there are numerous aspects of informal credit system performance which can offer clues to more effective formal system design and performance (see 10, 11 and 12).

Marketing data were more heavily focused on private sector transactions given the relatively small contact the average E. ORD farmer had with the state marketing apparatus during the study period (2). Again, major emphasis in conclusions was placed on the low levels of marketing both in terms of

¹Personal communication, E. ORD Rural Institutions Section

²CNCA: "Caisse Nationale de Crédit Agricole."

10x

their proportion of total farm production and their absolute CFA amounts. The average randomly selected farm households in 1978-79, for example, had sold only 10,000 CFA of crops six months after harvest (for details see 13).

In terms of the marketing of agricultural surplus applied research focused on sorghum/millet marketing because of their predominate role in the quantity and value of average household production (e.g., sorghum/millet makes up 80 percent of the total value of the average household's crop production). Further, the definition of surplus and deficit areas varies from year to year as rainfall induced average village production levels vary enormously. For example, in the 1978-79 survey year there was extremely wide variation in the absolute production of sorghum/millet ranging from a low of 406 kilos per household in the drought-ridden Piela zone to ten times that amount in the Ougarou zone at 4,006 kilos per household.¹

The importance of these trends is to understand how the marketing system is superimposed and functions in a region where production zones vary greatly from year to year in surplus availability, and where zones are physically isolated and linked intermittently and imperfectly to national markets. The following are some major conclusions concerning market structure and performance and possibilities of state intervention:

1. In more heavily populated zones of the eastern region local trade functions under free market, perfect competition conditions but can only absorb a small fraction of local surpluses (when they are large) and only provide a small part of supplies needed to make-up periodic zone deficits

¹From unpublished analyses by David Wilcock. Some of these marketing questions will be addressed by Ismael Ouedraogo in his Ph.D. thesis, scheduled for completion at MSU in early 1983.

2. Many high production zones where sorghum and millet are grown in traditional patterns of shifting cultivation (e.g., the area between Fada and Kantchari, south of the Sirba River and north of the game reserves) have virtually no physical market places. All surplus is extracted by long distance traders who operate only for a limited period after harvest. There are high barriers to entry into this oligopolistic marketing system and the system has a high profit/loss potential. This is also true for major surplus extraction¹ from production regions with a system of local markets such as the Bogandé, Pama and Diapaga areas.

3. In general this pattern of sparse markets, weak market signals, and poor communications and transportation infrastructure, when superimposed on a fragile production base results in an annually shifting pattern of surplus and deficit zones, all presents great positive opportunities for government intervention (both in terms of marketing infrastructure development and in direct marketing) and great pitfalls in attempting to deal with the logistical barriers which result in a sporadic, highly concentrated private trade

B. Regional Planning

1. Overview

The regional planning component of the MSU research effort started by identifying three basic constraints to ORD planning of rural development in the Eastern region. Following a survey of the available data on the Eastern region, it was indicated, at the outset, that there was a lack of detailed baseline data for comprehensive regional planning of rural development. Secondly, it was observed that the ORD's overall development mandate was

¹This is in sharp contrast to the constant pattern of competitive marketing found in the Manga region by Jackie Sherman. The Manga markets are under the continual influence, throughout the year, of the major Ouagadougou grain market.

largely limited to aspects of agricultural extension and community development, and that it did not have the institutional resources to carry out a comprehensive regional plan and by itself, systematically promote multi-sectoral regional development. Thirdly, it was also observed that the ORD lacked the manpower required to plan, implement and monitor regional development plans. Each of these constraints was discussed in some detail with a set of recommendations in the initial MSU document on regional planning (15). Subsequently, in an attempt to partially meet these constraints, four types of research tasks were put on the MSU team agenda, namely: (a) to conduct a systematic review of all available Secondary data; (b) to execute a Baseline Survey of village level conditions; (c) to implement a detailed farm-level sample survey of household economics; and (d) to conduct a number of badly needed specialized studies in priority development sectors. By the end of 1980, all of the outlined set of research activities were completed.

The regional planning program focused, at the outset, on the first three studies and later on moved to undertake some of the specialized research projects. In order to accomplish the first task, all available documents and maps were collected and studied. Based on these data, a general description of the region along with preliminary identification of problems of its development were put together (17).

The baseline survey was divided into two parts: (a) household demographic, socioeconomic and behavioral data, and (b) village-level binary data. The initial idea, to conduct a census-type enumeration, was replaced by a plan to integrate the most important baseline components into the farm-level survey and the village binary inventory survey (4, 18, 19).

The specialized set of studies included: (a) survey of small-scale non-farm enterprises (14); (b) survey of bas-fond potential and economics of rice production (22); (c) economic and institutional analysis of rural credit

institutions (9, 10, 11, 12); (d) marketing of agricultural products (13); and (e) spatial design for locating rural centers for basic needs services (21).

The regional planning component focused on those studies that had spatial and organizational implications. These were done at two levels: (a) global structural characteristics of the region and settlement (17, 19) and (b) spatial designs for the location of basic service facilities (21).

2. Structural Characteristics of the Eastern Region

With the use of secondary data, the 1975 National Census, and the village inventory survey conducted by the MSU team in 1980, the analyses of the Eastern region can be grouped under seven major topics, a summary of which is given below.¹

a. Physical Characteristics. The most important issue raised in under this topic (17, 19) has to do with the lack of spatial association between population pressure and physical resource potentials in the region. It is observed that, whereas the southern region of the ORD is richer in physical resources with respect to precipitation, river discharge, and vegetation cover, it is the least inhabited in the region. Three possible reasons are outlined: (1) higher incidence of communicable diseases that affect both man and livestock, (particularly sleeping sickness, river blindness and onchocerciasis); (2) the existence of national wildlife reserve; and (3) lack of surface transport (roads) to link the region with more densely populated areas. It should be recalled that this southern region has been identified as one of

¹A measure of the usefulness of these data and analyses is given by the fact that the USAID-funded "Urban Functions in Rural Development" project used them almost exclusively in their final report on the Fada region.

the higher potential "new lands" in the Sahel in various CILSS documents that preceded our research.

b. Population Distribution and Density. Besides the problem of the lack of spatial association between physical resources and population density it has also been observed that the population of the region resides in only about 30 percent of the area of the ORD in densities varying from 10 to 80 persons per square kilometer. Although it is considered that the Eastern region is one of the least densely populated areas of Upper Volta with mean density of about 8 persons per square kilometer, pressure on the settled 30 percent of the land is high enough to be leading to substantial soil degradation and land tenure problems similar to those on the Mossi plateau.

c. Spatial Organization of Villages. The purpose of this study was to identify patterns of village hierarchies and specify centers of different size that could serve as logical points for development administration. The Village Socioeconomic Inventory produced a substantial data set on about 635 villages which permitted this detailed village characteristics analysis (18, 19). Based on size and centrality, three hierarchies of village centers were identified. At the top of the hierarchy were Fada N'Gourma, Diapaga, and Bogandé which could be assigned the status of principal regional centers of development. In the second tier of regional centers were Kantchari, Matiacoli, and possibly Bilanga, Comin Yanga, and Botou. In the third tier about ten villages were identified and they included Soudougui, Pama, Namounou, Manni, Piela, Boulgou, Diabo, Yamba and two or three others. The use of such a tiered system of villages is recommended in planning the delivery of various forms of development and social services.

d. Rural Roads. Analysis of the road network in the Eastern region provided ample demonstration of the region's poverty in surface transport

facilities. With 368 kilometers of all-weather roads, only 15 percent of the region is accessible to all-weather roads assuming that areas within a ten kilometer corridor on each side of a road have accessibility to it. The total length of all roads and trails is 2,823 kilometers. But most of this total is generally not motorable in the rainy season. Only 37 percent of the region is accessible to these roads, assuming accessibility as above. The ratio of the population that has access to these roads is higher because of the spatial association of the current network to population density in the region. Low quality of roads and low network density and connectivity is considered a major constraint on rural development in the region and is strongly related to the existence of weak agricultural product marketing systems mentioned above.

e. Basic Rural Services. A study of the current educational and health infrastructure shows that the ORD is one of the most poorly served regions in Upper Volta. Of the total number of school-age children, only 7.8 percent is enrolled in elementary school which is about half of the national average. Schooling opportunity is also highly unequally distributed: the Fada, Diapaga and Bogande areas account for over 55 percent of the region's total enrollment although they only have about 30 percent of the population.

Village health facilities are also extremely poor. With only 27 rural dispensaries and maternity clinic units and one hospital, located in about 25 villages, only about 4 percent of the region's total area is within easy access to health facilities as measured by effective service radius of 5 kilometers. It is estimated that if we consider areas of the region that are actually inhabited (about 30 percent of the whole Eastern ORD), 150 additional health service locations are needed to provide population coverage using Ministry of Public Health access. A detailed location/allocation analysis

19K

for choosing these sites for basic health units was conducted as one of the specialized studies (21) completed in the regional planning program.

f. Water Supply. Eighty percent of the villages surveyed draw their domestic water supply from wells. But only 60 percent of the villages are reported to have some wells with water in them all-year round and only 39 percent of the wells have water all-year round. This results in village women making long trips to fetch water. Although 90 percent of the villages reported having to go from less than one to two kilometers to fetch water in the dry season, 10 percent of the villages reported going over 3 kilometers and sometimes much further than that. The urgency to improve this situation cannot be overemphasized.

g. Spatial Organization of Markets. The regional planning research also looked at the current pattern of rural markets. According to the socioeconomic survey of villages, 178 village markets have been enumerated. However, only 52 of these markets serve populations in other villages besides their own. Of these, only 27 markets are recognized as having some significant level of centrality (serving five or more villages). This too was another sign of the dispersion and weakness of market forces in the Eastern region which effectively damps market incentives to higher agricultural production. Six hierarchies of village markets were extracted using the criterion of mean market radii to customer villages. These give some indications of potential joint development of road, service and commercial market infrastructure.

3. Location Design for Basic Needs Services

The second major focus of the work on regional planning was to outline and test a methodology for local and allocation of basic needs services for the Eastern region (20, 21). Based on objectives and constraints drawn from the ten year national health plan issued by the Ministry of Public Health, a

quantitative design for the location/allocation of primary health care units for the Eastern region was worked out. The result of the analysis produced a maximum of 222 health outlets to reach all inhabited regions with a covering radius of 5 kilometers. Taking into consideration the minimum threshold of 730 people for each primary health unit given by the Ministry, it was found that 163 of the 222 centers fulfilled the threshold minimum. This model could easily be replicated for other similar type of basic rural services like schools, extension centers, etc.

To sum up, the research agenda for regional planning dealt with four levels of generalizations. First, it outlined the overall research needs for purposes of rural development administration by the E. ORD (15). Second, using secondary data, it provided a global analysis of regional characteristics of the E. ORD (17). Third, using the village socioeconomic inventory survey,¹ it analyzed the spatial organization of settlement and other rural phenomena (18, 19). Fourth, in the context one of the specialized studies, it developed a design for the location/allocation of basic needs services using health delivery as an example of this process (21).

Undertaking this regional planning process within the ORD structure was a useful and cost-effective exercise for both the involved US technical assistance and ORD personnel alike. If a flaw were to be noted in the process it would be in the political wisdom of concentrating planning resources within the ORD and not sharing them with other agencies--particularly the general regional administration (Prefect, sub-prefects, etc. within the Ministry of

¹ It should be noted that this computerized data base is among those data files being maintained at the CENATRIN computer center in Ouagadougou. As such it is easily accessible by the SPSS software package and could be updated during "phase II" as a measure of regional evolution. Computer extracts from this data base were prepared for each of the 8 ORD sectors (18) using SPSS.

2/18

Interior) and the Ministry of Plan which had begun to set-up regional planning offices on a pilot basis in a few other areas of the country.¹ This had two negative consequences: depriving valid and useful planning results of needed broad-based political support and removing other important GOUV forces from the process of setting sector objectives and overall priorities within which the planning process must operate. These problems are addressed in the following section of the paper.

III. ISSUES AND RECOMMENDATIONS FOR FUTURE PROGRAMS

A. Rural Development in the E. ORD-Phase II

1. Introduction

The Eastern region represents a particular challenge as an arena for rural development. It has substantial physical potential which remains largely untapped. Its vast land resources are underutilized by its sparse population. Its potential to produce an agricultural surplus is underexploited by thin and uncertain market channels. Due to the low population density and years of neglect, the infrastructural base is strikingly poor relative to other regions of Upper Volta. Most GOUV institutions are underdeveloped and were only recently established so that they are just beginning to function.

The E. ORD is one such institution. Faced with a vast geographical mandate, extremely limited resources,² and inexperienced personnel, it faces the challenge of rapidly developing its institutional capacity to promote agricultural development. This challenge is all the more important because

¹It is of interest to note that regional planning was not even included in the original USAID project paper (23). It was simply suggested by MSU (1), insisted upon by the ORD Director and agreed to by the USAID project management (2).

²The Eastern ORD has received zero funding from the GOUV in the past two years.

population pressures over the next few decades will most likely force a major shift of the Voltaic population into the Eastern region.

USAID made a commitment to help develop the institutional capacity of the E. ORD during Phase I of the Eastern ORD Integrated Rural Development Project--a commitment it is carrying forward into the "Phase II" Eastern Region Food Production Management Assistance Project (26). Despite numerous difficulties, much progress was made during Phase I, particularly in terms of institution building and physical infrastructure. Equally important much valuable experience was gained by E. ORD, GOUV, and USAID personnel involved in this effort. A unique and invaluable knowledge base was established during the Phase I experiment in regional development planning, in the functional aspects of ORD organization and operations (as the ORD grew from 50 to over 400 employees), and in the day-to-day process of institution building. It is a knowledge base which should serve as the foundation of future donor assistance to the ORD.

Due to the rapid turnover of personnel, one is often forced to measure such a knowledge base in terms of project reports or even physical data sets; however, such measures are superficial. If the knowledge base is sound it becomes incorporated dynamically into the institutions concerned. We feel that this has been the case in the Phase I E. ORD/USAID joint effort. Despite extreme difficulties and in the face of nearly insurmountable constraints, Phase I had some substantially successful aspects. Perhaps more importantly both USAID and the E. ORD gained much hard-fought experience in the process of institution building at the regional and local level. As a result, we strongly recommend that USAID maintain a strong and constructive input into

the E. ORD and continue to build upon this unique regional experience.¹ (This plus other recommendations in this section were adopted at the conclusion of the three day Fada synthesis meeting).

2. Technical Packages for Increased Agriculture Production

As mentioned above in the discussion of results from the 1978-79 farm survey, a serious gap in Phase I was the lack of economically viable technical packages. Not only was technical package development completely overlooked in Phase I, but its importance has been similarly overlooked and under-financed in the joint Phase II IFAD project design (25).

Clearly, a major emphasis in Phase II should be directed towards agronomic experimentation and farm-level testing aimed to develop economically profitable farm-level interventions. This should include testing of new varieties, soil and water management practices, fertilizer (particularly locally mined phosphates), insecticides, new tillage and husbandry techniques, various mechanical components of the ANTRAC package, etc., based on recommendations from, and in collaboration with, the Voltaic national agronomic research centers.

In addition, major emphasis should be aimed at farming systems approach to research (FSR)² both through financial support of the E. ORD BAEP's recently

¹USAID assistance to macro planning in Upper Volta requires detailed micro data and a knowledge of local institutions. The rise and decline of agricultural sector analysis in the 1970s is mainly attributed to the capitol city based teams who relied on secondary data from rural areas prepared elegant models which were usually dropped after the departure of the expatriate agricultural sector experts. See Carl K. Eicher and Doyle C. Baker, "Research on Agricultural Development in Sub-Saharan Africa: A Critical Survey," MSU International Development Paper No. 1, East Lansing, Michigan, Department of Agricultural Economics, Michigan State University, 1982.

²See E.H. Gilbert, D.W. Norman, and F.E. Winch, "Farming Systems Research: A Critical Appraisal," MSU Rural Development Paper No. 6, East Lansing, Michigan, Department of Agricultural Economics, Michigan State University, 1980.

formed farming systems "cell" ("cellule de recherche appliquée"), both informal and contractual collaboration with ICRISAT and SAFGRAD FSR units, and US technical assistance to the Phase II Monitoring and Evaluation Unit (MEU). Such a mandate is clearly within the conceptual scope of the MEU's plan of work as far as USAID is concerned (26), although it appears that IFAD is uninterested in FSR investment (25). Phase I field experience and farm-level data provide an excellent departure point for FSR work.

Thus, we recommend that applied farming systems research be explicitly incorporated into the work plan of the MEU technical assistance team to a degree commensurate with its importance. Since we feel that the lack of available technical packages is a critical weakness of the overall Phase II design, we recommend that fully MEU technical assistance effort be focused on FSR and its monitoring. This requires reexamining the job descriptions for the long-term technical assistance provided by USAID. We recommend that one long-term position be a farming systems economist and one a farming systems agronomist. In addition, given IFAD's apparent disinterest in FSR and in light of the surprising arrangement whereby the head of the MEU will be an IFAD/UNDP contract hire person, USAID should be firm and explicit in its commitment to FSR.¹ USAID has sufficient experience in the E. ORD to realize the potentially disastrous consequences of moving ahead with Phase II without viable technical packages and the implications of IFAD's insistence upon massive funding for credit programs in advance of proven technical packages.

¹This staffing pattern is one of high risk/high gain and should be studied carefully to avoid putting USAID MEU personnel in an untenable position. This problem would not exist if TA personnel were functionally integrated into the ORD.

254

3. Development of Institutional Capacity

The building of local institutional capacity to conduct development work should be of paramount concern to all donors working in Upper Volta. For example, the need for manpower development was clearly spelled out in the initial consulting report on regional planning (15). Unfortunately under the USAID Phase I project training was given low priority and the actual training carried out was adhoc and poorly planned.

We feel that USAID should take the lead in making sure that outside resources are used to the maximum extent possible to develop human resources and local and national institutions to serve rural people. This can be accomplished in a number of ways at both the regional and national levels.

a. Institution Building in the Eastern Region. At the regional level the most important recommendation is that project resources, both financial and human, should be fully integrated into one permanent ORD structure. In other words, there should only be one organizational structure that will be strengthened and left in place. This can be practically achieved by the following:

1) making sure MEU technical assistance is assigned to the correct place (or places) in a unified ORD organizational plan and be complemented with Voltaic counterpart. This will also take maximum advantage of Voltaic field research personnel trained by MSU in Phase I;

2) assuring that resources be allocated to support E. ORD initiatives in the area of farming systems as mentioned above; and

3) supporting the creation of an Eastern Regional Planning office (as part of the Ministry of Plan), an action which has been taken so far in several other regions of Upper Volta. The planning unit of the E. ORI would then be able to transfer some of its accumulated planning knowledge and

documentation to this unit and work collaboratively with it in terms of agricultural planning. This will facilitate the political process of setting overall regional planning objectives and overcome one of the major weaknesses of the E. ORD's isolated Phase I planning effort.

b. Institution Building at the National Level. There are a number of important measures that can be taken at the national level which would be complementary to Phase II actions proposed at the regional level.

1) Within the overall Phase II project structure it would be useful to have a well organized, semi-annual, face-to-face reporting of regional progress and lessons so that ministry personnel would also benefit from these evolutionary experiences. This could involve for example, the MEU's linkage to the appropriate "directions" in the MRD. In addition we also strongly support the concept of the national level seminar on regional development to be funded under the training component of the USAID project (26). This should probably be an annual event.

2) The MSU applied research experience in the Eastern region has also demonstrated the need for similar regional efforts to relate to a national level applied research institution which could carry out this type of methodologically more sophisticated research. The ORD is not the place or level at which such capacity can or should be built. Where such an applied research institute would be located within and in relation to the GOUV, and the University of Ouagadougou systems would have to be studied in some detail, but it is clear that this capacity is needed at the national level.

Such a "Voltaic Applied Research Institute" could be set-up in a parastatal form and be available to conduct this type of major research project "in house" rather than having to continually rely on expatriot expertise. In addition it will provide a base for higher level Voltaic researchers and development practitioners recently trained in the US and elsewhere.

JGX

3) We strongly support the initiatives being undertaken by the USAID/ADO to enhance institutional capacity within the GOUV Ministry of Rural Development. Whether this be in applied research, policy analysis, manpower planning, etc., we feel that these actions have been strongly lacking in the past and will complement other USAID initiatives.

4. Avoid Funding Only Half of the E. ORD

The Phase II IFAD project proposes to use project funds to support ORD program actions in three entire ORD sectors (Bogande, Kantchari and Diapaga) and in part of the Matiacoali sector (leaving the Gayeri sub-sector physically isolated with no support). Without advancing any acceptable rationale, four ORD sectors--Fada, Pama, Comin Yanga and Diabo--would not be included in project support. Who will then finance the maintenance of an ORD presence in the other half of the region? Even if the GOUV does provide some funding for the ORD it will surely be modest as compared with the massive capital inflow for the four privileged ORD sectors.

In a region such as the East the need to concentrate resources in order to produce some visible experimental change is clear. (This indeed was the reasoning behind the original USAID "intensive zones" in Phase I.). Moreover, this can be accomplished within a pattern of providing overall minimum support to the entire ORD. Furthermore, it is impossible to defend the IFAD project's geographic coverage which will exclude areas of highest development potential such as the sub-sectors of Pama and Sondigi. Those areas with high rainfall (1,000-1,200 mm range), good soils, and large tracts of unused land will be increasingly opened to new settlement and development with the likely construction of the Kompienga hydro-electric dam and the Fada N'Gourma-Benin road link. Therefore, we strongly support GOUV or donor actions which would

28

promote a more balanced and manageable funding formula for the E. ORD; even a smaller overall funding package would probably be more productive if it included greater geographical equity.

B. USAID/E. ORD Food Production Management Assistance Project

USAID has a unique opportunity to capitalize on its previous investment in the Eastern region through its Phase II project component. Planned in cooperation with the larger IFAD investment package, the Food Production Management Assistance Project (FOPMAP) is narrow in focus but generally well designed. However, we do want to make a number of suggestions concerning the main project components and overall management procedures which we feel should help in the attainment of its stated objectives.

1. Main Project Components

a. The Technical Assistance Team and the MEU. We have previously recommended a strong emphasis on farming systems research due to the lack of viable technical packages ready for dissemination to the region's farmers. This calls for some reconsideration of the staffing patterns proposed for the technical assistance team. If a three person long-term team is to be maintained we would recommend that two members of this team have applied farming systems work as their principle activity. An experienced agronomist and agricultural economist working with counterparts in the ORD "applied research unit" should devote approximately 80 percent of their time to adaptive farming systems research and extension--focused on technical package improvement and farmer and extension agent training--and 20 percent of more formal technical and economic evaluation for project purposes.

The third team member, an economic geographer or an applied social scientist with similar skills, should focus his effort on regional planning,

297

including active collaboration with the Ministry or Plan regional planning unit. In addition this technician would be responsible for the conduct of broader social impact analyses and for the coordination of special studies as priorities for them emerge during the project period. The question of team leadership should certainly be left to the discretion of the contractor depending on the experience and qualifications of team members.

As we have stressed these technical assistance personnel should be functionally integrated into one ORD organizational chart in order to promote local institutional development, counterpart training and avoiding the creation of parallel project structures. If it is convenient to refer to this group as a "monitoring and evaluation unit," to have them (along with their Voltaic counterparts) periodically confer with appropriate personnel from the MRD or to participate in donor-sponsored evaluation exercises, this should pose no problems. What should be avoided at all costs is the creation of a heavy-funded MEU, separate from the ORD organizational chart,¹ which would vanish at the end of the project leaving no institutional continuity. If the IFAD project designers promote separate institutional arrangements it would call into question the basis for any collaboration for development purposes.

Finally it is essential that the criteria, indicators and methodology for assessment of project success be worked out collaboratively between ORD, MRD and donor technical assistance personnel. It is important that this be done at the very outset of the project implementation period as is recommended in the USAID Project document. Since AID is providing the bulk of the

¹It is even anticipated that the MEU be housed in a separate office building which will be constructed with project funds. This would be a waste of money given the surplus ORD office space resulting from Phase:

monitoring and evaluation capacity it should take the leadership in this important task. This will help avoid problems such as those encountered in Phase I when there was never a final evaluation of the success or failure of the principle USAID IRD project components, only an evaluation of the ORD financial management capacity which had not been the object of any project instance.

b. Training. The training component of USAID Phase II project design is well conceived. Clearly, the critical importance of training and human resource development for Voltaic personnel cannot be understated. The premise that the majority of training should be conducted at the E. ORD, in-country, and within West Africa is excellent. Further, the timing is excellent for such a large training effort. In the final years of Phase I, marked changes occurred in the E. ORD in terms of substantial increases in highly educated, motivated, but inexperienced personnel. Despite essentially zero funding by GOUV of E. ORD operating expenses in the past two years, corresponding with an extremely long and destabilizing gap between Phase I and Phase II, this young cadre has continued on at the E. ORD, taking initiatives wherever possible and gaining valuable experience.

This optimism for USAID's Phase II training component should be tempered somewhat as a result of past experiences. The Phase I project budget provided \$200,000 for training but only \$19,000 was spent. The Phase II project paper blames this largely upon the lack of qualified candidates combined with the failure of the E. ORD Director to nominate candidates. While this may be true to some limited extent, we feel that an equally important problem was a serious lack of effort by USAID to implement this component of the project. The identification of viable candidates and the complicated logistics of arranging seminars, travel, etc., require substantial time, effort, and special skills

Due to the lack of a USAID project manager located in Fada N'Gourma, little effort was applied to spending the training fund. While we applaud Phase II's design which puts the administration of training funds in the hands of the technical assistance contractor (in contrast to Phase I where MSU had no access to training funds), we are apprehensive that the effort required to manage the training component may be underestimated. Phase II's training budget is \$800,000, a 40-fold increase over actual training expenditures during Phase I. Given MSU's substantial experience with both field training and higher level manpower training out-of-country, we feel that the administrative burden of managing this imaginative project training component has not been adequately appreciated. Due to this and to problems inherent in local working conditions and communication systems, we feel that 1/2 of the work time of one member of the USAID technical assistance team will need to be devoted to administering the training component of Phase II. It does not appear that the agronomist/team leader should be given this task due to the importance of applying agronomic skills to FSR, particularly since team leadership already entails a substantial administrative load. Another alternative would be to give another team member half of the training program management task (i.e., 25 percent of his work time) and to have the other half provided by the contractor on a periodic short-term basis.

Finally, the bureaucratic structure of implementation of USAID's training program is awkward and seems prone to problems. Current Phase II design says that a IFAD/UNDP contract "Senior Training Officer"--STO--(are there any "junior" training officers) stationed at the Agricultural Support Center in Diapaga will be responsible to coordinate all training activities which would normally be centered in Fada N'Gourma. Good personal working relations between the USAID contractor in charge of training funds and the STO are essential.

In addition, the STO already has so many other responsibilities within the IFAD project that we fear that this may create an implementation bottleneck, given the underestimated administrative/logistic implications of the training component.

c. Special Studies. This is a valuable complementary component of the USAID Phase II project; it is important to have a continued capacity to undertake special studies as the need for them arises. The value of this ability to react to changing conditions was demonstrated by the various studies undertaken under the E. ORD/MSU regional planning program.

It is possible to already identify two of the studies to which the ORD gave high priority in Phase I but which were never carried out:

1) a systematic study of the Eastern region road system focusing on the development of an overall, prioritized strategy for the improvement of primary, secondary and feeder roads. The troubles USAID has had recently in analyzing road investments under its E. ORD Rural Roads II project largely stem from its previous failure to fund this regional study which was identified as the ORD's top priority in August 1979 (16).

2) The second phase of the small-scale rural industry study--focusing on the development of cost and returns figures and modernization and investment strategies for priority rural industries (particularly those in agricultural processing areas such as rice and grain milling, peanut oil and shea nut butter processing etc.) also remains a clearly identified GOUV/ORD priority.

Finally it should be recognized that some of the resources allocated to the special studies component may have to be utilized in the applied studies to be carried out by the "MEU" technical assistance personnel

2. Project Management Issues

Based on the four year MSU contract experience within the USAID Phase I IRD project we would recommend two key management principles be firmly integrated into this Phase II project:

a. Maintain project management and control over project resources at the project site in Fada N'Gourma. This can be accomplished either by having a USAID direct hire project manager reside and work in Fada, or more likely given the smaller size of the Phase II project, it would be simpler to confid almost all project management decisions to the contract team personnel in Fad. The MSU experience demonstrated that constructive progress can be made only when project personnel, with access to needed resources, work on a day-to-day basis with ORD counterparts. This is at the heart of the long-term training and institution building process if the goal is to develop a realistic nation capacity for self-guided change.

b. Plan further Phase II project implementation directly with ORD personnel in Fada N'Gourma. Given the difficulties the donor community has had in designing and launching this joint Phase II regional intervention it is vital that all further steps in project implementation be executed in full collaboration with ORD personnel. USAID should take the initiative in this matter even if this is not the procedure to be employed by other donor groups. It is very discouraging for us to have followed the four year evolution of the IFAD Rural Development Project (until recently called the "Projet Vivrier") which began in 1978 as a Voltaic initiative within the CILSS collaborative structure, to recent stages where key last minute project design and execution decisions have been made by IFAD unilaterally in Rome with absolutely no consultation of ORD personnel who are going to have to live with these decisions during the period of project field execution. USAID

has the opportunity to rise above this dismal performance and we strongly recommend that it do so by taking the concrete steps necessary to collaboratively design the contractor execution of its Phase II project component.

IV. BIBLIOGRAPHY

A. General Introduction

1. Eicher, Carl; Sargent, Merritt; Tapsoba, Edouard and Wilcock, David. "An Analysis of the Eastern ORD Rural Development Project in Upper Volta: Report of the M.S.U. Mission." African Rural Economy Program Working Paper No. 9, Department of Agricultural Economics, Michigan State University, East Lansing, Michigan, 1976.
2. MSU Field Team. "Six Month Reports," No's 1 through 8, Fada N'Gourma, Upper Volta, January 1978-September 1981.

B. Farm Survey Methodology

3. Section Recherche Appliquée, BAEP, ORD de l'Est. "Rapport No. 1 de l'Enquête Micro-Economique de 1978-79," Fada N'Gourma, Décembre 1978. (English version in Second Six Month Report, August 1978.)

C. Characteristics of Farming Systems

4. Lassiter, Gregory. "Caractéristiques Sommaires des Ménages Agricoles dans l'ORD de l'Est: Résultats Préliminaires de l'Enquête Micro-Economique 1978-79," BAEP, ORD de l'Est, Juillet 1980. (English version in Lassiter (1982).)
5. Baker, Doyle et Lassiter, Gregory. "Production Végétale dans l'ORD de l'Est: Résultats Préliminaires de l'Enquête Micro-Economique 1978-79," BAEP, ORD de l'Est, Août 1980. (In English and French.)
6. Lassiter, Gregory. "Cropping Enterprises in Eastern Upper Volta." African Rural Economy Program Working Paper No. 35, Department of Agricultural Economics, Michigan State University, East Lansing, Michigan, June 1981. (To be translated.)

D. Economic Analysis of Animal Traction

7. Barrett, Vincent; Lassiter, Gregory; Wilcock, David; Baker, Doyle and Crawford, Eric. "Animal Traction in Eastern Upper Volta: A Technical, Economic and Institutional Analysis." MSU International Development Paper No. 4, Department of Agricultural Economics, Michigan State University, East Lansing, Michigan, July 1982. (Translation in process.)
8. Lassiter, Gregory. The Impact of Animal Traction on Farming Systems in Eastern Upper Volta. Ph.D. Dissertation, Cornell University, Ithaca, New York, May 1982. (In English only; available upon command to University Microfilms International, P.O. Box 1764, Ann Arbor, Michigan 48106 U.S.A.)

E. Agricultural Credit

9. Tapsoba, Edouard K. "Analyse descriptive préliminaire de l'étude sur le système traditionnel de crédit," BAEP, ORD de Fada, Avril 1980. (See Tapsoba (1981) for the English version.)
10. _____. "Analyse descriptive préliminaire de l'étude sur les attitudes des paysans envers le crédit et l'épargne," BAEP, ORD de l'Est, Avril 1980. (See Tapsoba (1981) for the English version.)
11. _____. An Economic and Institutional Analysis of Formal and Informal Credit in Eastern Upper Volta: Empirical Evidence and Policy Implications. Ph.D. Dissertation, Michigan State University, East Lansing, Michigan, September 1981. (See Tapsoba (1982) for a condensed version in French.)
12. _____. "Crédit Agricole et crédit informel dans la région Orientale de Haute-Volta: analyse économique, performance institutionnelle et implications en matière de politique de développement agricole," Department of Agricultural Economics, Michigan State University, East Lansing, Michigan, Aout 1982. (In French only.)

F. Marketing

13. Ouedraogo, Ismael et Wilcock, David. "Analyse des caractéristiques de la commercialisation des produits agricoles au niveau des paysans de la région est de la Haute-Volta."

G. Small Scale Industries

14. Wilcock, David. "Rural Small Scale Enterprises in Eastern Upper Volta: Survey Results." African Rural Economy Working Paper No. 38, Department of Agricultural Economics, Michigan State University, East Lansing, Michigan, June 1981. (Traduction en français prévue.)

H. Regional Planning

15. Mehretu, Assefa. "Planification regionale pour le développement rural dans l'ORD de l'Est de la Haute-Volta: rapport de consultant," Equipe MSU, ORD de l'Est, Fada N'Gourma, 1978. (In English and French.)
16. Wilcock, David. "Rapport de synthèse sur le travail en planification régionale," BAEP, ORD de l'Est, Août 1979. (In French only.)
17. Mehretu, Assefa et Wilcock, David. "Document de travail en planification regionale numéro 1: la région est de la Haute-Volta," BAEP, ORD de l'Est, Novembre 1979. (In French and English.)
18. Wilcock, David. "Inventarie Socio-Economique des Villages de l'Est: Fichiers Secteur," Department of Agricultural Economics, Michigan State University, East Lansing, Michigan, Février 1981. (Computer generated report, in French only.)

39X

19. Mehretu, Assefa. "Spatial and Structural Characteristics of Settlements in the Eastern Region of Upper Volta," Department of Agricultural Economics, Michigan State University, East Lansing, Michigan, January 1982.
20. _____. "Procedures for Locating Basic Needs Services in Rural Areas: An Application to the Eastern Region of Upper Volta," Department of Agricultural Economics, Michigan State University, East Lansing, Michigan, April 1980. (In English only.)
21. _____. "Spatial Design for Locating Primary Health Services in the Eastern Region of Upper Volta: Program Results," Department of Agricultural Economics, Michigan State University, East Lansing, Michigan, February 1981. (In English only.)
22. Fotzo, Pascal. "Analyse preliminaire des enquêtes agro-economiques des bas-fonds de l'ORD de l'Est, RHV," Department of Agricultural Economics, Michigan State University, East Lansing, Michigan, February 1981. (French only.)

I. Donor Project Documents

23. USAID. "Eastern ORD Integrated Rural Development Project," Ouagadougou, Upper Volta, 1974.
24. Poulin, R.; Morton, A. and Machie, A. "Evaluation of the Eastern ORD Integrated Rural Development Project," USAID, Ouagadougou, Upper Volta, 1978.
25. Centre d'Investissement. "Rapport de la Mission de Preparation: Projet de Developpement Rural dans l'ORD de l'Est," FAO, Rome, Italy, 1980.
26. USAID. "Eastern Region Food Production Management Assistance: Project Paper," USAID, Ouagadougou, Upper Volta, 1981.

MINISTÈRE DU DÉVELOPPEMENT RURAL

SECRETARIAT GÉNÉRAL DU DÉVELOPPEMENT RURAL

O.R.D DE L'EST FADA - N'GOURMA

REPUBLIQUE DE HAUTE-VOLTA

Unité - Travail - Justice

PROGRAMME DU COLLOQUE SUR LA SYNTHÈSE DES ÉTUDES
REALISÉES PAR L'ÉQUIPE DU MICHIGAN STATE UNIVERSITY (MSU)
L'O.R.D DE L'EST

FADA - N'GOURMA : DU 26 AU 28 JUILLET 1982

V. ANNEX

37

39
A

JOUR	HORAIRE	THEMES TRAITES	ANIMATEURS
LUNDI 26/07/82	8H - 8H30	Ouverture du Colloque	J.M. KAMBIRE
	8H30 - 9H	Présentation des sujets qui seront traités pendant le Colloque	D. WILCOCK
	9H - 12H30	Enquêtes micro-économiques : caractéristiques des exploitations agricoles de l'Est -	G. LASSITER
	15H - 18H	Enquêtes micro-économiques : analyse économique de la rentabilité de la traction animale dans l'ORD de l'Est -	G. LASSITER
MARDI 27/07/82	8H - 10H	Crédit rural : attitude des paysans de l'Est vis-à-vis du crédit formel (ORD/CNCA) et vis-à-vis du crédit informel (traditionnel) -	E.K. TABSOBA
	10H30 - 12H30	Commercialisation des produits agricoles Importance des petites entreprises rurales dans l'ORD de l'Est -	D. WILCOCK
	15H - 18H	Planification régionale : - Résultats des études spécifiques - Inventaire socio-économique des villages de l'Est-Volta -	A. MEHRETU D. WILCOCK

110

MERCREDI 28/07/82	8H - 10H	Importance de la Recherche Appliquée : mise au point de paquets techniques appropriés - Suivi / évaluation des Projets de développement Rural de l'ORD -	J.M. KAMBIRE
		Importance d'une meilleure collaboration entre les différents niveaux et les différents partenaires dans le cadre de la Planification Régionale -	D. WILCOCK A. MEHRETU
	10H30 - 12H	Synthèse finale portant sur les conclusions et recommandations du Colloque -	J.M. KAMBIRE
	12H - 12H30	Closure du Colloque -	J.M. KAMBIRE

17