SIX MONTH REPORT NO. 5

June - November 1979

Michigan State University Contract Team
USAID Integrated Rural Development Project
ORD de l'Est, Fada N'Gourma, Upper Volta

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I. INTRODUCTION

After two and a half years a field work in the Eastern region of Upper Volta this is the fifth six month report of the Michigan State University contract team. The team, part of the University's Department of Agricultural Economics, has been providing the Eastern ORD (Regional Development Organization) with program implementation and applied research technical assistance within the context of the USAID Integrated Rural Development Project.

Several team members will be ending their work in Fada N'Gourma during the period May through August 1980. For this reason summary work plans and a listing of anticipated reports are included here as Appendices A and B.

The reader who has not read the previous four MSU six month reports may find the discussion of certain topics somewhat summary or incomplete. He is encouraged to consult these previous reports and other documents for a more complete picture of major topics presented in the current report. A bibliography of documents produced by the MSU team is included as Appendix C.

As stated in previous reports, the contract team welcomes any comments, criticism or requests for further information or material discussed in this report. Every effort will be made to respond directly in writing and to incorporate useful suggestions in future reports.

II. ANIMAL TRACTION

A. Introduction

The lack of a Voltaic counterpart at the ORD central office continues to be a major problem for the MSU livestock specialist. Animal traction will remain the heart of ORD efforts to increase small holder dry land crop productivity (and total production) during the next phase of donor assistance funding to the ORD. It is vital to the smooth functioning of this program that a qualified Voltaic be assigned to manage ORD animal traction operations. If this is done on a timely basis the person chosen could profit from the specialist's program implementation experience before the latter ends his contract work in July 1980.

Due to the lack of a counterpart the specialist's work in this period has again mostly involved the basic "nuts and bolts" operations of the animal traction program.

B. Extension Agent and Farmer Training

Due to the revolutionary nature and operational complexity of the technical package[1], farmer training is a key component in the potential success of the animal traction program. During this reporting period the livestock specialist participated in three different ORD farmer training activities focused on animal traction.

1. "Cascade" Training. The farmer training method currently in widest use in Upper Volta is training "en cascade". This is theoretically a three level training system. First a practical course is developed by central ORD personnel who give it to middle level personnel, such as sector and sub-sector chiefs. They, in turn, present the material to the extension agents in their respective areas. Finally the agents are expected to give the course to the farmers with whom they have worked. The farmer training step is supposed to take place on village group collective fields where farmers can practice the new techniques without taking the risk of introducing them, sight unseen, on their own fields.

In June and July 1979 a "cascade" course was conducted focusing on weeding and ridging techniques. The following topics were covered:

a) The reasons for weeding and ridging:
b) Mounting the tillage equipment on the body of the plow;
c) Nomenclature of weeder and ridger parts to facilitate the ordering of spare parts;
d) Adjustment of the equipment for proper use; and
e) Practical demonstrations of weeding and ridging techniques.

The course was repeated in six of the eight sectors of the ORD. This was followed up by the specialist attending a number of the courses given at the sub-sector and extension unit levels in order to evaluate the program. The material generally reached the extension agents but they often failed to transmit it to farmers. Agents either lacked the experience and confidence to give the course or were preoccupied with administrative tasks which they felt more comfortable in undertaking. Agents also complained that they lacked the equipment necessary to give the demonstrations. A fuller evaluation of this training method with suggestions for its improvement will be made available in January 1980.

2. Animal Trainers. In order to supplement farmer training by extension agents, a group of farmer "animal trainers" (French: "bouviers") were employed during the reporting period. Their job was to train oxen and instruct farmers in the correct use of the technical package. During November the specialist and personnel from the ORD's Bureau of Economic Analysis (BAEP) visited 117 farmers

1/ See previous six month reports for discussions of the various components of the package.

in order to evaluate this program. While a complete evaluation report will be available in January, 1980, initial reactions were very favorable to the work of the "bouviers". More "bouviers" will be trained in February, 1980, and the existing trainers will be given additional instruction on basic health care for working animals.

A major constraint faced by "bouviers" in their work was that credit for the purchase of animals was made available only in May at the beginning of the plowing season. This resulted in animals being purchased in May and June and "bouviers" being unable to effectively train all the new oxen. Thus many farmers can make no use of their equipment during the "year of grace" in the five year credit program. In 1980 the ORD intends to make credit available in January which will allow the "bouviers" more time to train animals before the plowing season and to give more attention to the demonstration of weeding and ridging techniques.

3. Visit of Eastern ORD Farmers to Southwestern Upper Volta. A trip was organized for a group of farmers from the Fada region to spend ten days in Southwestern Upper Volta where animal traction has been practiced for over twenty years. The purpose of the visit was to show farmers what they could accomplish by following ORD recommendations. Among other activities the farmers attended a "demonstration day" organised by the Bobo Dioulasso ORD which featured methods of growing cotton, demonstrations of plowing and weeding using animal traction, and the importance of using insecticides and organic as well as chemical fertilizers. To show that the techniques were actually used by local farmers, the Gourmantches were shown two farms, of 11 and 20 hectares respectively, which had been planted, weeded and ridged using animal traction. The Fada farmers were very impressed by an animal-drawn seeder and by the fact that the local farmers had planted on the same piece of land for ten years without exhausting the soil. The farmers were also very interested in an "Embouche Paysan" project in Banfora where old oxen were fattened by farmers to increase their resale value as meat animals.

This trip had a tremendous impact on the participants as subsequent visits with them have shown. They have all held meetings in their villages to tell of their trip and they remain very enthusiastic about the prospect of reproducing in Fada what they saw in Bobo and Banfora. If the ORD supports these farmers correctly, in terms of training and the provision of inputs, they could become effective agents of change in their own communities simply by demonstrating the possibilities of the technical package.

C. Improvement of ORD Documentation on Livestock and Animal Traction

The livestock specialist visited the IEMVT[2/] in Paris for 3 days in September. In addition to obtaining several French technical manuals on animal husbandry, a recently published range resource survey of the Sahel ORD and the northern part of the Eastern ORD was discussed with

2/ Institut D'Elevage et de Medecine Veterinaire des Pays Tropicaux (Paris, France).

the principal author, Dr. Toutain. The maps in the report indicate evolution in land use over the last 20 years, and the current vegetative cover. A copy of this report was provided to the head of the Livestock Service in Fada. The document will be quite useful for future planning of actions in the livestock sector.

D. Supply of Animal Traction Equipment to Farmers

An important role of the ORD's animal traction sub-section is to assure farmers a supply of equipment, spare parts and accessories. An evaluation of this program activity was made by the specialist in November. While a complete report will be finished in January 1980, it is very clear that the lack of yokes was a major problem this year. In addition, the supply of accessories and spare parts to be manufactured by local rural blacksmiths and carpenters is also becoming a major problem which will get worse as more farmers accept animal traction and as more plow parts begin to wear out. The artisans do not have the liquidity necessary to buy the raw materials needed for yoke and plow share manufacture. Attempts by the ORD to provide raw materials have not worked out very well. For example, a carpenter who was provided with wood for yokes last April has yet to finish them. The ORD should schedule meetings with the artisans themselves, the National Center for Rural Artisan Training (CNPAR), as well as the Partners for Productivity, in order to find ways of improving the supply of spare parts and accessories.

E. National Meeting on Animal Traction

At the end of October 1979 the specialist attended a meeting in Ouagadougou concerning the Conseil de l'Entente's animal traction program in Upper Volta. The objective was to analyze how various ORD's were spending credit provided by the Entente Fund, to evaluate the ORDs' extension programs and to assess the impact that animal traction has had on overall crop production levels. The Eastern ORD was behind other ORD's in the promotion of such important actions as manure preservation, but its program of farmer training, in general, was much more ambitious, reflecting the relative novelty of the technical package and the relatively large amount of credit available to farmers in the Fada region. All ORD's faced the same problems of timely delivery of equipment and credit for buying animals.

F. AID Livestock Agents

During August, the livestock specialist ordered basic equipment such as syringes and emasculators for the livestock agents in the USAID intensive zones. Most of the equipment arrived at the end of November and it will be used primarily to provide better health services for traction animals in those zones.

G. Research Activities.

1. Plowing and Phosphate Fertilizer Trials. Multilocational field trials to evaluate the yield effects of plowing and the application of phosphate fertilizers were conducted during the 1979 crop season. Forty trial plots were visited in October to monitor data collection and execution of the experimental design. Most of the plots had been well laid out and the farmers were cooperating fully. However, there were some problems with parasites on white sorghum during August and some of the plots had had poor germination due to the presence of ants or to seeds having washed away during early rains. The data should be available in Fada by the end of December 1979 and the results of this year's trials will be available by April, 1980.

2. Forage Trials. Trials were planted in Bogande and Fada N'Gourma this year, and tests of certain varieties were put out in Tiparga, Namoungou, and Grindouga (all in the sub-sector of Fada). The results in Fada were disappointing due to poor maintenance of the plots during July and August. The plots in Bogande were well weeded, but had very poor germination and, as a result, no harvest was made. A perennial legume, Siratro, will be left to regrow next year to test its ability to survive the dry season. The plot in Tiparga was the most successful reflecting the supervision provided. In the three test plots around Fada, a sorghum variety recommended by ICRISAT (VS703) was tried. Although there was some lodging in the plots, the farmers were very impressed by the variety because of its short vegetative cycle and high yields. However, there was no interest in using this variety for silage production as was originally intended. The farmers preferred to let the grain mature for their own use and to feed the dried stalks to their animals. The farmers reported that the taste was not as appreciated as that of local varieties but because of the short vegetative cycle they wanted to keep the variety as a hedge against years in which there is poor rainfall in the initial part of the crop season.

III. AUDIO-VISUAL SECTION

During the third six month period of the audio-visual specialist's work in Fada a primary objective was to initiate photographic, film and sound documentation of selected ORD programs. These materials would then be used to develop models in the production of various types of graphical and sound learning aids. This period also represented the continuation of the practical, "hands-on" training of the audio-visual section personnel.

A. Program Documentation

The documentation program initiated during the 1979 crop season consisted of bi-monthly field trips with the audio-visual vehicle (Cinebus) to different ORD sectors. In collaboration with ORD sector chiefs, these trips allowed the audio-visual team to photograph (in black & white and

with color slides) such programs as animal traction in the Fada Sector, the coton project in the Diapaga sector, the rice project and health programs in the Kantchari Sector. Cassette sound recordings were made of field interviews with farmers, traditional stories, and indigenous music. These materials have been used in the training of audio-visual personnel in equipment usage and will serve as models for further material collection for the graphic and sound studios. In addition, these field trips also allowed the diffusion of ORD messages through nightly film projections in the villages. These film shows continue to draw large audiences, even in the rain. Also, ORD messages made up from exerpts of field interviews continue to be heard in the Gourmantche language radio programs through the national Radio Rurale on a weekly basis.

The documentation program initially envisioned had to be significantly revised due to the lack of available materials, photographic and projection equipment. After the theft of the specialist's personal camera during a fieldtrip all photographic documentation unfortunately had to be discontinued until project materials ordered through USAID channels arrive.[3/]

Despite these setbacks, the sound documentation program and film shows will continue on a bi-monthly schedule through the next six months and photographic documentation on a limited basis. At present, the ORD graphic designer has been using the above mentioned materials in developing models for photo story books, flash cards, calendars, posters, T-shirts, 3-D popups, graphs, organigrams, mimeograph stencil work, and silk screen products. Samples of these materials will be illustrated in a future publication.

The audio technician is presently able to record and produce finished tape recordings for the Gourmantche language radio programs which are sent directly to Ouagadougou for broadcasting. This eliminates the necessity of monthly travel and production at the studios in Ouaga.

B. Graphic Studio

During the reporting period, the planning and design of the graphic and sound studio facilities was completed and the building of work furniture was initiated and should be completed by the Center for Professional Training (CFP) in Fada by February 1980. Graphic materials have been purchased locally in Ouaga and Bobo. Administrative systems have been established to allow for the planning and efficient purchasing of necessary supplies.

3/ At the date of this report the audio-visual equipment has been on order for over a year. The USAID purchasing channel, using AAPC in New York, is unfortunately extremely slow, very costly and a major constraint on the successful execution of this and other USAID field contracts in West Africa.

C. Personnel Training

An extensive three week (July 16- August 5) audio-visual training session for the two AV technicians was held in Bobo Dioulasso in collaboration with CESAO and Radio Rurale. This was a "hands-on" training session in which the ORD graphic designer divided his time between the CESAO design and photography sections and the audio-technician worked exclusively in the recording studios of Radio Bobo.

During the reporting period other week-long workshop training sessions were organized in Ouagadougou for silkscreen production, cartography, film repair, and film archival work. These workshop sessions will continue during the next six months. Photography training also continues on a weekly basis using the specialist's private darkroom.

D. Summary Comments

In summary two major factors have impeded the accomplishment of the program of work in developing an audio-visual capacity in the Eastern ORD. First is the inability of the USAID sponsored equipment purchasing system to deliver any equipment to the field from the U.S. To date the only U.S. materials to arrive have been those purchased directly by Michigan State University and these have often arrived within one to two months of order. In addition some work has been accomplished using borrowed, donated, and personal equipment but this has placed severe limits on the scope and quality of the training that could be provided. It is hoped that at least some of the U.S. ordered equipment will arrive during the last nine month's of the technician's stay in Upper Volta.

Second, while the ORD has provided two capable individuals for technical training it has not provided a qualified counterpart who will be able to play the vital role of taking program ideas and translate them into specific messages which then can be executed in different media by the trained technicians. Again it is hoped that this qualified counterpart will be named and be able to work with the audio-visual specialist for at least a few months.

IV. AGRICULTURAL CREDIT

The MSU credit and cooperation technician devoted most of the reporting period to the installation of an automated system for managing the ORD rural credit program.[4/] This work is described below under the topics of (A) problems in the old system that needed to be overcome, (B) purpose of the new system, (C) progress to date, and (D) observations.

(A) Problems in the Old System of ORD Rural Credit Fund Management

Two necessary ingredients for success in a smallholder agricultural credit program are: (1) viable farm-level investment opportunities and (2) the capacity to efficiently manage available credit funds. On the second point the Eastern ORD credit management system, until quite recently, was characterized by:

4/ In addition the following paper was presented at the "Workshop on Rural Financial Markets and Institutions" in Wye, England, in June 1979; and at Michigan State University and AID Washington in July 1979: "Loan Repayment Delinquency in the Eastern O.R.D. (Organisme Regional de Developpement) of Upper Volta" by Thomas Stickley and Edouard Tapsoba, available in both English and French, June, 1979.

1. Lack of systematic, regular, and accurate record-keeping and reporting of loan distribution, loan repayment, and distribution of agricultural supplies.
2. Low repayment rates of loans due to (a) the lack of a systematic loan collection system and (b) poorly motivated extension agents.
3. Poorly organized plans of work of extension agents as they relate to loan disbursement and collection.
4. Lack of identification of streams of funds which should flow into the rural credit account and facilitation of that flow.
5. Extension agents who delay (or avoid) forwarding money to the central office that has been collected from farmers for:
   - loan repayments
   - cash sales of agricultural factors of production
   - payments associated with loan renewals (interest and insurance of traction animals)
   - insurance premiums
   - sale of membership cards
   - down payments made when requesting a loan.

(B) Purpose of the Automated System

The purpose of the automated system for managing the rural credit fund is to provide to Eastern ORD, the following reports and financial instruments:

1. Statistical reports on:
   - number of borrowers
   - amount of money loaned
   - number of units of each of the factors of production distributed through the rural credit program,

   by:
   - source of funds (there are 10 different sources of international funding for the rural credit fund)
   - sector (8) and sub-sector (25) of the ORD
   - fiscal year (April 1 - March 31) since 1975-76.

2. Functional tools to the employees of the ORD working with the rural credit program at different levels:
   - bills to each borrower presented once a year (in October -- just after the harvest)
   - list of live loans with the details of each loan
   - list of paid-off loans
   - list of all loan installments to be collected by the next due date
   - list of all overdue loans with the amount overdue
   - loan collection control forms for sector chiefs and sub-sector chiefs
   - monthly progress reports of repayment by individual borrowers (prepared for each extension unit separately)
   - list of borrower identification numbers by village.

3. Calculation of premiums to be paid to extension agents each year after the annual loan due date -- March 31. These premiums will be calculated on the computer and will consist of the sum of one or more of the following five sub-premiums:
   - a base premium as a percentage of all loans collected
   - a supplementary premium as a percentage of loans collected which had been classified as overdue
   - a supplementary premium as a percentage of loans collected before the year in which they would normally fall due
   - a supplementary premium as a percentage of all loans collected if 100% of the money due was in fact collected
   - a supplementary premium as a percentage of all loans collected if at least 100 persons were served by one extension agent through the rural credit program.

   These premiums will be calculated at different rates for extension agents, sub-sector chiefs, sector chiefs, and credit and cooperation chiefs in each ORD sector.

(C) Progress to Date

The reporting period was entirely consumed with the process of installing the automated system which included the following steps:

1. Development and refinement of a project design with CENATRIN (Upper Volta's National Center for Data Processing) which would meet the purposes outlined above (Section B).

2. Introduction of the basic concept of a system of automated credit fund management to all ORD agents in a one-week (May 28 - June 2) training trip to all sectors of the ORD. Suggestions received in this orientation were incorporated into the system.

3. Pretest of the computer programs using actual loan information from ORD files which resulted in some program modification.

4. Training of 12 ORD agents to code data on all ORD loans and repayments to date.

5. Coding the data from the 3821 short and medium term loans given by the ORD since 1975, and the repayments received.

6. Transferring this data to the computer and error correction.

(D) Observations

One of the first questions asked about this automated credit management system is, why is it necessary or desireable to install a high-technology, computerized system in the low-technology, agri-

cultural environment of a relatively isolated area of a very low-income country? There are four major elements in a preliminary answer to this question. First, there is a high rate of personnel turnover at all levels in the Eastern ORD. Second, the numerous record keeping tasks involved in keeping track and updating 3800 loan files are repetitive, time consuming and prone to error. Third, field personnel turnover and record keeping problems have contributed to an initially low rate of repayment and to the embezzlement of credit funds by certain ORD agents or their supervisors. Fourth, on the positive side, the CENATRIN business-oriented computer is capable of rapidly producing at a reasonable cost: bills, control sheets, summary statistics, annual reports, repetitive calculations (e.g., annual repayment premiums awarded to ORD personnel), and credit file updates once initial programming work has been completed. A final cost/benefit evaluation of this system will be possible after one or two years of operation in the field.

In addition the following technical observations stem from experience to date in establishing the system:

1. No automated system of management can be installed until basic credit file and repayment data is complete and systematically filed. Accuracy in coding the initial file data and that on repayment cannot be overstressed.

2. Despite the distance between Fada N'Gourma and Ouagadougou close communication has been maintained with the programmers at CENATRIN during the months required to design the system. Without this day-to-day communication, the results would not have been satisfying to the ORD.

3. Though there was an inclination toward adding additional tasks to the computer program, thus further complicating the system, this was resisted in the interest of producing one simple but clear system that works in the beginning. Additional tasks can be added after the simple system is fully operational and proven to work well.

4. A necessary part of making the automated system work is having a simple, yet complete, system of filing and storing information in the central ORD office giving special attention to the destruction of all unimportant and unrelated scraps of paper. Otherwise those working with the system tend to lose sight of how to begin a task and how to know when it has been finished.

5. The overriding preoccupation in designing this system was to keep it clear and simple enough so that it could sustain the frequent changes in personnel that are characteristic of the Eastern ORD.

V. FARM LEVEL ECONOMIC RESEARCH

A. Introduction

During the six month period of June 1 to November 30, 1979, the following farm level economic research activities were undertaken:

1. organization and office editing of completed questionnaires from the 1978-79 farm survey;
2. keypunching of the 1978-79 survey data;
3. writing computer programs for the aggregration of raw data into major composite data files;
4. computer editing of raw data files; and
5. implementing a limited farm survey to monitor crop production, farm acreage, and marketing during the 1979-80 harvest season.

Home leaves and previous staff commitments to undertake other activities reduced the amount of staff time available for farm level research in the past six months. Nonetheless, progress has been even slower than we had anticipated regarding the editing and preliminary analysis of the 1978-79 survey data. The major reason for our failure to keep to the timetable proposed in the last six month report is that we seriously underestimated the size and complexity of the data editing process.

B. Office Editing of the 1978-79 Farm Survey Data

Organizing and editing the completed 1978-79 survey questionnaires required the fulltime efforts of the farm survey staff, office personnel, and field supervisors from June 1 until August 15. For each of the 480 farms surveyed, approximately 150 completed forms had to be sorted, organized, and accounted for. Supervisors and staff then checked these questionnaires in the office a final time, noting data errors, inconsistancies, and illegible responses, as had been done in the field throughout the survey. From August 1 to August 7, enumerators participated in the office editing process, reviewing the data errors individually with staff members and supervisors. In most cases, errors and inconsistancies due to enumerators' misunderstanding or to illegible handwriting were easily corrected. In cases of missing data or missing questionnaires, follow-up questions were sent out to the field with the enumerator.

C. Computer Work on the 1978-79 Survey Data

As of November 30, approximately 150,000 lines of raw data have been keypunched and verified at CENATRIN in Ouagadougou. Another 35,000 lines remain to be punched in December and January 1980. Though keypunching has progressed more slowly than planned, it has not caused any serious delay in other computer activities. Most importantly, the quality of keypunching has been extremely good.

Another computer task begun in the past six months is the computer editing of the 80 raw data files. Though few data errors are introduced through keypunching mistakes and despite previous editing of questionnaires

both in the field and in the office, a significant number of data errors and inconsistancies are identifiable through computer analysis. While the exact strategy depends on the characteristics of the specific data file, this process typically requires: 1) reading the keypunched raw data for a given questionnaire onto the computer, 2) calculating various statistics and frequency counts for each variable in order to identify extreme, illogical, or inconsistant values, 3) visually checking these potential errors with the original questionnaire, 4) correcting real errors where possible, and 5) creating a computer file on magnetic disc or tape which will be readily accessible for future analysis.

We are using SPSS[5/]-- a canned computer program--for this purpose. Depending on the file, 3 to 5% of the data lines usually have a questionnable data item that must be checked visually with the original questionnaire, the majority of which usually prove not to be real errors. In addition, major or key variables are visually checked with the original questionnaire in their entirity. The most common errors found at this stage are due to poor handwriting, failure to write a numerical code in the proper column, and to a lesser extent, keypunch errors. In the majority of cases, the errors can be corrected on the basis of information already on the original questionnaire. When it cannot, the data is coded as missing and, if important enough, the original enumerator is contacted.

This editing process has been a much more time consuming task than was estimated in the last six month report. One problem is that visual inspection of the original questionnaire is very slow and mind numbing. Another problem is the amount of interaction required with the computer. Since CENATRIN's IBM 370/125 DOS computer is small and designed for business applications, it does not have the processing speed, flexibility, or capacity that is optimal for research and statistical analysis. Data editing and analysis requires more data file transfers and on-line storage capacity (such as magnetic disc) than do business oriented computations. Unfortunately, CENATRIN has only very limited magnetic disc space and its DOS software is so inflexible for data file transfers that several additional computer steps are necessary to perform a given task. Thus the computer editing of a single raw data file requires up to 9 consecutive computer jobs, 3 of which require visual checking of the original questionnaires before the next job can begin. Given checking time and computer availability, the entire process can take a week for a single file, most of it spent waiting for results from the computer. When we began computer editing in late August, the entire process was painfully slow. By November, after much experimentation and redesign to adapt to the limitations of the computer, we are now able to computer edit 4 to 5 raw data files per week. As of November 30, 15 of the 80 raw files have been edited. It is now anticipated that the rest will be edited in two stages--the most important to be finished by January 30 and the remainder by March 31.

5/ SPSS: Statistical Program for the Social Sciences.

Of the eight major computer programs necessary to aggregrate the 80 base files into 8 major composite files, 5 had been written as of November 30. None have been used as yet due to the lack of the necessary base data files. Two are to be run in January and the remaining 6 will be run in February, March, and April.

D. The 1979-80 Farm Survey

A limited survey of 168 farm families from 27 villages was undertaken to monitor crop production, acreage, marketing, and animal traction use for the period of May 1, 1979 to January 15, 1980. To allow comparison with the 1978-79 survey results, 132 families and 21 villages of the current survey were selected from the 1978 sample. This survey is being supervised by Jean-Marie OUEDRAOGO, assistant chief of the applied research section of the ORD's Bureau of Economic Analysis and Planning. Only a limited amount of administrative and supervisory input has been made by MSU contract personnel in order to allow time for processing the 1978-79 survey data and for designing regional planning studies to be conducted in 1980. The survey is running fairly smoothly and we anticipate that it will be completed on time early in February.

E. Revised Schedule of Data Analysis

Given the delays in processing the 1978-79 survey data, it appears that the major aggregrated data files will not be completed until April 1980. Analysis of the aggregrate files is far more efficient and productive than analysis of the base files because of the accessability of a broad spectrum of related variables. However, one of the benefits of the computer editing procedure is that it provides preliminary descriptive analysis of the base files. Thus as files are edited, descriptive data tables are produced by the computer.

In order to meet the Eastern ORD's need for recurrent agricultural statistics and AID's data needs for the design of phase II of the Integrated Rural Development Project, we plan to present basic descriptive reports using these preliminary data tables resulting from the editing process. Tentative reporting dates and topics are presented in Appendix B to this report. As a minimum, these preliminary reports will provide a brief description of the major characteristics of both traditional and animal traction farmers within each of the 4 major subregions of the E. ORD. In addition, Appendix B lists the 4 major analytical reports that are scheduled to be prepared by the MSU team over the coming year. These reports will summarize descriptive data and provide detailed economic analyses based on the 8 aggregrate data files to be completed by the end of April. Scheduling of further reports is difficult at this time given uncertainities about future funding and changes in staff in 1980.

VI. REGIONAL PLANNING

A. Introduction

As reported in the second MSU Six Month Report (August, 1978)[6] the Eastern ORD has committed itself to a three year regional planning exercise which began in April, 1978. The purpose of this exercise is to evaluate the human and physical resource potential of the Eastern Region and to help identify, by socio-economic sector, major possibilities for infrastructural investment and technical assistance. MSU consultant Dr. Assefa Mehretu helped lay the foundation for this effort with his work in Fada in January and February, 1978.[7]

The basic strategy of the planning exercise was to devote approximately the first two years of the effort to the collection and analysis of four major categories of planning data and the third year to final analysis, synthesis and production of a plan document. During the first year (April 1978 - March 1979) major emphasis was placed on completion of the baseline regional farm survey, elsewhere described, and on gathering additional existing information on the region. The current reporting period covers the first half of the second planning year which is to be devoted to filling as many of the remaining data gaps as possible.

B. Geographical and Sectoral Analysis of the Eastern Region

In July and August in collaboration with MSU consultant Dr. Assefa Mehretu preliminary analyses were undertaken of the physical, human and infrastructural geography of the Eastern Region which led to a tentative, and pragmatically oriented, sectoral breakdown of regional socio-economic activity and the potential for future productive investment in these areas.

In the first step of this process, based on data and secondary information available at the time, statistical and cartographical analyses were made of the regions physical, climatic and vegetative features: its population distribution and patterns of settlement and central place formation; the structure of the regional surface transportation system; and the current distribution of educational and health facilities. This effort was focused on highlighting current regional structural characteristics and their implications for the planning of future rural development. Results were presented in a report made available in November, 1979.[8]

6/ See particularly pages 31-33.

7/ Assefa Mehretu, "Regional Planning for Rural Development in the Eastern ORD of Upper Volta: Consultant's Report", Department of Agricultural Economics, MSU, March, 1978.

8/ Assefa Mehretu and David Wilcock, "Regional Planning Working Paper Number One: Eastern Region of Upper Volta", East Lansing: Department of Agricultural Economics, Michigan State University, November, 1979.

In the second step of this work structural characteristics were applied to knowledge of existing and proposed governmental program interventions to produce a preliminary regional sectoral analysis. The purpose of this step was to highlight important policy questions in need of resolution and to further refine information requirements for additional planning. As valid data became available more detailed sectoral analyses and planning can be undertaken. For example, the immenant availability of 1978-79 farm survey data will permit a focused evaluation of current ORD interventions in the dry land crop production sub-sector and suggest possible modifications to the existing program of medium term agricultural credit for animal traction. A preliminary report on this step was presented to, and debated with, ORD personnel at the end of August, 1979.9/

C. Research Planning for Regional Agricultural Marketing

In July the MSU field research staff was increased with the arrival of Voltaic researcher Ismael Ouedraogo and short term MSU Consultant Dr. Steven Buccola. During the month of July the field research team concentrated its efforts on the following tasks:

1) identification of areas of research in agricultural marketing that would be useful to policy makers in decisions regarding investment in marketing infrastructure and services in the Eastern region,

2) develop the study methodology, data needs, and survey instruments necessary for this research, and

3) specify methods that should be used to analyze the marketing and price information already collected in the completed 1978-79 ORD farm survey.

The results of this work are reported in the consultant's report.10/

In the period August to November 1979 Mr. Ouedraogo worked on the methodological refinement and initial field implementation of this research program and assisted in farm survey data processing tasks at CENATRIN in Ouagadougou.

9/ Assefa Mehretu and David Wilcock, "Rapport de Synthese sur le Travail en Planification Regionale", Fada N'Gourma: ORD de l'Est, BAEP, August, 1979.

10/ Steven Buccola, "Consultant's Report: MSU E. ORD Project, Upper Volta", Fada N'Gourma: July, 1979.

APPENDIX A

REVISED WORK PLANS: JANUARY-AUGUST 1980

A. Audio-Visual Specialist (to August 31, 1980)

1. Activities to be conducted each month:

a. Audio-visual vehicle field trips for material collection, educational campaigns and film shows
b. Radio-rural programming for radio clubs, the Gourmantche tradition and health campaigns

2. Activities specified by month:

a. January: - Installation and construction of A/V studio facilities in Fada
- Sound mixing training sessions at Radio-Rural Ouaga
- Health Campaign design
b. February: - Installation of studio facilities with arrival of equipment
- Design training at ORSTOM, Ouaga and CESAO, GRAAP in Bobo
- Preparations for Agricultural Fair
c. March: - Agricultural Fair in Fada
- Studio production of slide shows
- Documentation for Animal Traction training
d. April: - Training in Ouaga: audio and silkscreen
e. May: - Begin documentation field trips for agricultural season
- Studio production of health materials
f. June & July: - Super 8 film production: Animal traction
- Graphic studio production and photo stories
- Extension agent training sessions
g. August: - Field Testing of A/V materials
- Report production on A/V experiences, recommendations

B. Credit and Cooperation Specialist (to July 31, 1980)

1. January: - Distribution of credit bills to borrowers
- Follow up problems arrising from distribution of bills
- Begin registration of loan repayments for the March 31, 1980 due date.
- List of names and numbers of all borrowers of ORD credit since 1975
- Reports of number of loans given, amounts loaned and repayment rates for each year since 1975-76 by fund and by sector.
2. February: - Report of statistics on:
- number of borrowers
- amount of loans
- number of each factor of production

by
- source of funds
- sector and sub-sector
- year (April 1-March 31) since 1975-76

3. March: - Installation of cash-flow system for reporting rural credit fund balance
4. April: - Report of statistics on loan repayment for year ended March 31, 1980
   - List of premiums to be paid to extension agents based on loans collected in the 1979-80 loan collection period
5. May: - Preparation of first draft of major report on implementation of rural credit programs in Eastern Upper Volta, presentation to ORD
6. June: - Annual Leave
7. July: - Completion of major report

C. Livestock Specialist (December 1979 to the end of July 1980)

1. December and January: - Report on the Animal Traction program
   - Planning for the 1980-81 campaign
   - Development of a work plan for animal traction extension agents
   - Organization of the manufacture of spare parts and accessories for the animal traction program
2. February - March: - Training of Voltaic Counterpart
   - Analysis of farm survey data and preparation of a report on basic statistics of animal traction farmers
   - Planning of forage trials
3. April - May: - Training Voltaic Counterpart
   - Last 6 month report
4. June - July: - Training Voltaic Counterpart
   - Participation in major report economic analysis of animal traction

D. Production Economics Specialist (to August 31, 1980)

1. Dec. 1, 1979 - March 31, 1980: - Supervision of computer editing, correction, and organisation of 65 raw data files, supervising programming and construction of 8 aggregrated files, conducting preliminary descriptive analysis and writing basic descriptive reports (requiring 25 days/month at CENATRIN in Ouagadougou and 5 days/mo. at Fada).
2. March 1 - April 31: - Supervision of construction and computer editing of the remainder of the 8 aggregrated files, conducting preliminary analyses of aggregrated files, writing basic descriptive reports (15-20 days/mo. at CENATRIN and 10-15 days/mo. in Fada)

3. May 1 - September 1: - Analysis of aggregrate files (10 days/mo. at CENATRIN) and working with other members of MSU team to write analytical reports on animal traction farmers and regional farming systems
   - May: 6 month report

(For reports to be produced during this period see Appendix B.)

E. Team Leader and Agricultural Marketing Specialist

1. Project Administration (up to half time)
   a. Finances, budgets, accounting
   b. Fada logistical support, vehicles
   c. Personnel
   d. Logistics for departure of personnel and arrival of replacements as agreed to by MSU, USAID, ORD
2. Data Collection (February - June 1980)
   a. Marketing Studies (with Ismael Ouedraogo):
      - Reestablishment of ORD market price collection system
      - Regional structure of agricultural marketing: geographical and economic description of the nature of market channels by crop
      - Costs of agricultural marketing: interviews with sample of private participants in grain marketing channels
      - Evaluation of 1979-80 OFNACER grain marketing campaign in Eastern region
   b. Regional Planning Studies (with Assefa Mehretu):
      - Inventory of basic resources and infrastructure of all villages in Eastern region
      - Baseline inventory of selected small scale industrial and commercial enterprises
      - Development of allocative methodology for the location of governmental services
3. Reporting: See Appendix B.

APPENDIX B

SCHEDULE FOR PROPOSED REPORTS

The following is a tentative list of proposed reports for the 1980 calendar year. These are in three groups: basic descriptive reports on preliminary analyses of the 1978-79 farm survey, major reports of the economic analysis of farm survey data files, and reports employing other sources of information.

A. Basic Descriptive Reports - Farm Survey

These summary reports will be available by the end of April, 1980. (Principle authors in parantheses):

1. Credit - value and number of loans, understanding of formal credit program, attitudes towards credit (E. Tapsoba)

2. Demographic Characteristics - family size and composition, labor force, births, deaths, and migration (G. Lassiter)

3. Marketing - value of sales and purchases of major crops and animals (D. Wilcock and I. Ouedraogo)

4. Crop Production - total cultivated acreage, total production by crop, cropping mixtures used, calendar of seeding and harvest dates, crop production problems, use of ag. inputs, value of farm tools and equipment (G. Lassiter and J.M. Ouedraogo)

5. Animal Traction - level of use by activity, cost of feeding, revenues from rental operations, areas plowed and weeded, problems and attitudes towards animal traction (V. Barrett & counterpart)

B. Major Reports Providing Economic Analysis of the 1978-79 Survey Data based on the Aggregrated Files

Topic (Authors)	Reporting Date
1. Nature and Importance of Commercial Transactions (I. Ouedraogo and D. Wilcock)	June 30
2. Economic Analysis of Animal Traction Farmers (G. Lassiter, V. Barrett, and D. Wilcock)	July 31
3. Regional Farming Systems (G. Lassiter and J.M. Ouedraogo)	Aug. 31
4. Formal and Informal Credit Use (E. Tapsoba)	Dec. 31

C. Reports Based on Other Information Sources	Dates
1. Implementation of Rural Credit Programs in Eastern Upper Volta (T. Stickley)	July 31
2. Development of the Audio-Visual Capacity of the Eastern ORD - Illustrations and Recommendations (D. Van Dyk)	August 31
3. Regional Planning Working Papers (A. Mehretu and D. Wilcock) -- Dates and content of these papers will depend on the evolution of the Eastern ORD regional planning process.	

APPENDIX C

BIBLIOGRAPHY OF REPORTS, 1976-1979

In addition to five Six Month Reports (January and August 1978; February and July, 1979; and January, 1980), the following reports, grouped by subject, have been produced by members of the MSU Team in Fada N'Gourma. They are available either from Upper Volta (MSU Team, s/c USAID, B.P. 35, Ouagadougou) or from Michigan State, African Rural Economy Program (Department of Agricultural Economics, MSU, East Lansing, Michigan 48824).

A. General

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, Dept. of Agricultural Economics, Michigan State University, 1976. (French and English)

2. MSU Team, "Plan of Work", Fada N'Gourma, October, 1977 (English, French).

3. Dahany, Amidou; Stickley, Thomas; and Wilcock, David; "Expose du Programme Pilote sur les Banques Cereales"; paper presented at CEAO sponsered Sahel Grain Storage Conference, Ouagadougou, November 28, 1978. (French)

4. Barrett, Vincent, "Observation Trials on Forage Crops during the 1978 Campaign", Fada, February, 1979. (English)

B. Rural Credit and Animal Traction

5. Stickley, Thomas, "Preliminary Inquiry into the Agricultural Credit Situation in the Eastern ORD of Upper Volta, Fada N'Gourma, October, 1977. (English, French)

6. Barrett, Vincent; Lassiter, Gregory; Mayabouti, Desire; and Stickley, Thomas; "Animal Traction Credit in Six Intensive Zones of the Eastern ORD of Upper Volta, Fada, February, 1978. (English and French)

7. BDC, ORD de l'Est, "Inventaire du Credit Rural pour la Traction Animale", Fada, November, 1978. (French)

8. Dahany, Amidou and Stickley, Thomas: "Fiche Technique sur le Credit Rural", BDC, ORD de l'Est, Fada, March, 1979. (French)

9. Dahany, Amidou and Stickley, Thomas; "Rapport des Journees d'Etudes" BDC, ORD, May, 1979. (French)

10. Stickley, Thomas and Tapsoba, Edouard, "Loan Repayment Delinquency in the Eastern ORD of Upper Volta", a paper presented at the "Workshop on Rural Financial Markets and Institutions", Wye England, June, 1979 (French, English)

C. Farm Level Economic Research

11. Matlon, Peter J., "Report of the Consultant to the MSU Project, Eastern ORD, Upper Volta", February, 1978. (Report on conception of 78-79 farm survey, questionaire design, etc., in English.)

12. Applied Research Section, BAEP, ORD de l'Est; "Rapport No. 1 de l'Enquete Microeconomique de 1978-79", Fada N'Gourma, December, 1978. (French)

13 Matlon, Peter J., "Consultant's Report: MSU Eastern ORD Project, Upper Volta", East Lansing, February, 1979. (Report on progress of farm survey, types of possible preliminary analyses, revised schedule of work, etc., English.)

14. Applied Research Section, BAEP, ORD de l'Est; "Enquete Micro-economique de 1978-79: Les Questionnaires", Fada N'Gourma, several editions, 1979. (French)

D. Regional Planning

15. Mehretu, Assefa, "Area/Regional Planning for Rural Development Strategies with Special Reference to the Eastern ORD of Upper Volta", East Lansing, Michigan State University, Department of Agricultural Economics, 1977. (French)

16. Mehretu, Assefa; "Planification Regionale pour le Developpement Rural dans l'ORD de l'Est de la Haute-Volta: Rapport de Consultant", MSU ORD de l'Est, Fada N'Gourma, 1978. (French & English)

17. Buccola, Steven, "Consultant's Report: MSU E. ORD Project Upper Volta", Fada N'Gourma, July, 1979. (This report deals with strategies for medium and long term descriptive and analytical research on the nature and economics of agricultural marketing and on the structure and importance of the rural market system in the region, English only.)

18. Mehretu, Assefa and Wilcock, David; "Rapport de Synthese sur le Travail en Planification Regionale", Fada N'Gourma, BAEP, ORD de l'Est, August, 1979. (Report on a preliminary sectoral analysis of the Eastern Region focusing on current interventions, possibilities for future investment and recommendations for further study, French only.)

19. Mehretu, Assefa and Wilcock, David; "Regional Planning Working Paper No. 1: Eastern Region of Upper Volta", East Lansing, Department of Agricultural Economics, November, 1979. (A geographical analysis of the physical and population settlement characteristics of the region, land use, surface transport, health and education facilities, etc., English and French.)