

FACULTY OF AGRICULTURE EXPANSION PROJECT*
University of Zimbabwe :

FIRST-ANNUAL REPORT
for the period
March 31, 1984 - March 31, 1985

prepared by

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Faculty of Agriculture Expansion Project
University of Zimbabwe

FIRST ANNUAL REPORT
for the period
October 1, 1984 - March 31, 1985

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Zimbabwe State University/The Pennsylvania State University Cooperating

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EXECUTIVE SUMMARY

Project activities during this reporting period centered on meeting training, technical assistance and procurement needs identified for this stage of the project. A brief summary of accomplishments is presented below:

1. Two more long-term specialists arrived in early January 1985 (Dr. Steven Buccola, Agricultural Economics and Dr. Robert Herner, Horticulture).
2. One short-term specialist advised on specifications for plant growth chambers.
3. Three short-term participants undertook training in the U.S.
4. Most of the equipment has been ordered and some received in Zimbabwe.
5. A semi-annual review was conducted in late November.

Excellent cooperation by all parties on the contract continues to set a productive pace consistent with the project design. All but one of the long-term specialists have begun their assignments. Selection of Zimbabwean professionals for formal and non-degree training in the U.S. and third countries has proceeded in a timely manner. Working relationships between the Faculty of Agriculture and the Ministry of Agriculture continue to strengthen. Development of the research and teaching programs at the University of Zimbabwe farm is receiving considerable attention.

Much of the first year of the project has been spent refining mechanisms for and meeting personnel and equipment procurement goals. As we enter the second year, it is crucial that we devote more time and thought to longer range planning and to the many broad educational and developmental issues. The Faculty of Agriculture is rapidly expanding as a major resource for trained personnel in the country's complex development process.

We have an extraordinary opportunity to work with Zimbabwean colleagues on educational, research and extension issues at the local, regional and national levels. Issues such as the proper balance between training and extension programs for communal and commercial agriculture, and applied versus basic research will be prominent in planning discussions for the next year.

In summary, we are greatly pleased with the project design and the insights and cooperation of all parties to the contract. These factors have contributed much to the program's success to date, and augurs well for continuing success.

I. OVERVIEW - PROGRAM IN ZIMBABWE

In general, MSU/PSU have responded promptly and adequately to specific Faculty of Agriculture needs and requests for (1) long and short term training and professional improvement of staff, (2) short term experts, and (3) equipment. (Exceptions are discussed later in this section.) Five of the six long term adviser positions identified by the Faculty as critical for development have been filled on schedule with the arrival of two specialists in January 1985. All long term project members have integrated nicely into their respective departments and all will be carrying varying levels of undergraduate teaching responsibility in addition to giving advice and recommendations to their colleagues for research studies and departmental development. Each long term specialist has made substantial efforts to become familiar with the agricultural farming sector and agriculturally-related enterprises and industry of Zimbabwe through field trips, farm visits agricultural field days, personal contacts and published reports and reviews. Commercial and communal farming areas have been visited and, where possible, project staff have been encouraged to interrelate with the problems and conditions of communal farmers. Informal links have been established with the Research and Specialist Services and AGRITEX organizations of the Ministry of Agriculture, private farming organizations such as the Commercial Farmers Union's affiliated associates, seed cooperatives, the

food processing industry, and parastatal organizations including the Agricultural and Rural Development Authority and the Agricultural Marketing Authority.

The Project will also have a close link with the MSU/UZ Food Security Project located at the University of Zimbabwe and which was initiated in late 1984. Less well defined relationships are also developing with CIMMYT, IITA, and ICRISAT, international agricultural research institutes, and INTSOY.

The project has moved along quite satisfactorily in the major support areas during this reporting period, however, two problem areas continue to need attention and resolution. Locating and placing a suitable long term animal science specialist in the area of animal production remains a problem. Although several possible candidates have been presented, they do not seem to meet the expectations of the Faculty of Agriculture. This is more of a problem than might be expected since there is a major shortage of personnel in the UZ Animal Science group in a number of teaching and research areas.

The second area which has presented an unsatisfactory situation is that of Food Science. Conflicts of personality, interest, and modes of operation developed between the Departments of Animal Science and Biochemistry, making it difficult for the PSU specialist in Food Science to operate effectively and harmoniously. The Vice-Chancellor became aware of this situation in late December and appointed Pro-Vice

Chancellor Dr. Ngara to mediate as Chairman of the Board of Food Science. Matters of policy and direction are to be handled by the Board, the Chairmen of Animal Science and Biochemistry are not members of this board. The operation of the Food Science M.Sc. degree program, including evaluation of entrants, awarding of scholarships, and setting up the curriculum are to be the responsibility of the Food Science Teaching Committee. These actions appear to have alleviated the situation, but the place of Food Science and Nutrition in the University should be discussed at the Annual Project Review.

The major laboratory, office, and computer equipment requests of the Faculty were prepared and sent to MSU during the first six months of project activity. A significant amount of follow-up requiring more complete specifications, revision of requests, or USAID approved waivers to purchase equipment manufactured outside the U.S. has been necessary during the second six months of project operation. The first sea shipment left Michigan in early February 1985. The first airfreight shipment arrived in Zimbabwe in late February.

Operation of the University Farm under the guidance of a Board of Directors is functioning satisfactorily. In March 1985, an agreement was concluded with CIMMYT to permit the use of farm land and facilities for an experimental demonstration program related to maize breeding and production. Plans have been developed to provide practical farm training sessions at the University Farm for first year students of the Faculty of

Agriculture. Director of Practical Farm Experience, Mr. Godfrey Homewood, was appointed March 1st to organize and coordinate this activity. The Faculty has requested support from the MSU/PSU/USAID Project to permit a team of five UZ staff to visit Egerton College, Kenya to study in detail its farm operation practicals.

Construction of the Land Management building and the Agricultural Engineering workshop/laboratory is proceeding on schedule. Now that the rainy season has essentially ended, progress on these structures should continue smoothly.

Communications between the Field Team Leader and other project staff with Coordinators at MSU and PSU have been quite adequate and timely, largely due to TELEX facilities. The use of airmail requires a minimum of 4 to 5 weeks (which includes a week's turnaround) for a Harare/USA/Harare query and response. DHL courier service between Harare and MSU has been used on occasion to speed up the exchange of documents.

Dr. Malcolm J. Blackie, Dean of the Faculty of Agriculture prepared a "First Interim Report", describing in detail the background of the Faculty and project, and presenting his views on the project's progress.

In the process of sorting out and refining administration procedures, several requests have been made to USAID for post-hoc approvals. For example, implementation of the work order proviso for short-term

specialists did not occur for the first two such assignments. There is general agreement that this procedure should be modified to permit more timely approval of personnel selected for short-term assignments.

A. LONG TERM SPECIALISTS*

The number of long termers on assignment increased from three to five with the arrival of Dr. Steven Buccola and family on January 6th and Dr. Robert Herner on January 22nd. Dr. Buccola was recruited from Oregon State University as an agricultural economist, while Dr. Herner is an associate professor in Horticulture from Michigan State University. As indicated in the general introduction, the long-term position in Animal Science has not yet been filled. Dr. K. Wilson, MSU Project Coordinator is continuing to seek out strong candidates for this position from universities other than MSU and PSU.

Activities of the MSU/PSU Group are summarized below:

Dr. Kirk Lawton:

The Field Team Leader was engaged largely in administrative activities during the last half of the first Project year. Considerable effort went into (1) planning and organizing for short

*Refer to Appendix B for a complete list of specialists and participants.

term specialists to be involved in the Project over the six month period and (2) making arrangements for UZ staff to participate for short periods of training and professional improvement programs in the USA. A third area of activity related to the equipment orders submitted by the Faculty of Agriculture in July, August, and September 1984. As laboratory, office, and computer equipment was put out for bid by the MSU Purchasing Department, many questions had to be answered about specifications, waivers obtained to permit out-of-USA purchases, and reconsideration of items no longer being manufactured or distributed.

Communications by telex and letter with the MSU and PSU Project officer required almost daily attention. A total of 42 telex messages was sent to the U.S. during the period covering October through March.

To gain a better understanding and background of the agricultural production and food processing sectors of Zimbabwean agriculture, the Field Team Leader attended producer association and experiment station field days, visited tobacco and cotton research and training institutes, participated in extension meetings for maize farmers, took part in an irrigation field trip, reviewed the facilities at the Gwebi Agricultural College, looked at problem soils in outlying areas with UZ scientists and fertilizer industry agronomists, and generally took every opportunity to see how agriculture operates in Zimbabwe.

Within the soils section of Land Management, the Field Team Leader helped to grade final examination questions in soil fertility, advised young staff members on research projects, ordered special soils reference books from the U.S. for several staff, participated in the seminar programs of Land Management, and became a member of the Soil Science Society of Zimbabwe.

On the logistic side of project operations, visitation programs were prepared for short term specialists and visitors to the projects, including the MSU Vice President for Student Affairs.

Dean Blackie and the Field Team Leader prepared the general agenda for the first Annual Review of the Project, to be held at the University during the period of May 2-6. Consultation with Dr. Wilson of the MSU Project office provided refinement of scheduling for this visitation. A fairly intensive series of meetings, conferences, and interactions has been planned for the Advisory Council of the Project and representatives of the University of Zimbabwe, the Ministry of Agriculture, and a few related agricultural organizations.

Dr. James L. Rosenberger

During the period under review, Dr. Rosenberger completed the third term of the academic year, spent much of the academic "summer

break" as detailed below, and began teaching two courses in the new year, plus a short intensive statistics module for the Food Science M.Sc. students.

His activities during the academic break involved the following: assisting faculty members, graduate students, staff development fellows and some non-university scientists in discussions of statistical issues related to their research. These issues included design of experiments, statistical analysis, and use of computers and statistical software for analysis. Dr. Rosenberger taught two short courses on the use of microcomputer software for staff members, as a general introduction to computer literacy. He also followed up on the installations of MSTAT following T. Stilwell's workshop in August 1984 and assisted various persons in debugging their installations.

Also during this period Dr. Rosenberger made a number of visits for orientation to acquaint himself with research activity in Zimbabwe and to meet relevant persons who might have statistical needs. These visits included the following:

1. Grasslands Research Station
2. Ministry of Agriculture Biometrics Bureau
3. Tobacco Research Board
4. Henderson Research Station
5. Agricultural Research Trust

6. Seed Cooperative (Rattray-Arnold) Research Station
7. Sebungwe Research Projects
8. Cotton Training Centre
9. Gomare Office of Botswana Department of Agricultural Research
10. Swaziland Cropping Systems Research Station

He participated in reviewing the bids received for the Faculty of Agriculture and recommended a number of changes to reduce the cost and improve the operation of the student laboratory. Since then he has been planning for the operation of the new computers by selecting, obtaining, and testing software for the equipment on order. In addition to discussions with most of the Food science M.Sc. students, he has been appointed to the doctoral committee of several students nearing completion of their D.Phil. thesis.

Dr. Joseph H. MacNeil

Upon his arrival in Zimbabwe, Dr. MacNeil was immediately plunged into the teaching program of the M.Sc. Food Science program at the University of Zimbabwe. It was not long before he recognized serious problems associated with this program. As indicated in his July report, "we are working hard at possible solutions but with serious understaffing, lack of facilities and split administrative responsibility, the task is not easy." Also at this point in time, the biochemistry department has assumed the dominant role in the

operation and administration of the M.Sc. Food Science program. It was stated by administrators of biochemistry and Faculty of Science that indeed the program was a biochemistry program.

This situation is not consistent with how Dr. MacNeil views his assignment--to help "strengthen and expand" food science in the Faculty of Agriculture at the University of Zimbabwe. Apart from the political aspects of the situation, Dr. MacNeil felt then, as he does now, that the Faculty of Agriculture must have access to food science programs if it is to expand and grow. Well travelled food scientists/technologists with an appreciation for food production are needed in this country now, especially as the demand for more highly processed foods increases. The current program does not achieve this objective and is essentially a stop-gap operation. Dr. MacNeil, as well as other food scientists, believes that the program needs extreme strengthening and reorganization. There are those who reject the suggestion that a sub-standard program was being presented to University of Zimbabwe students.

Towards the end of the year, steps were taken to advise higher administration that the M.Sc. program had been operating under difficulties for some time and there seemed to be no plan being developed to solve these problems. As a result of a series of meetings, including the top UZ administration, a new administrative structure was developed to not only operate the current program but

to begin looking at ways to solve some of the serious deficiencies of the program. Dr. MacNeil believes this step was critical in ensuring Agriculture have an equal voice in operating the present program and planning for the future. He views this as major progress towards the objective of "expanding and strengthening" food science in the Faculty of Agriculture. Before this, various proposals and counter proposals were simply lost or discarded in the territorial conflicts between the Faculties of Agriculture and Science.

The new organization consists of a Board of Studies/Planning chaired by Pro-Vice-Chancellor E.A. Njara and including the Deans of Agriculture, Medicine and Science along with two food scientists, one from Science and one from Agriculture, and a Nutritionist from Medicine. Dr. MacNeil serves as the food scientist from Agriculture. The day-to-day operation of the program is in the hands of a "Teaching Committee" made up of the four area coordinators. Dr. MacNeil sits on that committee as the area coordinator for Food Quality Evaluation and Product Development. This committee reports directly to the Board of Studies/Planning. The above organization is now in place and appears to be functioning efficiently. Channels of communication and administrative procedures are now well defined which should eliminate most of the problems of the past.

Dr. Steven Buccola

The initial month of January 1985 was spent settling in with family

in university housing and in orientation to the university and Harare. He also was involved in background reading, planning, and developing a preliminary project workplan for the Food Security Project. This project will operate under a subcontract between MSU and UZ.

Dr. Buccola spent considerable time helping to develop research proposals, preparing outlines for background papers on grain policy, and working up a grain sector model, all dealing with grain storage marketing, and pricing. Lectures and course problems were developed for the third year course he will teach in Agricultural Price Analysis and Forecasting. Also a textbook was selected, syllabus prepared, and lectures organized for the agricultural economics course in Agricultural Development and Trade.

For the price analysis course, Dr. Buccola consulted in detail with Dr. J. Rosenberger on the nature of the statistics and computer training that would be most useful for the undergraduate students to be enrolled.

Dr. Robert Herner

After arrival in Harare on January 22, Dr. Herner spent his first week in orientation to the university, the city, and settling in at his university apartment. Shortly thereafter, he started his

professional orientation with two field trips to the Nyanga Highlands region, where he met commercial fruit growers and visited the Rhodes Inyanga Experiment Station of the Ministry of Agriculture.

Dr. Herner also made contact with staff of National Tested Seeds Ltd, one of the largest private suppliers of vegetable and flower seeds in Zimbabwe. He also held discussions with the Research and Specialist Services group of the Ministry concerned with horticultural crops.

In anticipation of a horticultural training course to be sponsored by the Commercial Farmers Union, Dr. Herner will be cooperating with Mr. William Collett, Assistant Director of CFU. It is expected that Dr. Irvin Widders of the MSU Horticultural Department will spend several weeks in May 1985 to assist in this very practical training course. Dr. Widders will travel on non-project funds.

Dr. Herner's advice and counsel is also being sought by the Agricultural and Rural Development Authority of Zimbabwe, which operates a large estate outside Harare where onions and tomatoes are commercially grown.

Because Horticulture will be taught for the first time as an option in Crop Science, Dr. Herner had been busy organizing lectures and making preparations for practicals for this undergraduate program.

B. SHORT TERM SPECIALISTS

Three short term experts were requested by UZ to work during the second six months of the Project. Dr. Everett Everson, Professor of Crop and Soil Science at Michigan State University, provided advice and recommendations relating to the purchase of pre-fabricated units for environmental control of plant growth. Such facilities will be used by crop pathologists and entomologists, horticulturists and crop physiologists in plant studies where it is desirable to control light, temperature, and relative humidity. Dr. Everson's assignment covered the period of October 25 to November 9. On the basis of his report and recommendations, the Project agreed to purchase about US\$150,000 of plant growth chambers and associated equipment.

The second short term consultant who agreed to participate in Project activity is Dr. Warren Vincent of MSU who proposed to visit Zimbabwe during March 1985. He was prepared to work with UZ staff in Farm Management and Farming Systems research. Unfortunately, Dr. Vincent had to undergo back therapy and his assignment has been delayed until September or October 1985.

A third short-term specialist was requested by the Animal Science Department to provide 12 weeks of expertise in the areas of endocrinology and nutritional biochemistry during the first term of the 1985 academic year. Although the request was initiated in

mid-January, a considerable lag developed between recruitment of Dr. John Chesworth of Aberdeen, Scotland and approval of the assignment. At the time this short term assignment was being finalized, Dr. Chesworth was offered an appointment as associate professor on a three year basis by the University of Zimbabwe. He verbally accepted this offer, which has effectively immobilized the short term assignment for the present. Mr. D. Hale, Chairman of Animal Science, has suggested the Project might consider a six week appointment for Dr. Chesworth in case the Temporary Employment Permit required for long term appointments is much delayed.

Preparations have been completed to provide a short term consultant in Animal Breeding to the Department of Animal Science for the second term of the 1985 academic year, mid-June to mid-August. The individual identified and approved by both MSU and UZ is Dr. William Magee, Professor in Animal Science at Michigan State University.

C. LONG TERM PARTICIPANTS

Individuals within this category of training are also referred to as USAID Scholars. For the most part, they will be men and women seeking advanced course training at American universities, which will provide a background for them to pursue M. Phil. and D. Phil degrees from the University of Zimbabwe. Standard USAID training regulations will apply to such scholars and thus family support for overseas travel and maintenance of family members will not be provided.

Initial selection of candidates took place during the first six months of the Project. This list was enlarged and refined during the last quarter of 1984 and the first three months of 1985. The listing below provides information on selectees, their proposed fields of study, their employers, advanced degree sought and training institutions:

<u>Approved Candidate</u>	<u>Employer</u>	<u>Degree Sought</u>	<u>Field of Study</u>	<u>Training Institution</u>
Paul Muchena	R&SS MOA	Ph.D	Nematology	MSU
Pangarai Tongoona	UZ	D.Phil	Plant Genetics	PSU
Bharatkumar Jogi	UZ	D.Phil	Swine Breeding	
Trevor Hedges	--	M.Phil	Crop Pathologist	
Felix Murindagomo	NPS	M.Phil	Wildlife Management	
N. Mashiringwani	R&SS, MOA	M.Phil	Wheat Breeding	
Joseph Rusike	--	M.Phil	Rural Dev. Planning	
Enos Shumba	R&SS, MOA	M.Phil	Farming Systems	MSU
A. Chivinge (possible)	R&SS, MOA	D.Phil	Weed Science	

None of the above individuals started their overseas training programs during the second half of the first Project year. However, Mr. Muchena and Mr. Enos Shumba plan to enroll in courses at Michigan State University, starting in June 1985. Others will start academic work in August/ September of this year. Additional candidates for these scholarships will be added to this list as they are identified within the University, the Ministry of Agriculture, and organizations closely related to the agricultural sector of Zimbabwe.

In terms of reporting effort under the terms of the contract, an issue of concern is the amount of time and resources spent on processing, advising and backstopping the first three long-term participants who began graduate study at MSU in September 1984. Because they have now been shifted to IIE responsibility the contractor has little to show for this effort. Fortunately, procedures and understandings have been refined to minimize such problems in the future.

D. SHORT TERM PARTICIPANTS

Three individuals from the Faculty of Agriculture were selected for professional training in the USA during the period of October 1, 1984 to March 31, 1985. The staff involved and their training period and locations are given below:

<u>Name</u>	<u>Training Location</u>	<u>Period of Training</u>
Kay Muir-Leresche	USDA Stanford MSU	12/1/84 - 2/10/85
Kingston Nyamapfene	PSU	1/2/85 - 1/29/85
Lovemore Madziwanzira	MSU	1/4/85 - 4/22/85

The flexibility of this program provides very useful orientation for less experienced individuals to a new field of study or environment as well as an opportunity for more senior staff to interact with

specialists in their areas of expertise and to utilize libraries, resource banks, and equipment not available to them in their own institutions or country.

On the way to the USA, Mrs. Muir-Leresche, Lecturer in Land Management (Ag. Econ.), spent a week in Abidjan, Ivory Coast collecting information and materials on agricultural economics topics relative to West Africa. In the US she first spent several weeks in Washington in contacts with the National Park Service and the US Department of Agriculture. This was followed by a month-long course on microcomputers and policy analysis at Stanford University.

On her return trip, Mrs. Muir-Leresche spent five days at MSU interacting with faculty and students in agricultural economics, agronomy and natural resources, public policy analysis and computer science. These meetings were designed to provide information and resources for her courses in natural resource economics and management. She also gave a slide presentation on the wildlife/agricultural production interface in Zimbabwe.

Dr. Nyamfene, Chairperson of Land Management (Soil Science), spent approximately one month working in collaboration with Penn State University staff in Pedology and Soil mineralogy on clay samples he brought from Zimbabwe. This was an opportunity for Dr. Nyamafene to utilize equipment not yet available or set up at the University of Zimbabwe and gain experience in techniques such as X-ray diffraction analysis and electron microscopy to study clays.

Mr. Lovemore Madziwanzira, Computer Supervision, is expected to provide assistance in the use and application of microcomputers to data handling, storage, and analysis for staff and students of the Faculty of Agriculture. The new microcomputers ordered under the MSU/PSU/UZ/USAID Project are expected to arrive in Zimbabwe May 7. Thus he was sent to MSU to take a formal course in computer programming as well as to work with more experienced computer specialists, especially in the field of agricultural economics.

E. EQUIPMENT PROCUREMENT

The tendering process for purchase of all equipment/apparatus as requested by the Faculty of Agriculture and its departments and approved by the Faculty of Agriculture/Ministry of Agriculture Executive Committee, with two exceptions, was initiated by MSU during October-November 1984. Specifically the order for microcomputers plus software and the order for plant growth chambers and spares were delayed. A reconfiguration of the microcomputers was necessary to provide more flexibility and to take advantage of a newer model available since the original tender was prepared. A part of the original order was rebid by Data General, the original low bidder accepted by MSU. The final order was placed in early March 1985.

In the case of the plant growth chambers, the short term consultant, Dr. E. Everson, completed his evaluation of the needs for Crop

Science in mid-November. An additional month was needed to develop the specific bid paper. The company providing the most satisfactory bid was Puffer-Hubbard, Inc. of North Carolina. This order has now been placed.

In order to provide the Faculty of Agriculture with some items of equipment (specifically microscopes and balances) which are similar to those already used for instructional purposes, it was necessary to get proprietary waivers from USAID. Such waivers permit the purchase of equipment manufactured in countries other than the U.S. This is a lengthy process since concurrence is required from AID/Washington.

During the tendering process at MSU, it was determined that in some cases items requested were no longer being distributed, that certain equipment could not be provided for 220V 50Hz current, or that the price of the item was much higher than originally estimated. These situations required reconsideration and review back at UZ, thus much telex and letter communication took place between East Lansing and Harare during this semi-annual period. However, by March 30, 1985 most of these problems had been resolved, although one waiver from USAID/Harare is still to be approved.

Most of the equipment order is to come by sea freight via Durban. However, in the case of the microcomputers and associated equipment and an order for programmable calculators, airfreighting will be used.

F. LEAVE RECORDS (Work Days)

<u>Project Staff</u>	<u>Arrived</u>	<u>Vacation</u>	<u>Sick Days</u>	<u>Legal Holidays*</u>
K. Lawton	17/3/84	15.5	.5	9
J. MacNeil	16/6/84	1.5	3	9
J. Rosenberger	9/6/84	8	2	9
S. Buccola	6/1/85	0	0	0
R. Herner	22/1/85	0	0	0

*Includes Thanksgiving and the period of December 24th to January 1st when the University was officially closed.

G. SEMI-ANNUAL REVIEW

1. Introduction

As scheduled in the project design, the first semi-annual project review occurred from November 23 - December 8, 1984, approximately seven months after arrival of the Field Team Leader who implemented the program. The review was timed to coincide with the presence in Zimbabwe of the appropriate project officials of the University of Zimbabwe (UZ), USAID and Ministry of Agriculture (MOA). The Review was conducted by Dr. Kim A. Wilson, Project Coordinator and Dr. Paul Roberts, Project Administrative Assistant. Dr. Carl Eicher, Agricultural Economics, MSU, was also present for discussions on the interface between this project and the new MSU/AID Food Security project for southern Africa.

Meetings and travel to project-related sites occurred during a period of nine work days in Zimbabwe. More than forty meetings were held with project officials and Zimbabwean professionals who will undertake long- or short-term training in the U.S. Travel included a visit to the UZ research farm and to a communal lands area southeast of Wedza, located about 100 miles from Harare. This visit was arranged and conducted by Dr. Michael Bratton, MSU, and his colleagues in the Ministry of Agriculture.

Objectives of the review were:

- To formulate a more detailed work plan by identifying activities planned for the next UZ academic year, March - December 1985.

- To initiate the processes for funding the unfunded-but-agreed-upon activities in the contract, namely: 1-3 additional long-term specialists, up to 48 person-months of short-term specialists, and the U.S. graduate student program in Zimbabwe.

- To gain greater understanding of the educational system and initiatives at the UZ and MOA.

2. Outcome

Accomplishments of the review were as follows:

- Work Plan - it was agreed that Dr. Lawton would draft a more detailed plan of work for the next year. Of longer-range concern is the projected shortage of trained Zimbabweans who will be available in the next 2-3 years to fill open posts in the Faculty of Agriculture.
- Unfunded activities: due to additional proposals by several agencies (primarily UZ and MOA) for ZASA funds, Dean Blackie suggested that requests for funding would be more timely in mid-to-late 1985. We agreed to discuss this issue during the Annual Review in May, 1985.
- Education program at the UZ: lengthy meetings were held with the FOA department chairmen and faculty to explore their long-range program goals and staffing plans. This dialog produced valuable information for the project's work plan.
- Food Science program: several discussions were conducted on review of the Food Science option at the UZ. Dr. MacNeil had been asked to assume a leadership role for this review. Many

issues remain unresolved but mechanisms are in place to provide constructive guidance to UZ on the topic. It was agreed that the course offerings in Food Science would be suspended during the 1985 academic year while the program undergoes exhaustive review.

Animal Science: curricula vitae of several candidates for the long-term position were reviewed. All were rejected by the FOA. Response to worldwide advertisements was expected by the end of 1984. Based on results of that search it was recommended that we wait to see which positions could be filled; we would then recruit for other needed areas.

Training: the roles of MSU/PSU and the IIE training programs were clarified for the overall FOA staff development program. The principal distinction in roles between the two is: MSU/PSU will train mostly non-degree candidates to provide a classroom component for M.Phil candidates and D.Phil programs; IIE will handle mostly degree programs at the graduate level.

The field visit to the Wedza area provided firsthand insight into communal farming systems and rural organizations which are effective. Agritex programs and extensionists resident in the area have demonstrated that programs can be developed to benefit these farmers and families.

In summary, this review contributed greatly to the refinement of administrative procedures and plans for the next project year, and to clarity on several development issues.

II. ON-CAMPUS SUPPORT

A. Overview

Direct on-campus administrative support at both MSU and PSU has been provided by professionals assigned to the project: Dr. K. A. Wilson, Project Coordinator, Dr. Paul Roberts, Administrative Assistant (through December 31), Ms. Melba Lacey, Administrative Assistant (since January 1), and Ms. Anne W. James, Secretary. Ms. Ardell Ward, Administrative-Professional in the MSU Institute of International Agriculture and purchasing specialist, has devoted much of her time to procurement of project equipment. Her work has been supported by non-project sources. Additional clerical assistance has been provided by Ms. Julie Kline, MSU student.

At PSU, project support has been provided by Dr. J. Dean Jansma, Campus Coordinator for the Project and Associate Dean for International Agricultural Programs, and Ms. Judy McCormick, Administrative Assistant.

Many faculty members, administrators and other professionals at each university serve as resources for significant technical support and

guidance for the program. Zimbabwean professionals here also serve as an important resource.

Administrative support by MSU and PSU includes responding to short-notice requests from the field as well as those elements identified earlier in the project: Typically, much effort is devoted to long-term specialists and their families in pre-departure assistance and briefings, and in support of their assignments after arriving in Zimbabwe. Considerable time was spent monitoring the study programs, and arranging the transition from project sponsorship to IIE support, of the three long-term participants who began study at MSU in September 1985. As planned, most of the equipment has been purchased early in the project. Procurement requests have been made, bids reviewed for best combination of price and service, and shipments made following inspection and inventory. Considerable effort has been spent on fiscal management and documentation of information on the project. The use of microcomputers to facilitate this work has become increasingly important.

Ms. Melba Lacey, Administrative Professional at MSU assumed the responsibilities of Dr. Paul Roberts, who had assisted the project's implementation during its first nine months. In addition to excellent administrative capability, Ms. Lacey brings to the project experience with and sensitivity to issues and programs related to Africa, having served six years in the African Studies Center at MSU. She has quickly and efficiently added administrative

improvements to the project. She plans to visit Zimbabwe in June 1985 during which time she will gain first-hand knowledge of the professionals and programs of the project.

Dr. Roberts provided invaluable assistance during the early stages of the project. His international and administrative experience contributed greatly to the project's success during this period.

B. Contractor Advisory Council

The Contractor Advisory Council is composed of the following officials in accordance with the Memorandum of Agreement between MSU and PSU for this project:

Dr. James H. Anderson, Vice Provost and Dean, College of Agriculture and Natural Resources, Michigan State University

Dr. Samuel H. Smith, Dean, College of Agriculture, The Pennsylvania State University

Dr. Donald R. Isleib, Associate Dean and Director, Institute of International Agriculture, College of Agriculture and Natural Resources, Michigan State University

Dr. J. Dean Jansma, campus coordinator for the project and Associate Dean and Director, International Agricultural Programs, The Pennsylvania State University

Dr. Kim A. Wilson, Project Coordinator and Assistant Director, Institute of International Agriculture, College of Agriculture and Natural Resources, Michigan State University

In March, Dean Smith was named president of Washington State University. A search for his successor is underway.

One meeting of Contractor Advisory Council representatives was conducted during the reporting period. In November, the Council and Dr. Roberts met to discuss issues for the semi-annual review agenda. These are described in section I. G. This meeting provided an opportunity to discuss at length the project implementation needs and operational procedures. Agreement was reached on establishing communication and management systems to meet project goals and a schedule for the first annual review was established tentatively for early May 1985.

In late January, MSU and PSU project staff met at Penn State to discuss the semi-annual review, to further review operational procedures between the two institutions and to review the interrelationships with IIE on participant training.

The Advisory Council has expressed continued commitment to and enthusiasm for the project. All members are fully appreciative of the excellent cooperation among staff of the several institutions involved in this important program.

III. PROJECT COMPONENTS NEEDING ATTENTION

Some aspects of the project continue to evolve and will receive attention in the next six months. Each will be discussed at the Annual Review.

A. Animal Science

1. Long-term Specialist--a strategy will be developed to recruit long- and/or short-term staff to alleviate the shortage of teaching faculty in this department.
2. Food Science--the myriad problems (described earlier) associated with enhancing the UZ training and research capacity in Food Science will be addressed. It is hoped that the infrastructural issues will be resolved soon so the Food Science curriculum can be modified to increase the number of trained professionals responsive to industry/countrywide needs in Zimbabwe.

B. UZ Staff Development Programs

Most of the earlier problems in sorting out project and non-project participants have been resolved. Refinement of operational procedures between the contractors, UZ, and IIE will be needed. Guidelines for strengthening the overall participant advisory capacity will be further developed.

C. Cooperative Research Fund

Operational guidelines for this component need to be drafted to facilitate field research by MSU/PSU, UZ and MOA professionals.

D. Food Security Program

Recently funded, this AID/MSU initiative interrelates with our project primarily through Dr. Buccola's involvement. Contractual and programmatic issues need attention to facilitate cooperation among the parties.

E. Unfunded Components

An additional 1-3 long-term specialists, 48 person-months of short-term specialists and US graduate students working in Zimbabwe,

require approval of ZASA for funding. Action on this has been delayed since January when the GOZ deferred decisions on new external funding programs pending national review of such activities. Included in this deferral is the new MOA/UZ graduate research training proposal which would train 50 MOA staff at the graduate level and would establish a cadre of eight research professorships in the FOA. If there is reasonable prospect for eventual funding we should develop the respective proposals for submission.

TWELVE MONTH BUDGET AND EXPENDITURE REPORT

MSU/Penn State/University of Zimbabwe
 Faculty of Agriculture Expansion Project
 March 31, 1984 - March 31, 1985

Line Items	Total Budget	First Six Months Expenditures	Second Six Months Expenditures	Accumulated Expenditures	Remaining Funds
Salaries & Wages	\$1,586,882.00	\$65,823.15	\$164,162.36	\$229,985.51	\$1,356,896.49
Fringe Benefits	390,990.00	15,062.08	41,919.73	56,981.81	334,008.19
Travel and Transportation	460,889.00	16,952.97	36,231.12	53,184.09	407,704.91
Allowances	460,150.00	34,985.55	40,013.58	74,999.13	385,150.87
Other Direct Costs	180,327.00	133,030.07*	16,595.04	149,625.11	30,701.89
Participant Costs	433,660.00	15,327.08	34,905.87	50,232.95	383,427.05
Equipment Costs	627,337.00	1,749.48	98,217.31	99,966.79	527,370.21
Indirect Costs	759,765.00	44,275.80	70,099.47	114,375.27	645,389.73
Total	\$4,900,000.00	\$327,206.18	\$502,144.48	\$829,350.66	\$4,070,649.34

*Includes \$127,000 advance to PSU

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SIX MONTH EXPENDITURE REPORT

MSU/Penn State/University of Zimbabwe
 Faculty of Agriculture Expansion Project
 October 1, 1984 - March 31, 1985

Line Items	MSU Expenditures	PSU Expenditures	Total Expenditures
Salaries & Wages	\$111,779.96	\$52,382.40	\$164,162.36
Fringe Benefits	25,620.30	16,299.43	41,919.73
Travel and Transportation	26,515.50	9,715.62	36,231.12
Allowances	30,304.37	9,709.21	40,013.58
Other Direct Costs	13,839.72	2,755.32	16,595.04
Participant Costs	31,385.22	3,520.65	34,905.87
Equipment Costs	98,217.31	0.00	98,217.31
Indirect Costs	45,608.95	24,490.52	70,099.47
Total	\$383,271.33	\$118,873.15	\$502,144.48

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SIX MONTH BUDGET AND EXPENDITURE REPORT

MSU/Penn State/University of Zimbabwe
 Faculty of Agriculture Expansion Project
 March 31 - September 30, 1984

Line Items	Total Budget	Accumulated Expenditures	Remaining Funds
Salaries & Wages	\$1,586,882.00	\$65,823.15	\$1,521,058.85
Fringe Benefits	390,990.00	15,062.08	375,927.92
Travel and Transportation Allowances	460,889.00	16,952.97	443,936.03
Other Direct Costs	460,150.00	34,985.55	425,164.45
Participant Costs	180,327.00	133,030.07	47,296.93
Equipment Costs	433,660.00	15,327.08	418,332.92
Indirect Costs	627,337.00	1,749.48	625,587.52
	759,765.00	44,275.80	715,489.20
Total	\$4,900,000.00	\$327,206.18	\$4,572,793.82

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FACULTY OF AGRICULTURE EXPANSION PROJECT
UNIVERSITY OF ZIMBABWE

Summary of Specialists and Participants
As of March 31, 1985

LONG-TERM SPECIALISTS

	<u>University</u>	<u>Field</u>	<u>Appointment</u>		<u>Months</u>
			<u>Begin</u>	<u>End</u>	
+Kirk Lawton	MSU	Soil Science & Team Leader	04/84	03/86	24
+James Rosenberger	PSU	Biometrics/Statistics	06/84	05/86	24
+Joseph MacNeil	PSU	Food Microbiology	06/84	05/86	24
+Robert Herner	MSU	Horticulture-Vegetables	01/85	06/86	18
+Steven Buccola	MSU (Oregon St.)	Ag. Econ.-Price Analysis	01/85	06/86	18
-----	--	Animal Science	06/85	11/86	18
(Leon Johnson)	PSU	Soil Science	04/86	03/88	24
(Larry Dawson/Jim Price)	MSU	Food Microbiology	06/86	05/88	24
(Clyde Anderson)	MSU	Biometrics/Statistics	06/86	05/88	24
(H. C. Bittenbender)	MSU	Horticulture-Fruit	06/86	12/87	18
(Stan Thompson)	MSU	Food Security, Price Analysis	06/86	12/87	18
		Animal Science	06/86	12/87	18
(Ted Loudon)	MSU	Irrigation-Water Management	(10/85)		18-24

() = tentative
+ = in progress
* = completed

SHORT-TERM SPECIALISTS

	<u>University</u>	<u>Field</u>	<u>Appointment</u>		<u>Weeks</u>
			<u>Begin</u>	<u>End</u>	
*Tom Stilwell	MSU	MSTAT workshops (UZ, MOA)	08/21/84	09/10/84	3
*Steve Buccola	MSU (Oregon St.)	Food security; grad program in Ag. Policy (100% on MSU Strategies Project)	09/07/84	09/30/84	3
*Ev Everson	MSU	Bioenvironmental control facilities	10/28/84	11/09/84	2
Warren Vincent	MSU	Farm Management: course refinement	Late Sept or Oct 85		4
William Magee	MSU	Livestock improvement	06/09/85	08/23/85	10
-----	---	Radioimmunoassay	03/15/85 or 06/15/85	05/15/85 08/15/85	8 8

LONG-TERM PARTICIPANTS - MSU/PSU/AID SCHOLARS (Coursework only)

	<u>Degree</u>	<u>University</u>	<u>Interest Area</u>	<u>Advisor(s)</u>	<u>Start Date</u>	<u>End Date</u>	<u>Months</u>
Paul Muchena RSS-Plant Protection	Ph.D.	MSU	Nematology	G. Bird	06/85 and 03/86 or 03/87	12/85 09/86 09/87	6 6 6
Enos Shumba RSS-Min. Agr.	M. Phil.	MSU	Farming Systems	(Bernsten)	06/15/85	12/31/85	6
Pangirai Tongoona Crop Science-UZ	D.Phil.	PSU	Biometrical Genetics, Plant Breeding	Risius	08/15/85	08/88	36
Bharatkumar Jogi Animal Science-UZ	D.Phil.	MSU	Swine Breeding	Magee Hogberg	11/85	11/87	24
Tom Hedges	M.Phil.		Crop Pathology				
Felix Murindagoma Nat. Pk. Serv.	M.Phil.		Wildlife Management		01/86		
N. Mushiringwani	M.Phil.		Wheat Breeding				

	<u>Degree</u>	<u>University</u>	<u>Interest Area</u>	<u>Advisor(s)</u>	<u>Start Date</u>	<u>End Date</u>	<u>Months</u>
A. Chivenge RSS-Min. Agr.	D. Phil.		Weed Science				
J. Rusike	M. Phil.		Rural Devel. Planning				

LONG-TERM PARTICIPANTS - IIE/STAFF DEVELOPMENT PROGRAM

	<u>Degree</u>	<u>University</u>	<u>Interest Area</u>	<u>Advisor(s)</u>	<u>Start Date</u>	<u>End Date</u>	<u>Months</u>
+Godfrey Mudimu Agritex - Min. Agr.	M.S.	MSU	Farm Management (4 terms + 1 mo. travel)	Bernsten Eicher	09/10/84	Dec. 85	15
+Kingstone Mashingaidze RSS - Min. Agr.	Ph.D.	MSU	Maize Breeding	Cress Rossman	09/10/84	Aug. 87	36
+Irvine Mariga RSS - Min. Agr.	Ph.D.	MSU	Grain Legume Agronomy-Beans	Hosfield Kelly	09/10/84	Aug. 87	36
Faith Gandiya Animal Science-UZ	Ph.D.	MSU	Dairy Nutrition				
Simon Bright	D.Phil.	MSU	Telecommunications and Agricultural Extension	Doyle Ferris	09/01/85	08/30/86	12
Maureen Matusa Animal Science-UZ	Ph.D.	PSU	Food Science - Microbiology	MacNeil Keeney			
(Alois Hungwe) Land Mgt-UZ	D.Phil	U. Calif- Riverside	Soil Chemistry				
Aidan Sesanje Land Management-UZ	M.S.	Silsoe, UK	Soil/Water Engineering (irrigation)				
Ruvimbo Chimedza Land Management-UZ	Ph.D.	U. Reading UK	Agricultural Economics				
(A. Z. Chiteka) RSS - Min. Agr.; Head, Ground Nut Breeding Project	(M.Sc.)	MSU or NCSU	Genetics & Plant Breeding-Ground Nuts	(T. Isleib)			

SHORT-TERM PARTICIPANTS

	<u>Site(s)</u>	<u>Interest Area</u>	<u>Contacts</u>	<u>Start Date</u>	<u>End Date</u>	<u>Weeks</u>
*Clive Levy Crop Science-UZ	MSU, PSU Midwest	Crop Pathology, soybean Diseases	Tom Isleib; CSS;BPP	08/01/84	09/14/84	6
*Pete Hopkins UZ/Chief Technician	MSU, PSU	Laboratory, teaching equipment & layout	respective depts.	09/17/84	10/10/84	3
*Richard Berry	MSU, PSU	Research Farm Mgt.	Departments/Exp. Station Mgrs.	09/17/84	10/10/84	3
*Kay Muir-Leresche Land Mgt.-UZ	Stanford, MSU	Policy Analysis; microcomputers	MSU	11/30/84	02/09/85	10
*Jane Canhao Crop Science-UZ	Sri Lanka	Agr. Statistics		12/03/84	01/11/85	6
*Kingston Nyamapfene Chair-Land Mgt., UZ	PSU	Soil Science	Leon Johnson	01/02/85	01/28/85	4
+Lovemore Madziwanzira Land Mgt., UZ	MSU, PSU	Computer Programming	Wolf	01/04/85	04/22/85	15
Malcolm Blackie Dean-UZ	U.Minn. MSU	Agr. Research Policy Conf.; Food Security	Hoefer; Eicher, Wilson	04/12/85	04/30/85	3
<u>Faculty of Agr. Team:</u> Mike Schweppenhauser Godfrey Homewcod Jeremy Ascough Marion Titterton S. Funnah	Egerton College Njoro, Kenya	Practical Training Program: Team Leader and Crop Prod., Hort., Entomology Farm Training Coordinator Agricultural Engineering Animal Production Crop Production			04/85	1
(Dr. Norbert Ngongoni Animal Science-UZ)	MSU	Ruminant Protein Biochem. (+CVM)-Post doc.	R. M. Cook Werner Bergen	Late F84 or early W85		8-16
Albert Benhura	PSU	Food Science-Post Doc.	Keeney (Head, Food Science)	Fall 85		18-24 mo.
Cornelius Chiduza	CIMMYT	Farming Systems		June 85	Dec. 85	30
Barbara Maasdorp	Western Australia	Pasture/Grasslands				

KAW:ibg
04/25/85

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