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**UNIVERSITY OF ZIMBABWE:
FACULTY OF AGRICULTURE EXPANSION PROJECT**

**Report of the
FIRST PROJECT REVIEW
conducted in Zimbabwe
by the
Contractor Advisory Council
of
Michigan State University and
The Pennsylvania State University**

May 2-6, 1985

Funded under AID Contract No. 613-0209-C-00-4007 with Michigan State University, signed on March 31, 1984, to provide Technical Assistance to the Agricultural Sector in Zimbabwe. Michigan State University has the leadership role for this joint program with The Pennsylvania State University. The views expressed herein are those of the contractors and are not necessarily the views of AID.

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EXECUTIVE SUMMARY

The first Review of the Faculty of Agriculture Expansion Project at the University of Zimbabwe was conducted during May 2-6, 1985 by the Contractor Advisory Council, which is composed of representatives of Michigan State University and The Pennsylvania State University.

The leadership, vision, and philosophy of the University of Zimbabwe and its Faculty of Agriculture have correctly given focus to improvement and expansion of education and research in agriculture, the sector that is central to the Zimbabwean economy. This focus is consistent with the mission of the University's Faculty of Agriculture, namely to focus on people as the nation's principal resource, on the application of knowledge, on strengthening its contribution to national development, and on marshalling resources to provide all possible benefit to the farmer and farm family.

The Advisory Council conducted its first project review in a period of significant staff and physical growth at the University. The setting at the University is one of optimism, strong local and national support, and demonstrated success. Given the current early stage in its expansion program, the Faculty of Agriculture faces many planned, but unmet, challenges.

Based on the findings of the Advisory Council during the review, two general actions were taken. First, the Council endorsed and supported plans already developed by the University and Faculty for the near and longer term. Second, it recommended

increased attention to fundamental precepts of educational institutions that must be in place to assure a substantial capacity to provide relevant educational opportunities. The Council's general endorsements and recommendations on key topics are highlighted below. Elements of several of these are discussed in more detail in the report and are presented on the basis of short- and long-term needs.

Endorsements: The Advisory Council strongly supports the following major on-going initiatives:

- The current plan to enhance undergraduate programs, in terms both of quality and capacity.
- The longer-range plan to strengthen the Faculty's agricultural research and postgraduate educational capacities.
- Continued close cooperation with the Ministry of Agriculture and other entities in the agricultural sector.
- The emphasis on achieving capacity to benefit both the small-scale farmer and those with larger landholdings.
- Development of the University Farm as a site for practical training as well as applied and basic research.
- Continuation of the staff development program to meet current and future needs in teaching and research.
- Prioritization of needs to further develop a detailed plan for orderly and timely expansion in accordance with available resources and capacity.
- The University's plan to identify the nature of, and national needs for, a Food Science program that recognizes the academic stature of this

discipline in the Faculty of Agriculture and is responsive to the enormous growth of the food industry envisioned for the future.

- Continued examination and development of programs in agricultural engineering, irrigation and extension education programs to expand the capacity of the Faculty.

Recommendations: The following are recommended by the Advisory Council to give emphasis to concepts that are fundamental to sound development of the Faculty's expansion program:

- An expansion of the undergraduate curriculum to a four-year program would enable greater emphasis on practical training which is vital for training agriculturists to effectively meet the challenges ahead. A longer-term curriculum should include exposure to socio-cultural thought, agricultural development concepts and communication skills to enable the student to better appreciate and understand the socio-economic factors inherent in change.
- Continued improvement in the undergraduate curriculum and full staffing for its conduct are prerequisite for expansion into programs of postgraduate research and course offerings.
- A vigorous examination is needed of ways to improve recruitment and retention of competent staff to conduct current and expanded undergraduate teaching and postgraduate research programs.
- Strengthening of instruction in biometrics and econometrics, which are essential to improving the quantitative skills of graduates, is essential.

The Advisory Council enthusiastically endorses the forward planning initiated by Dean Blackie to address needs that were not possible to include in the five years of the current project. The Council believes that these longer-term needs should be incorporated into an additional five year project.

In summary, the Advisory Council applauds the vision and innovation of the University of Zimbabwe in its dynamic program of growth. The Council endorses current and envisioned initiatives, and recommends additional attention be given to certain fundamental factors that can assure success of those initiatives.

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I. INTRODUCTION

The First Review of the Faculty of Agriculture Expansion Project at the University of Zimbabwe (UZ) was conducted during May 2 - 6, 1985 by the Contractor Advisory Council, which is composed of officials of Michigan State University and The Pennsylvania State University (see Appendix A: Agenda and Appendix B: Members of Advisory Council). In Zimbabwe, participants in the review included the contractors' five long-term specialists resident in Harare, officials and staff of the UZ, Ministry of Agriculture (MOA), and the US Agency for International Development (USAID), which is providing external funding for this project. The agenda for the review enabled the Advisory Council to obtain valuable information on current programs and future activities in the Faculty of Agriculture (FOA) and the UZ.

The underlying precept of the Faculty of Agriculture Expansion Project is that external assistance will be provided to expand teaching and research programs while Zimbabweans receive training to enable them to assume these responsibilities. In short, all project activities will contribute to eventual self-reliance by the Faculty for the conduct of its programs. The Contractors agree that planned, decreasing dependence on external assistance is in the best interest of Zimbabwe.

The Faculty of Agriculture Expansion Project is designed "to increase both the capital and manpower resources of the Faculty of Agriculture and to start the process of

integrating the Faculty into the national agricultural research and training system.

The resources included in the project enable the Faculty:

- to expand its Part 1 enrollment to 100 students by 1987;
- to improve the quality and range of undergraduate trainee programs;
- to expand and develop postgraduate training activities;
- to initiate extramural and research activities designed to bring the Faculty closer to the farming community."¹

The Expansion Project design provides for the following activities during a five-year period: twelve long-term US staff (twenty-one person-years) to teach and guide research in Zimbabwe; postgraduate training in the US for twenty Zimbabwean staff; twelve person-months of US short-term technical assistance; ten person-months of short-term training of Zimbabweans in the US and elsewhere; and purchase of equipment to support the expansion of teaching and research programs.

Operating within the larger expansion and staff development program of the Faculty, the Project has met nearly all expectations during the first year of implementation. Much of this success is due to: a relevant, flexible and well-conceived project design; existing capacity of the UZ to support such an initiative; increasing cooperation of the MOA with the Faculty; dedication of the contractors to assist in a timely and adequate manner; and support by USAID of Faculty, UZ and contractor interests. A seemingly small but, in fact, major factor in the success of this program is the inclusion of contractor staff as fully participating members of their respective

¹ First Interim Project Report, Dean Malcolm J. Blackie, March 1985, page 2.

departments. The alternative frequently found in technical assistance programs, that of expatriate staff serving as "external advisors," too often leads to inadequate utilization of their skills and does not encourage maximum commitment to the life and mission of the department. Where full participation is included in the project design, concomitant success is also evident in most programs such as this.

Several features serve to distinguish the educational program of the UZ and the success of the Expansion Project in the Faculty of Agriculture. First, the vision and leadership of the UZ and Faculty have correctly given focus to improved and expanded educational programs in agriculture, which sector is central to the Zimbabwean economy. This is consistent with the mission of the University to focus on people, on the application of knowledge, on strengthening its relevance to national development, and on marshaling resources to provide the greatest possible benefit to the farmer and farm family.

Second, an expansion of research directed at agricultural enterprises having both large and small landholdings is underway. Third, in concert with the Ministry of Agriculture, the Faculty of Agriculture is developing mechanisms to foster the adaptation and application of technology in rural areas. Programs that provide formal and informal training of Zimbabwean professionals are central to achieving a sustained, indigenous capacity to conduct the initiatives identified above. Such programs are included in the project as a part of the Faculty's staff development program.

This report focuses on both the current project's activities to date and its plans, and on the longer range Faculty expansion plan. Emphasis is placed on the resources

required, the strategy, the distinct need for timely and adequate internal and external financial support, and the need for rigorous setting of priorities and long range planning. The report includes recommendations for general and specific actions the Advisory Council believes will contribute to achieving an orderly, sustained capacity within the Faculty for meeting critical needs in the agricultural sector. In addition, the Council has given emphasis to several initiatives and future plans developed by the UZ by endorsing their merit and continuation.

In summary, the Faculty of Agriculture development program, and the expansion project operating within it, has shown considerable progress in a short period of time. Continual effort is needed to plan for and strengthen the Faculty's capacity to fulfill its proper and vital role in the development of Zimbabwe's economy and quality of life.

II. OUTCOME OF THE REVIEW

Based on many presentations and discussions during the Review, the Advisory Council both endorses many on-going initiatives and future plans, and makes several recommendations which it believes will add constructively to the expansion process. The council view is sensitive to the differences between Zimbabwe and U. S. educational systems. Therefore, our views relate primarily to fundamental (i.e. system-neutral) educational issues which we all face as educators and administrators in a university setting. The Council recognizes that most ideas herein have been under discussion for varying periods of time; the Council's views serve to reinforce

certain elements as timely, appropriate, and crucial for developing and sustaining the capacity desired by the Faculty.

The Council's endorsements and/or recommendations are divided into two categories:

A) those needing immediate attention, primarily within the Expansion Project framework; and B) those needing attention in the near future and which are vital to assure a solid foundation for future growth of the Faculty of Agriculture.

A. ITEMS NEEDING IMMEDIATE ATTENTION

The following topics are those the Council believes need immediate attention in order to assure continuity of the Expansion Project and take advantage of its provisions. Although each topic has implications for longer-term impact, their principal importance is based on the relatively brief life of the project.

1. Animal Production Position

This position remains open at a time when the need remains high for a specialist in beef and/or dairy cattle production and management. This vacancy is of particular concern because among the three departments in the Faculty, the Animal Science department still experiences the greatest shortage of staff vis-a-vis the teaching obligation.

Recommendation: The Project Coordinator, Team Leader, Dean of the Faculty and Department Head of Animal Science should devise a strategy to utilize

contract resources for recruitment and selection of short-term specialist(s), and the long-term specialist, to enable the department to meet as much as possible its teaching obligations during the current and next academic years. Because the contract is designed to provide only a portion of all needed teaching staff, the Council urges the Faculty to continue its current worldwide advertisement and recruitment efforts with all possible vigor.

2. Release of Remaining Contract Funds

Only half of the project's approved budget has been released to date. Expenditures and obligations through the end of the second year of project implementation (March, 1986) will exceed \$2.3 million.

Recommendation: In order for the contractors to secure commitments extending into project years 3 and 4 (e.g. long-term training to be initiated in 1985 and recruitment of high quality long-term technical assistance personnel), the remaining funds must be released at the earliest possible moment. This will enable the contractors to meet the training and technical assistance obligations in a timely manner in accordance with planned requests incorporated into the project design by the UZ. These commitments must be made well before the end of 1985 to ensure continuity of the Expansion Program.

3. Approved but Unfunded Project Components - Interim Staffing Resources

Included in the approved contract are components for which funds were not allocated at the time of contract signing: up to three additional long-term

technical assistance posts (1 1/2 - 2 years each); up to 48 additional person-months of short-term technical assistance; and 12 person-years of positions for advanced U.S. postgraduates to assist with teaching and research in Zimbabwe. It was agreed in the contract that the additional assistance would be funded by contract amendment.

The continuing shortage of trained Zimbabwean staff projected for the next 3 - 5 years is of concern. The shortage will continue while Zimbabweans are receiving postgraduate training in preparation for filling the many posts in the Faculty authorized for the next several years. Clearly, utilization of the technical assistance included in the contract, a feature designed to provide highly trained personnel to carry out the expanding teaching and research programs in the interim, can mitigate some of the shortfall.

Recommendations: Given this unavoidable shortage of Zimbabwean staff, the Council urges the appropriate entities to consider the above mechanisms within the project and other potential resources as a means of assuring that the Faculty will have the capacity to continue to offer quality educational programs and research opportunities in an environment of planned, rapidly expanding enrollments, while future Zimbabwean faculty members are abroad receiving needed training.

The Advisory Council believes that the funding and implementation of the program to use advanced postgraduates from the United States as teaching and research assistants would be an efficient and cost effective method of increasing the professional resources available to the Faculty. The council

also believes that interaction between U.S. teaching and research assistants and Zimbabwean post-graduates would be extremely productive to all concerned. It should be noted that, even with expanded support from the contract, only a portion of the overall need for staff will be met.

Therefore, it is further urged that vigorous recruiting of personnel outside the contract be continued to attract qualified assistance.

In addition to potential staffing resources for the interim period described above, the Council believes that the Fulbright Scholar program (for senior U.S. faculty and advanced postgraduates) and increased utilization of the project's Cooperative Research Fund should be considered. The existing USIA Linkage Grants between the UZ and MSU, and between the UZ and PSU, may also be resources for augmenting selected staff needs.

4. Cooperative Research Fund

A principal objective of the Project is to foster increased cooperative research between the Faculty of Agriculture and the Ministry of Agriculture. During the budget negotiations the contractors developed an approach to meet this objective, the creation of a Cooperative Research Fund of nearly \$225,000. The program will provide local currency support from USAID to finance cooperative research among members of triumvirates composed of UZ and MOA researchers and the Contractors' long-term staff. These monies will supplement departmental funds available for individual research, either to expand ongoing research or to stimulate a new line of scientific inquiry. The fund will help facilitate research on common problems by supporting local

travel, field and lab supplies, small equipment, field labor, student stipends and other costs incidental to the research activity.

The Council believes this program is important for fostering cooperation on research topics of common interest. However, at the time of the review, little cooperative research had been initiated utilizing this mechanism.

Recommendation: The Council recommends that guidelines and criteria be further developed to implement the formation of cooperative research teams that will be supported by this fund. Principals in developing the program would include staff of the Faculty of Agriculture, MoA, contractor and USAID.

5. **Library Acquisitions**

A member of the UZ library staff and the FOA representative to the library presented the Council with a request that approximately Z\$20,000 from the contract be allocated for the purchase of subscriptions to many scientific journals. The Council recognizes that the shortage of scientific journals is a chronic problem and an important constraint to quality education.

Recommendations: The Council recommends that acquisition of library materials from project funds be limited to textbooks and reference documents rather than scientific journals. This recommendation is founded on the principle that subscriptions to periodicals such as scientific journals must be given highest priority within recurrent sources of UZ funds. Dependency

on internal sources for subscriptions enhances the prospect of continuing these subscriptions, hence their lasting value, whereas the relatively brief life of externally-funded is likely to result in interruption of subscriptions.

B. ITEMS NEEDING ATTENTION FOR LONGER-TERM DEVELOPMENT

The Council believes the topics which follow are of high priority and need attention soon in order to strengthen the foundation for future growth of the FOA. Again, the Council recognizes that many of these initiatives are underway. It is hoped that the Council's commentary will not only support continuation of these efforts, but also will add importance to their priority.

1. Food Science Program

The Council heartily endorses the foresight of the UZ in establishing the Food Science Board of Studies. We believe that such vigorous attention to the strengthening of Food Science training and research at the UZ is warranted in light of both expanding agricultural productivity and the need for professionals trained in food technology, processing, post-harvest storage and handling, nutrition and other important elements of the broad area of Food Science. This need will increase dramatically as food production grows. In an economy which is highly dependent upon the agricultural sector, major attention must be given to assuring a steady supply of food meeting high standards of health and nutrition. The UZ's role in providing personnel trained in the many aspects of Food Science is vital to this challenge.

The UZ already has considerable capacity to provide instruction in basic sciences that are fundamental for subsequent training in the food sciences. What remains to be done is: a) the establishment of an undergraduate curriculum, including practicals, that will expose students to the application of basic sciences to the several specializations within the Food Sciences; and b) expansion of the MSc program to provide sound grounding in applications of technology in the burgeoning food industry. In brief, food science training at the UZ must be underpinned by a sound undergraduate curriculum leading to postgraduate training of Zimbabweans who will be well-equipped to meet the demands of the enormous food industry envisaged for the future.

Recommendations: The Council endorses the plan to further identify and refine the components of, and national needs for, a Food Science program in the Faculty of Agriculture that recognizes the academic stature of this discipline and is responsive to current and future needs of the industry. We recommend that all due vigor be applied to optimize the blend of existing educational resources in the UZ with expanded training in additional elements (food technology, processing, etc.) of food science. The resultant program should foster even closer cooperation among the respective Faculties, and their departments, as each assumes its proper role in producing graduates trained to meet this important challenge.

2. University Farm

Initiatives are underway that will lead rapidly to defining the role of the University Farm to support instructional and research programs. The Council

applauds these efforts in recognition of the importance of such a resource as it augments the teaching and research mission of the Faculty. Among the several initiatives, retention of the qualified and experienced Farm Manager, creation of the post of Director of Farm Practical Experience, and visitation by faculty/staff to similar sites in Kenya all are important steps already taken by the UZ for development of this facility.

An early step in developing the UZ farm must be to identify researchable topics which are key constraints to small and large farm productivity. Applied research on these topics can then be incorporated into farm practicals and contribute directly to appropriate changes in course content in the instructional program.

The dairy cattle research center concept proposed by the Animal Science department should be designed as a resource to foster applied research of benefit to farmers on both large and small landholdings. In the case of small landholders, research on livestock as a part of the farming system would be the primary focus. In either case, on-farm and/or regional trials would contribute well to development of appropriate technology and should be designed to feed back into the on-station research program.

3. Instructional Programs

One of the most difficult issues facing the UZ and the contractors is that of modifying the BSc curriculum and course content to more precisely meet the needs of the agricultural sector. Specifically, the FOA has responsibility

for producing graduates who will contribute to improvements in all sectors of agriculture, with emphasis on the smallholder but without forsaking the needs of the larger landholder.

Concurrent with this challenge is the temptation to devote major attention to research. While the Council acknowledges and supports the need for research, it believes firmly that refinement of the BSc curriculum must be near completion before energies and resources are directed to further development of postgraduate research programs.

In order to meet the demand for professionals trained to contribute to improvements in smallholder production, multidisciplinary content should be included in both the instructional and research programs. Also, increased emphasis must be placed on applied research and methodologies for the application of technology in the communal and commercial farm setting. Further, and especially for the communal sector, training and research in systems approaches must be developed.

The distinct need for exposing students to applied, multidisciplinary and systems approaches strongly suggests that the curriculum should include such training opportunities. Although the agenda precluded a detailed analysis of the current curriculum to recommend specific changes, we understand there is only limited opportunity to incorporate this training in the current course structure. The alternative appears to be an expansion of the BSc program to four years in order for students to gain these skills. The Council acknowledges the difficulties inherent in such a change but recommends that

vigorous consideration of the issues be continued. Based on information available thus far, the Council recommends that the BSc program be expanded to four years.

The recent ISNAR report on training needs for the Ministry's Department of Research and Specialist Services highlights factors to be evaluated in terms of the demands for training to meet both MOA needs and those in the private agricultural sector. The report indicates "...it is not possible to specify the precise training requirements of the scientists and technicians who will be recruited... (p. 72). Consequently, the Council feels it is vital that attention be focused on gathering additional information on the demand for, and potential skills required of, graduates of the Faculty of Agriculture to meet needs throughout the Agricultural sector, including the MoA. This should be a continuing activity of the Faculty.

A highly innovative training plan for MOA personnel was presented to the Council. This approach and the Council's commentary are found later in this report. We acknowledge here our endorsement of the concept in general, and specifically point out that the approach has great promise for relieving the shortage of trained staff in the Ministry, while providing a means for further strengthening the instructional and research programs of the Faculty.

4. Research Programs

The Faculty of Agriculture has established a credible research program conducted by faculty members and postgraduate candidates for the M.Phil and

D.Phil degrees. In past years much of the research has been carried out on the several experiment stations of the Ministry of Agriculture. This pattern of close cooperation is expected to continue, and will grow as the Faculty expands its linkages with international research centers and develops graduate training opportunities for MOA personnel. The Faculty is actively seeking increased domestic support for its research programs to reduce dependency on external sources.

The close relationship between research and teaching is clearly recognized within the FOA. The Council urges the Faculty to continue to develop mechanisms and incentives that will assure constant revision and incorporation of appropriate research information into courses. Research, whether applied or basic, classically reinforces teaching. In the case of Zimbabwe this is especially important in light of the need discussed earlier to produce graduates who can be effective in addressing the problems of the multi-faceted agricultural sector.

The Cooperative Research Fund (CRF) discussed earlier, may be a mechanism for generating new information for incorporation into undergraduate courses. The CRF concept includes Zimbabwean researchers who are pursuing M. Phil and D. Phil degrees. Those who are/will be on the UZ teaching staff would contribute directly to course enhancement as a result of CRF experience.

The Council is encouraged by the research under way in the communal lands, from which information is being infused to some extent into course offerings. Descriptions of exciting new research in the Sebungwe region and

on new crops were presented to the Council. The Council is convinced, however, that even more emphasis must be placed on searching for technology that addresses the specific problems of the nearly one million farm families living in the communal lands. This is not to suggest that the focus of curricula of the Faculty should be on the unrealistic goal of placing BSc graduates in the communal areas. Rather, these graduates should be exposed to research-derived technology that permits them to develop and manage programs that will be of direct benefit to the smallholder. Whether applied or basic, research should emphasize scale-neutral technology (e.g., breeding, plant pathology). Adaptation at the local level will then be possible through Ministry programs and in cooperation with the FOA. The Council urges that even closer cooperation occur in developing programs for the communal areas as well as in revising teaching and research priorities in the Faculty.

Further, the Council believes the needs are so immense for research appropriate for the communal areas that in the next few years, fundamental information should be drawn from the world body of knowledge, rather than be repeated entirely in Zimbabwe. Thus, the major focus would be on applications research, applying basic knowledge to accelerate the impact on agricultural productivity in the communal lands and to other subsectors as appropriate.

5. Recruitment and Retention of Staff

Consistent with the immediate need to relieve the shortage of key staff members, it is important that the UZ/FOA develop additional incentives for

recruitment and retention of high quality academic personnel who will serve as the permanent staff. The UZ has an attractive employment package at this time, but additional features must be developed to attract Zimbabweans to the many open posts. The Council recognizes recruitment and retention of staff is a worldwide problem faced by universities particularly as they compete with government and the private sector for well-trained professionals.

The Council endorses the University's continuing effort to increase its budget to offer higher salaries and other perquisites. We believe that mechanisms to support expansion of teaching and research programs must be improved to attract and retain professional staff. This will become increasingly important as the number of faculty and the level of their training increases over the next few years. It is a reality of university life that whereas salary levels are important in recruiting and retaining faculty members, of equal importance is a system in which they are encouraged, and properly supported, to maximize their teaching and/or research skills. More often than not a high turnover rate is due in great measure to an inadequate support and incentive system.

The Council has already recommended that among the several potential resources available, the Faculty utilize the several mechanisms within the contract to its fullest to provide interim staffing and innovative training modes. Interim staffing will relieve some of the excessive teaching loads; this relief will enhance the teaching staff's ability to devote time to improving courses and expanding the research program. Innovative training modes can provide specific training in a short time without long absences

which exacerbate the already-heavy teaching load. Adoption of both approaches will stimulate staff and enable them to perform at a higher level.

6. Staff Development Program

The well-conceived staff development program of the UZ is beginning to be constrained by declining local currency support. An additional major constraint is the scarcity of sufficient numbers of Zimbabweans in the "pipeline" who are trained at a level that qualifies them as candidates for the needed postgraduate training. These constraints are particularly acute in the Faculty of Agriculture at this time when postgraduate training programs are scheduled to commence. The Council is sensitive to the problem of declining resources and commends the UZ administration for actively developing means to alleviate the situation. Therefore, the Council makes no recommendation, rather, we strongly endorse those efforts and urge that the scheduled postgraduate training program of the Faculty of Agriculture be given priority consideration within the constrained UZ staff development program budget.

7. Agricultural Engineering/Mechanization

The Advisory Council also discussed the proposed development of a capability in the agricultural engineering/mechanization area. The Council did not feel it had enough information to discuss specific details of a possible curriculum to be included in such a unit. However, it does believe that there are some principles that will be useful in designing such a

department. Similar to the food science program the Council believes an agricultural engineering/mechanization department should:

- a. stand alone, that is it should not be a component of some other department;
- b. have primarily a teaching mission with a research program that reinforces and contributes to the curriculum; and
- c. be attached to the Faculty of Agriculture to ensure that its programs are based on and applicable to the needs of the agriculture sector.

The Council believes that agricultural engineering, mechanization and associated areas are of sufficient interest in the Faculty that the contract should be utilized to provide specialists and training. Specialists could work with the Faculty and Ministry to develop the curriculum, the research agenda, and training program appropriate for Zimbabwean needs. Formal and in-service or short-course training programs could be used to expand the teaching staff as a department evolves over the next few years.

Based on the high priority of agricultural engineering, mechanization and irrigation fields expressed during the review, the Council recommends that position descriptions be drafted for long- and short-term specialists, as appropriate, who would assist the Faculty in developing a department-level program. We recognize such development is necessarily long-term. However, the needs in Zimbabwe are sufficient to suggest initiation of a program soon to develop a teaching and research base for meeting these needs.

8. Prioritization of Programs

Discussion in an earlier section focused on how to improve the research capability of the Faculty of Agriculture concurrent with supporting an expanding undergraduate program while maintaining research quality that meets professional international standards. Suggestions were made on actions necessary to increase the amount of resources - both staff and equipment - to meet these increasing demands.

The Council recommends that a prioritization be made of needs that can be met within finite budget constraints. The Council does not pretend to have sufficient information to present a detailed listing beyond those items emphasized in this report. However, the Council does make a plea for developing a strategy and plan which will require rigorous prioritization of needs both within and among departments in the Faculty. This is indeed a difficult and time-consuming task, but the Council feels that additional departmental and Faculty level planning for prioritizing of programs is necessary to produce a consistent programming and staffing plan for the Faculty.

9. Long-range Expansion Plan

The Faculty of Agriculture has developed a long-range expansion plan which builds on the current successful program design. The Council endorses this initiative as appropriate and timely. Further, the Council offers suggestions that reinforce fundamental precepts upon which the plan should be based as it is developed in more detail.

This longer range plan involves the careful stewardship of local currency and external donor resources. It builds upon the successful-to-date formula of

- a) using local currency for capital investment in land, facilities and buildings, and in financing a portion of the staff development program; and
- b) using external donor resources to provide some investment in facilities and buildings; technical assistance in instruction, research and extension; postgraduate training of Zimbabwean professionals at the UZ and elsewhere; and purchase of equipment for scientific and teaching programs to support an expanded capacity.

The strategy for longer range growth consists of several components being phased in over the next 8-10 years. In brief, the proposed sequence follows:

- a. The current expansion project model would continue, providing long- and short-term staff at the UZ to conduct, improve, and expand the teaching program as well as develop and guide expanded research programs; to train formally and informally several Zimbabweans who will assume teaching and research posts upon completion of their training; and to purchase additional equipment to support instructional and research activities.
- b. Funding of the current project must be completed; to date only \$2.4 million has been allocated by ZASA for the first half of the five-year program. The remaining allocation of project funds will provide additional technical assistance, training and purchase of equipment to complete strengthening and expansion of the undergraduate teaching program. Concurrent with the later stage of the current project, the

allocation would provide support for initiating expansion of graduate research capacity.

c. As a joint initiative of the Faculty and MoA, two research professorships would be established initially, and increased by two such posts in each of the following three years, for a total of eight new research professorships in several academic areas in the Faculty. Each incumbent would primarily conduct research, undertake supervision of postgraduate student research programs and would contribute to developing postgraduate-level courses leading to an MSc degree to be granted by the UZ. A total of 56 such degrees would be awarded as a result of local and external donor (USAID) support provided for this program. As Zimbabweans complete their graduate programs, they will assume regular posts in the Ministry. As other Zimbabweans complete their training and assume posts in the FOA, some of the more senior faculty members will then assume the research professorship posts that will be filled initially mostly by expatriates recruited worldwide.

d. Concurrent with the time-phased plan for technical assistance, training and purchase of equipment, local currency support will be sought for capital investment in additional buildings. The current ZASA/AID support for construction of the new Land Management building, expanded laboratory and purchase of phytotrons provides greatly needed space and facilities for the expanding Faculty. Longer-range planning includes improvements to the Crop Science facility and development of a dairy research center at the UZ farm.

The Advisory Council strongly supports the proposed longer range plan. Its success will depend considerably on the success of near-term efforts to complete a sound undergraduate curriculum supported by a full complement of teaching staff.

III. SUMMARY

The Contractor Advisory Council is greatly impressed with and encouraged by the success to date of the Faculty of Agriculture Expansion Project. Much has been accomplished on schedule; much remains to be completed in the next four years of the contract. The Council identifies in this report some of the factors contributing to this success and believes attention is needed in certain areas to continue developing a sound foundation for future expansion of the teaching and research programs of the Faculty.

The Council greatly appreciates the extraordinary preparation by all parties undertaken for this review. The agenda enabled us to gain considerable insight into important issues we all face in this joint effort. We thank everyone for the warm hospitality afforded us and compliment all for their constructive and positive approaches to problems and their enthusiasm for the challenges ahead.

APPENDIX A. AGENDA

ANNUAL REVIEW

MSU/PSU/UZ/USAID Faculty of Agriculture Expansion Project

May 2 - 6, 1985

Thursday, May 2nd

- Chairman - Dr. Sam Muchena, Deputy Secretary
(Technical), Ministry of Agriculture (MOA)**
- 8:30 a.m. Welcome and Opening - Professor Walter Kamba,
Vice-Chancellor, University of Zimbabwe (UZ)**
- 8:45 a.m. Background and General Progress in the Faculty of
Agriculture Expansion Project -
Dr. Malcolm Blackie, Dean**
- 9:30 a.m. Specific Developments in the MSU/PSU/UZ/USAID Project -
Dr. Kirk Lawton, Field Team Leader, MSU**
- 10:00 a.m. Coffee/Tea Break**
- 10:30 a.m. General Development and Future Prospects at the
University of Zimbabwe -
Mr. Rob Blair, Registrar and Mr. James Wood, Bursar**
- 11:15 a.m. University Staff Development Programs -
Mr. F.N. Murandu, Staff Development Officer**
- 11:30 a.m. Review of Program and Developments in:**
- Animal Science - Mr. Duncan Hale
Crop Science - Professor Mike Schweppenhauser
Land Management - Dr. Kingston Nyamapfene**
- 1:00 p.m. Lunch**
- Chairman - Dr. Malcolm Blackie, Dean of Faculty
of Agriculture, UZ**
- 2:00 p.m. Agricultural Engineering:
Mr. Jeremy Ascough
Dr. Kingston Nyamapfene**

- 2:30 p.m. **Animal Science Field Facilities:**
 Mr. Duncan Hale
 Mrs. Marion Titterton
- 3:00 p.m. **Food Science Program:**
 Dr. Joe MacNeil
 Mrs. Manuel Gomez
- 3:30 p.m. **Tea/Coffee Break**
- 3:45 p.m. **Graduate Research Program:**
 Dr. Philip Chigaru, Director, R&SS, MOA
 Dr. Malcolm Blackie, Dean
- 4:15 p.m. **Library References and Textbooks:**
 Dr. Kwame Asamadu
- 5:30-7:30 p.m. **Reception for U.S.A. guests - Dr. and Mrs. Kirk Lawton**

Friday, May 3rd

- Chairman, Dr. Kirk Lawton, Field Team Leader, MSU/PSU Group**
- 8:15 a.m. **New Computer Facilities for the Faculty and the University -**
 Dr James Rosenberger, PSU
- 8:45 a.m. **Background and Current Situation in Food Science -**
 Dr. Joseph MacNeil, PSU
- 9:15 a.m. **Horticulture, A New Program for UZ - Dr. Robert Herner, MSU**
- 9:45 a.m. **The Food Security Project and its Tie-in to the Faculty**
 of Agriculture - Dr. Steven Buccola, MSU
- 10:15 a.m. **Coffee/Tea Break**
- 10:45 a.m. **Meeting with Ministry of Agriculture:**

 Dr. Philip Chigaru, Director, Research and Specialist
 Services
 Dr. Boniface Ndimande, Deputy Director, Research and
 Specialist Services
 Mr. John Hayward, Director, AGRITEX,
- 1:00 p.m. **Lunch**

Chairman - Dr. Malcolm Blackie, Dean

2:00 p.m.

**Faculty Interest and Commitment to Improvement of
Agriculture in Communal Areas:**

Land Management - Sebungwe Project

(Mr. Hungwe, Mr. Chiduzo)

Animal Science - Goat and Sheep Project (Mr. Hale)

Crop Science - Post-Harvest Pest Technology (Dr. Giga)

**Development of New Crops: cassava,
leucaena (Dr. Robertson)**

3:15 p.m.

Coffee/Tea Break

4:00 p.m.

Meeting with USAID Director Roy Stacy and Staff

6:30 p.m.

Social Evening with Dr. and Mrs. J. Rosenberger

Saturday, May 4th

7:30 a.m.-noon

**Visit to University of Zimbabwe farm. Vice Chancellor Kamba
and President of the Republic of Zimbabwe,
Rev. C. S. Banana will be present.**

1:30-5:30 p.m.

**Meeting of the Advisory Council and contractor personnel to
review the project.**

Monday, May 6th

Chairman - Dr. Kirk Lawton, Field Team Leader, MSU/PSU Group

8:15 a.m.

**Developments in Faculty Program for Practical Farm
Training - Mr. Godfrey Homewood, Director of Practical
Farm Experience**

8:45 a.m.

**Students and their Problems - Mrs. Christine Moyo,
Assistant Registrar, Faculty of Agriculture**

9:15 a.m.

**Faculty Equipment - Repair, Maintenance, Service, Inventory
- Mr. Peter Hopkins and Mr. George Jack**

10:00 a.m.

Coffee/Tea Break

10:30 a.m.

Advisory Council review of recommendations

12:00 p.m.

Review Session with Vice Chancellor Walter Kamba

End of Formal Review

Tuesday, May 7th

Full day

Field trip to Mangwende communal lands with project staff, UZ and Ministry officials.

Wednesday, May 8

Full day

Field trip to Agricultural Research Trust farm and Enterprise (Munenga) area dairy, tobacco and grain farms.

APPENDIX B. MEMBERS OF ADVISORY COUNCIL

Michigan State University

Dr. James H. Anderson, Vice Provost and Dean, College of Agriculture and Natural Resources and Professor, Agricultural Engineering

Dr. Donald R. Isleib, Associate Dean and Director, Institute of International Agriculture, and Professor, Crop and Soil Sciences

Dr. Kim A. Wilson, Assistant Director, Institute of International Agriculture, Coordinator, MSU/PSU/UZ Project, and Professor, Animal Science

Pennsylvania State University

Dr. J. Dean Jansma, Assistant Dean and Director, International Agricultural Programs, and Professor, Agricultural Economics

Dr. Samuel M. Curtis, Head and Professor, Department of Agriculture and Extension Education, representing Dr. Samuel Smith, Dean, College of Agriculture

APPENDIX C. ACRONYMS

| | |
|--------------|---|
| AID | Agency for International Development |
| CRF | Cooperative Research Fund |
| FOA | Faculty of Agriculture |
| ISNAR | International Service for National Agricultural Research |
| MOA | Memorandum of Understanding |
| MSU | Michigan State University |
| PSU | The Pennsylvania State University |
| USAID | United States Agency for International Development |
| USIA | United States Information Agency |
| UZ | University of Zimbabwe |
| ZASA | Zimbabwe Agricultural Sector Assistance Program |

MICHIGAN STATE UNIVERSITY • THE PENNSYLVANIA STATE UNIVERSITY • AID

FACULTY OF AGRICULTURE PROJECT, UNIVERSITY OF ZIMBABWE

Office of Project Coordinator
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Michigan State University
East Lansing, Michigan 48824-1039 USA

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Telex: 810-251-0737 MSUINPRO ELSG
Cable: MSUINPRO



22 April 1986

Development Information Utilization Service
Bureau of Science and Technology (S&T/DIU)
Agency for International Development
Washington, D.C. 20523

Subject: Contract No. 613-0209-C-00-4007

Dear Sir/Madam:

Attached are 2 copies of the First Project Review of the Michigan State University/The Pennsylvania State University/University of Zimbabwe Faculty of Agriculture Expansion Project held in Zimbabwe May 2-6, 1985. We have also enclosed the Twelve Month Budget and Expenditure Report for the period March 31, 1984 through March 31, 1985.

Should you have any comments or questions concerning this report, we would be most happy to receive them.

Sincerely,

A handwritten signature in cursive script that reads "Melba Lacey".

Melba Lacey
Administrative Assistant

enclosures (2)

TWELVE MONTH BUDGET AND EXPENDITURE REPORT

Faculty of Agriculture Expansion Project
 Contract Period: March 31, 1984 - March 31, 1989

Contract No. 613-0209-C-00-4007
 Report Period: March 31, 1984 - March 31, 1985

| <u>Line Items</u> | <u>Total Budget</u> | <u>First Six Months Expenditures</u> | <u>Second Six Months Expenditures</u> | <u>Accumulated Expenditures</u> | <u>Remaining Funds</u> |
|---------------------------|-----------------------|--------------------------------------|---------------------------------------|---------------------------------|------------------------|
| 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 Training | 433,660.00 | 15,327.07 | 34,905.87 | 50,232.94 | 383,427.06 |
| Equipment | 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 | \$327,206.17 | \$502,144.48 | \$829,350.65 | \$4,070,649.35 |

*Includes \$127,000 advance to PSU