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MUCIA/AID Project
The Institute of Agriculture and Animal Science
of Tribhuvan University
Rampur, Nepal

WORK PLAN FOR JULY, 1982 through SEPTEMBER, 1984
IAAS-MUCIA Project

Kim A. Wilson, Ph.D.
Assistant Director, Institute of
International Agriculture
Associate Professor, Department of
Animal Science
Michigan State University
East Lansing, Michigan 48824

Andrew D. Sofranko, Ph.D.
Professor, Department of
Agricultural Economics
University of Illinois
Champaign-Urbana, Illinois 61820

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TABLE OF CONTENTS

	<u>Page</u>
FOREWORD	1
CHAPTER I - BACKGROUND	3
CHAPTER II - INTRODUCTION	6
A. General Agreement	6
B. Activity Agreement	6
C. MUCIA/AID Contract	7
D. Program Goals	7
E. Changes Since the Beginning of the Contract in 1976	8
CHAPTER III - RATIONALE OF THE WORK PLAN	12
A. Basic Premises	12
B. Role of MUCIA	13
C. Achievability	14
D. Flexibility	15
E. Constraints	15
F. Summary	16
CHAPTER IV - SITUATION REPORT	17
A. Teaching	17
B. Curriculum Development	20
C. JTA/JT/B.Sc. Programming	24
D. Work Experience Program	26
E. Research	27
F. Laboratory Facilities	32
G. Extension	34

	<u>Page</u>
H. Support Facilities and Activities	37
1. Library	37
2. Institute Farms	38
3. Staffing	39
4. Staff Evaluation	40
5. Incentives	43
6. Extra-curricular Activities	44
7. External Promotion	46
8. Observations on Physical Conditions	47
I. Summary and Interrelated Issues	48
 CHAPTER V - SUMMARY OF MUCIA PROJECT ACTIVITIES, 1982-1984	 51
A. Short-term Specialists	51
B. Long-term Specialists	52
C. Unallocated Needs	52
D. Short-term Training for IAAS Faculty/Staff	53
 CHAPTER VI - BEYOND 1984	 55
Attachment 1. Summary of Participant Training Program (6/76-9/84)	59
Attachment 2. Summary of MUCIA Staff Advisory Assignments (6/76-9/84)	60
Attachment 3. Staffing and Training Pattern (1976-84)	61
Attachment 4. Long-Term Positions (1982-84)	68
Attachment 5. Research Proposal Guidelines	74
Attachment 6A. Budget Summary (1976-82)	77
Attachment 6B. Budget Projection (6/82-9/84)	78
Attachment 7. Work Plan - Dr. Garland Wood	80

	<u>Page</u>
Attachment 8. Work Plan - Mrs. Jeanne Wood	92
Attachment 9. Additional Recommendations	95
Attachment 10. Summary of the Work Plan of IAAS/MUCIA/AID Project, Effective Oct. 1, 1982 - Sept. 30, 1984	101
Attachment 11. Summary of Work Plan Goals 1982-1984	105

11

FOREWORD

This work plan was developed at the request of the AID Mission in Nepal. The authors visited Kathmandu and Rampur for this purpose during the period of June 16-30, 1982. Information was obtained through discussions with Project personnel in the U.S., prior to visiting Nepal; reading of project documents before and during the visit; discussions with representatives of AID, MUCIA and TU, IAAS staff and administration while in Nepal. The candor and thorough cooperation of these individuals contributed immeasurably to in-depth understanding of past achievements, current activities and hopes for the future of IAAS and professional agricultural education in Nepal. The authors greatly appreciate both the comprehensive knowledge of all persons with whom we visited and their open willingness to share that knowledge and ideas. We were pleasantly surprised by the knowledge the staff and administration of IAAS had about their institution, and by their ability to articulate their thoughts about how it might be improved. They are among the Institute's strong assets.

This report has been developed against a background of overt local sensitivity toward consultants' recommendations, and a commitment on the part of the team to providing useful insights into IAAS's strengths as well as weaknesses. Over the years IAAS has experienced a surfeit of both good intentions and consultants' recommendations. For the most part, the former remain while the latter have been largely ignored. Recommendations generally have been free and easy, have exceeded the capacity of the Institute to implement change, and perhaps of the institutions from which the consultants came, as well. What has been lacking in most of the reports filed on the project are recommendations about how the implementation of needed

changes might occur, or of real progress being made in some areas and activities. We hope this report avoids the standard litany of problems and recommendations contained in previous reports, while pointing out some of the areas in which there has been progress over the years.

The underlying keyword in this report is "doability". Recognizing the ease with which recommendations can proliferate, especially with a new institution, we chose instead to couch our suggestions in terms of what is possible in two years with a given number of short- and long-term personnel. We realize that what is defined as "doable" is at least partly a subjective judgment, and that all activities are clearly not "doable" to the same extent. What our report thus represents is a set of suggestions, tempered against the opinions and insights of staff and administration of IAAS, which we believe are reasonable, consistent with the Institute's mission, and possible within the next two years.

3'

CHAPTER I - BACKGROUND

"Less than a decade ago, Nepal was described as a country 'trying to move from the 12th century into the 20th.' The surprising feature today is not that Nepal is still one of the world's poorest, most isolated, and least developed nations, but that it has advanced as far as it has. For a country with few easily-exploitable resources, few skilled workers, and a population that is 75% illiterate, even the most modest changes are revolutionary."*

The rapid transition in a quarter century from having only one high school in the country (in Kathmandu, a city which was accessible from the outside only by foot) to the existence today of a national university with dozens of colleges and institutes is a remarkable indication of the importance the Government of Nepal places on education. It is within the context of this commitment that the creation and development of IAAS has occurred.

During the past six years the Institute of Agriculture and Animal Science (IAAS) has undergone dramatic changes which have contributed significantly toward the creation of a recognized agricultural institution. Some of the more notable changes are worth pointing out:

- IAAS has progressed from a staff of six in 1972 to more than 40 at present, 18 of whom have been trained under the auspices of MUCIA/AID agreement. Twenty-five additional persons have received graduate training during the course of the project through direct AID support. Within the next two years an additional 20 staff members will return from advanced training.

*T. D. Allman. 1974. Nepal: The Cost of Progress. Far Eastern Economic Review Vol. 83 (Feb. 18) pp. 44-45.

- In terms of academic qualifications, all of the present staff members have been trained to at least the M.Sc. level, including two Ph.D.'s. Five additional Ph.D.'s will return within the next two years (cf. Attachment 1 and 3). This is in stark contrast with the initial staff in 1972 which consisted of six persons trained at the B.Sc. level.
- A farmer-oriented research program is underway. Presently, 11 research proposals have been submitted and approved, with a total budget of U\$50,000. Needless to say, this represents a significant change over what existed only a few years ago. It represents also an enormous potential for addressing the agricultural needs of small farmers in the Chitwan area.
- The extension function is being incorporated into the work roles of an increasing number of staff members. There is a growing awareness of the need to serve farmers, and to have a very good understanding of farmers' problems in the immediate area. The rudiments of an ongoing extension activity are in place and some of the problems of local farmers are being addressed in a systematic way.
- Physically, the campus has been changed dramatically, and continues to change. A major library has been completed and is stocked with over 11,000 books, more than twice the number that existed six years ago. In addition hostels, classrooms, staff quarters, labs and many necessary facilities to support the Institute have been added.
- Other, less visible, changes have occurred on the campus as well:
 - = There is a more active involvement among staff members in campus committees and decision-making;
 - = Many of the campus-level functions formerly carried out by MUCIA staff are now being undertaken by Nepali staff;

= There is an emerging professional identity among staff members, as well as a growing realization of the role and importance of research and extension in an agricultural institution.

While the changes that have taken place at IAAS have been dramatic when compared with what existed in 1976, there still remains much to be done. The changes yet to come are less likely to be as visible as those that have occurred, but for the long-term future of the Institute they may be far more important. IAAS is at a stage where a substantial part of the growth has been completed, and the basic teaching, research, and extension components have been delineated and are moving forward. What is needed at this point is the improvement of much of what is already in place, and perhaps, more importantly, the development of a capacity for maintaining the institution over time.

6

CHAPTER II - INTRODUCTION

This work plan is designed to facilitate the achievement of objectives set forth in the General Agreement between Tribhuvan University and the Midwest Universities Consortium for International Activities, Inc., (MUCLA) in activity agreement No. 1 involving the Institute of Agriculture and Animal Science (IAAS) of Tribhuvan University (TU) and MUCIA, and Contract No. AID/NESA-C-1197 between the U.S. Agency for International Development and MUCIA. All of these documents are consistent with each other. The objectives of the components identified in the agreements are discussed below.

A. General Agreement

The General Agreement between TU and MUCIA consists of certain activities for the following purposes:

1. Staff and program development, including training of teaching and research personnel.
2. Research projects, preferably of a collaborative nature, involving scholars both in Nepal and in the U.S.
3. Exchange of scholars.
4. Exchange of students.
5. Development and exchange of publications, library materials, biological specimens, data and other research and teaching materials.
6. Exchange of information and services relating to academic, cultural and professional affairs on a continuing basis.

B. Activity Agreement

Activity agreement No. 1 between IAAS and MUCIA lists the following as objectives:

"..... the needs for development (at IAAS) of the educational philosophy and institutional goals as part of the foundation for

program and staff development, academic planning, campus planning, and development of educational experiences for students. In addition, there is a need to develop a non-formal program for villages and for out-of-school youth and adults which is directed toward solution of problems of national development."

C. The contract between MUCIA and AID

The contract between MUCIA and AID which supports the development of the IAAS program states the following:

"The Contractor (MUCIA) will assist with the overall development of the IAAS in terms of educational philosophy and institutional goals. The IAAS is to be a practical and service-oriented institution, with the 'upside down' curriculum (one which engages the students in a combination of practical experience and academic training) operating in all programs"

The contract states that MUCIA's involvement will include, but will not be limited to, the following:

- "1. Assist in the overall development of the institution, including academic planning, with the Chief-of-Party working with and through the Dean of IAAS.
2. Assist in the development of a departmental structure, curricula, courses of study, and practical field and laboratory experiences. Contractor staff members will initially teach a minimum number of courses.
3. Assist with staff improvement, participant selection and campus planning.
4. Assist with the development of an extension/adult/non-formal program for villages and other out-of-school youth and adults."

D. Program Goals

The objectives in the several documents above were consistent with those of IAAS. Program goals to meet the several objectives have been carried through from the initial work plan to the present. In brief, IAAS/MUCIA/AID program goals are composed of:

1. Development of IAAS staff.
2. Organizational development.
3. Program development (degree, research and extension programs).

4. Administrative support programs (physical plant, services)
5. MUCIA team management (support system in the remote area of Rampur).

E. Changes since the beginning of the contract in 1976.

Beyond including in this document, for the record, the above sets of objectives, several changes in direction in this program have occurred which are vital to understanding the operational environment in which this work plan is placed. Briefly, the mission of IAAS at the beginning of the project and that of today, is summarized:

1. In 1976, His Majesty's Government (HMG, the government of the Kingdom of Nepal) envisioned in Rampur, an institution (IAAS) which would provide practical agricultural training, at respective levels, for:
 - a. Teachers of vocational agricultural education in the secondary school system;
 - b. practical/technical training through one- and two-year certificate programs for HMG/Ministry of Agriculture and commercial agriculture personnel;
 - c. short-courses for farmers;
 - d. an array of non-formal educational programs for out-of-school youth and adults.
2. Today, HMG views IAAS as being responsible for producing:
 - a. agriculturists with practical training [(one- and two-year certificates, Junior Technical Assistants (JTA) and Junior

Technicians (JT), respectively];¹

- b. Professional agriculturists at the B.Sc. level.
- c. a program complete with teaching, research and extension responsibilities.

What has happened to the original mission in the intervening years? Have the vocational agricultural and non-formal educational programs been completed? Or set in motion? On the contrary, these responsibilities have been discontinued or their fate undecided or have been assumed, in part, by other agencies or institutions. The mission of IAAS has shifted from a practical, applied program of training to a combination of applied and elite agricultural education. These changes are not unusual and, frankly, appear to be sensible at this time.

¹The JT (second year certificate course) program was discontinued by decision of the Faculty Council at a meeting held in Rampur in mid-July, shortly after the departure of the authors. The Faculty Council is composed of the Vice-Chancellor, Registrar, other officials of Tribhuvan University, and HMG and Ministry of Agriculture officials. The Faculty Council made further changes in the IAAS program:

- a. The JTA (first year training course) program will be conducted in branch campuses and, if needed, at HMG farms with the collaboration of HMG, Ministry of Agriculture. The Ministry will select candidates for JTA training according to TU/IAAS enrollment policy.
- b. The B.Sc. in Agriculture sequence will be a straight five-year program following the School Leaving Certificate (SLC). Following the JTA-level of training, a student must complete a second year (Certificate in Agriculture) to be eligible to continue to the third year of the B.Sc. program. Candidates for continuation will be selected on the basis of their performance in the SLC examination with emphasis on the basic sciences, general science and English language.
- c. A Task Force will be formed to prepare a complete report regarding curriculum and other academic problems of IAAS.

These decisions are positive steps taken which will alleviate some of the problems and constraints identified by the authors during their assignment in June. These actions will help bring about a course sequence which is more closely aligned with training needs of students related to employment opportunities.

The exact nature, sequence, and rationale of these changes in original mission cannot be documented in detail here. They do represent, however, an important set of considerations against which MUCIA activities should be viewed. A more complete examination of the changed environment in which MUCIA and AID found themselves, and the implications thereof for the institution building effort, should be undertaken in the near future and a document completed by the end of calendar year 1982.

F. Current setting of the Project Work Plan

The growth of IAAS is significant and is seen easily. However, the Institute has suffered from a rapidly changing set of self- and super-imposed roles and goals, as seen above. It is currently attempting to flourish under these and other pressures which primarily include such unresolved issues as: 1) when and the extent to which IAAS should/will become autonomous; 2) whether or not the Institute should/will continue with the JTA/JT program;¹ and 3) who will be named as Dean on a continuing basis.

In light of past changes and current issues, this work plan sets forth some achievable targets for the remaining 27 months of the contract; a rationale for the priority of the targets; an insight into longer-range needs and prospects; and, some operational/philosophical principles which are vital for successful achievement of the goals. In considerable measure, the recommended activities are "change neutral," (to the extent that condition is possible in institutional development efforts), that is, those activities which are basic and

¹Refer to footnote on page 8.

inherent to an educational institution, regardless of constraints, disruptions, policy changes and the like. For example, sound curriculum development and instruction can and must proceed despite questions of internal vs external examinations or trimester/semester/annual instructional formats. It is in consideration of the many features above that this work plan is presented.

- 12 -

CHAPTER III - RATIONALE OF THE WORK PLAN

This chapter puts into perspective key features, the "flavor," for the overall development and expected execution of this work plan. Essentially, these features serve as guidelines, realities and/or tenets for both the work plan's execution and, most importantly, as bases for decision-making, the setting of and acting on priorities, in the short- and long-term.

A. Basic premises

The strategy in this work plan is founded on two basic premises which are woven throughout the fabric of the document:

1. that primary attention must be given to those activities, decisions, policies and procedures which will improve the skills, facilities, resources and programs that have been developed to-date.
2. that future expansion must continue apace but not at the expense of premise number one.

An example of the application of these premises is in the area of institutional management. To-date, more than 40 faculty members have been trained outside of Nepal at the graduate level and have returned to IAAS. The quality of their respective programs at IAAS in teaching, search and extension ranges from somewhat adequate to marginal. Few systems are in place to provide proper coordination of available resources and needs. Within the next two years an additional 20 faculty members will return from training abroad. This influx of staff will place extraordinary demands on an already fragile system if the system is not significantly strengthened beforehand. Consequently, the work plan repeatedly emphasizes the need to develop policies and

procedures with which to facilitate management of the current complex and large educational system. Action in this area will reduce, if not eliminate, problems inherent in rapid institutional growth.

B. Role of MUCIA

During the early years of MUCIA's participation in IAAS development, the Consortium's role encompassed all activities of the IAAS program. In brief, the project and IAAS were nearly synonymous. Increasingly over time, and as reflected by the current status of the IAAS, the MUCIA/AID Project became a major, but single, component in the larger IAAS program. Much of the daily operation is being conducted without direct MUCIA involvement. The involvement of TU, HMG, IAAS staff, and external donors in IAAS programs and expansion has increased. As planned, and as would be expected from the impact of an institution building effort, IAAS has exceeded the bounds of the MUCIA/AID project. As a result, the role of MUCIA in the growth of IAAS now must be one of focusing on improving the basic systems and policies which are in place, as well as on guiding, training and encouraging those who must assume the responsibility for conducting the day-to-day, detailed operation of the Institute. In short, MUCIA must focus sharply on those aspects which form the underpinnings of a dynamic educational institution; less attention should be paid to the minutiae of daily operation. An example of this may be appropriate at this point. In the area of teaching, for example, MUCIA inputs should focus on improving curriculum and course content, training of teaching staff, preparing job descriptions, and on developing sound procedures for faculty and student evaluation. Either much less or no attention should be paid to such activities as making sure that chalk is in a particular classroom for a specific class. MUCIA should foster the

strengthening of training, curriculum development and faculty/student evaluation through cooperation with the resources available in the Education and Curriculum Development Centre and evaluation facilities, both located within Tribhuvan University.

In addition to MUCIA's emerging role of operating within the scope of a larger educational system, time is a factor which limits the extent to which daily routines in the life of IAAS can fall within the purview of MUCIA staff. Only twenty-seven months remain on this contract, with little chance of extension, at least in its present format and mission. As a result, it is obvious to even the casual observer that MUCIA must direct its energies toward assisting IAAS in developing various systems, approaches and procedures which will be put in place (institutionalized) to serve well the transitions in even greater expected growth.

C. Achievability

Given the need to concentrate effort on improvements in existing programs and the limited role MUCIA can play as a component of a larger program in a relatively brief two-year time frame, it is the contention of this work plan that all parties must be realistic about and responsive to IAAS needs. While lofty goals and worthy aspirations are vital to institutional development, they serve no purpose if action remains untaken. Decisive action, based on sound, focused planning and prioritization is of the utmost importance.

Consequently, the work plan includes only those activities which, considering the inherent complexity of the Institute's program and the vast number of constraints to improvement, are likely to be achieved in the next two years. The number and scope of achievements may be viewed as either conservative or ambitious, depending on the reader's

norms for progress. In the estimation of the authors, only those items which appear "do-able" by MUCIA staff should receive major attention by MUCIA staff. Activities which appear possible but not probable should be either the responsibility of others or left undone.

D. Flexibility

Although by nature a written work plan is necessarily rigid, having specific actions and activities directed to achieve specific targets and goals, flexibility in the conduct of the project must be retained. Those who are responsible for execution of the work plan must be permitted to make reasoned judgements in adjusting to necessary change. But, those changes must also be based on the tenets and premises discussed above.

E. Constraints

There exists a plethora of real and perceived constraints to meeting project goals. The current Chief-of-Party has aptly focused on eliminating various excuses given for delays or the lack of action taken on specific activities. For example, if a faculty member is unable to teach a class because course materials have not been copied for distribution, those items are quickly copied. Maintaining a supply line and keeping equipment in service is vital for the smooth flow of teaching, research and extension activities.

Another problem-solving principle is suggested as an enticement for progress and creating order in the program. The concept suggested is "shift the problem"--i.e. change the nature of the problem by resolving the constraints rather than using them as reasons for inaction. For example, efforts should be directed to shifting the problem (by resolving constraints) of research field plot development to the

more desirable "problem" of how to publish the results of the research. This is a shift in the nature of a problem but not necessarily the difficulty. Regardless, major progress will have been made through a series of minor steps. The progress is positive and constructive.

F. Summary

This work plan reflects and emphasizes: 1) the need to improve the programs that currently exist in IAAS; 2) MUCIA's limited role in terms of scope and time; 3) the need to achieve completely a few programs rather than partially complete many; and 4) the need to retain flexibility in execution. In brief, the staff of MUCIA and IAAS are urged to keep in mind as the operational tenet "focus thyself." Much has been accomplished in the past six years; considerably more can and must be achieved in the next two years to assure a sound base for the future of IAAS. Advanced training and research must be continued, staff housing must be constructed, buildings maintained. With the recent return of two-thirds of the faculty members, major attention must be given to channeling and stimulating the talents of this significant resource. This is a new and challenging phase in the growth of IAAS, from which will emerge much of the fiber and soul of the Institute in the future. Policies and procedures put in place now will bear heavily on the degree of success of IAAS in the long run.

CHAPTER IV - SITUATION REPORT

The IAAS is unique and vital to Nepal. As the only institution for agricultural professional education in the country, it will and must produce agriculturists who can contribute significantly to enhanced efficiency of food production. In addition, IAAS faculty members will be drawn from the ranks of its graduates which places an even greater emphasis on the need for a quality program of instruction, research and public service. The following analysis highlights progress to-date and deficiencies in the current program which require major attention to achieve the desired goals in the next two-year period.

A. Teaching

The central mission of IAAS is to prepare students in basic and applied agricultural sciences. This mission is being met through a program of courses and practical experiences designed "to prepare the technical manpower required to work for various organizations related to agricultural development in Nepal" (IAAS Bulletin, 1981).

Whether this goal can be met will depend on:

- The degree to which the required curriculum covers the areas of knowledge, skills and experiences required by employers.
- The quality of teaching and education provided by the staff at IAAS.
- The amount and quality of "hands-on" farming experiences provided for students during their formal education.

At present, the IAAS staff consists of 43 individuals, two trained at the Ph.D. level, 34 with M.Sc. degrees and the rest at the B.Sc. level. There is thus a substantial core of faculty members with demonstrated competence in agricultural and related sciences. It is,

however, a young staff in a new institution, and this has to be an important consideration when assessing the quality of the educational program. Since it is a relatively young staff in an institution with few established traditions and performance standards in teaching, research, and extension, one cannot expect many of the normal socializing influences to be operating. There are no senior staff members to serve as role models for teaching. There are no senior researchers nor individuals to serve as models for performing research and extension activities. As a result the staff is "feeling its way" through many of these new roles into which they have been thrust. In some respects, it is remarkable that there has been as much progress as one observes. Considering some of these limitations and the fact that very few among the current staff have received formal training in teaching, training in the techniques of teaching will have to be provided on-site. Teachers will have to be introduced to the practices generally associated with good teaching. In the absence of such instruction, teaching will still be done, but perhaps at a somewhat lower level than could be realized given the potential quality of the staff.

1. Improving Quality of Teaching

There are several ways in which the quality of instruction and pedagogical skills can be improved at IAAS:

- a. Conducting intensive instruction in teaching techniques, including such areas as the preparation of lectures, alternative delivery styles, test construction, use of different communication modes, explication of course objectives, sequencing of topics, etc.

- b. Providing adequate access to instructional resources and teaching aids (films, overhead projectors, prepared visuals), conducting instruction in their use, strongly urging their use, and providing recognition for effective use of such resources.
- c. Encouraging staff to develop their own supplementary course materials starting with detailed course outlines but also including visual aids, handouts, worksheets, and handbooks or manuals. These, of course, presuppose a resource base which can assist in developing such materials in a timely and attractive fashion.
- d. Introduction by the Administration of incentives for good teaching and teacher accountability. It should require and keep on file updated course outlines; maintain stability in the number and range of courses staff members teach; monitor staff teaching; and perhaps institute over time an evaluation procedure.
- e. Develop a commitment among staff toward teaching, educating, and seeing that students pass exams and get jobs. This is no easy task, and may be impossible. It's worth the effort, though, and might be a problem dealt with by an educational consultant. It's hardly likely that IAAS is the first institution to experience a weak commitment among staff. The experiences and solutions of other nascent institutions should be drawn upon. Perhaps an exchange between IAAS administration and that of similar institutions could be fruitful in identifying some attainable goals and techniques.

2. Short-Term Actions

MUCIA will provide one or more short term consultants who will assist the IAAS administration with improving teaching techniques, course development, test construction and audio-visual resource uses as well as assist in devising instruments for staff and course evaluation, purchasing of textbooks and teaching materials, and establishing other practices which will upgrade the quality of instruction. MUCIA will also be responsible for developing with IAAS administration an implementation strategy, which will put some of these changes into effect over the next two years. The resources of TU's Education and Curriculum Development Centre could be utilized in this effort. It is suggested that as a possible inducement for staff compliance a remuneration system be developed whereby each staff member receives additional pay for producing a course outline meeting predetermined criteria. Although expedient, other more central non-monetary and monetary incentives must be developed to achieve quality of education objectives. Careful thought must be given to developing systems which are in the cultural context of Nepal and compatible with established traditions.

B. Curriculum Development

As a backdrop to the discussion on curriculum two important points have to be remembered. First, IAAS is first and foremost a teaching institution and how well it fares in attracting good students, gaining national recognition, and employment for its graduates will be influenced by the quality of the students completing the B.Sc.

program. Second, IAAS is, and will continue to be, staffed by individuals who, for the most part, have had almost no formal teaching experience during their graduate training. Both of these considerations suggest that a major effort be made over the next two years to upgrade the teaching and provide the necessary assistance to teachers so that their classroom performance is substantially improved. Again, obtaining assistance from Education and Curriculum Development resources in Tribhuvan University is recommended.

At present, curriculum adjustments are being made to accommodate recent higher-level decisions to move to an annual educational system and to institute external examinations. While there is some question about whether these recent decisions will remain in effect, they have to be taken as "givens" at this point in time. It is important, therefore, that IAAS (and MUCIA) accept, at least for the time being, that these two externally-imposed changes will remain in effect. Efforts are underway to review current course offerings, the number of courses students are required to take, the sequencing, coverage and overlap of courses, and actual course content itself.

Some of the curriculum and instructional deficiencies at present are:

1. The curriculum is not set, and in some cases outdated. In part this is due to the coming and going of staff for advanced training and to the shift from a semester to an annual system of instruction. Apart from that, the curriculum appears to be ambitious, perhaps overwhelming from the perspective of students. A large number of courses are required with a large number (up to 32) of weekly contact hours. Other influences are operating as

well, but whatever the reason the shape of the curriculum remains uncertain.

2. Course outlines have not been adequately detailed. At present there is no central location where outlines are on file, and for most courses there exists little knowledge by administration of actual course content. Consequently, there is little basis for evaluating instruction or judging the level of education students actually receive. Given the way in which annual, external examinations are set, it is imperative that much better and more detailed course outlines be developed. Currently, external examiners develop test questions from course outlines presented to them by the Dean of IAAS (these are contained in the IAAS Bulletin, 1981). These outlines are, however, ambitious in content, cryptic at times, nondescriptive, and in general probably not a good indicator at all of what is actually covered and presented in courses. On the surface, at least, it would seem that external examinations are being developed from outlines which may have little relationship with the composition and emphasis of what is taught.
3. The labs are not fully equipped, and much of the equipment currently in them is not operational. Again, the external examiners assume a certain level of lab work on the student's part, at least the amount indicated in the curriculum and course outlines. Again, their assumptions are most likely incorrect. This inadequacy is undoubtedly one of the reasons for the perceived (by students and employers) inadequacy of training.

4. Elective courses are not utilized in the current B.Sc. course program. The proposed revision of the curriculum includes only two electives, both to be offered in the last year of study. Each consists of two lecture hours and two hours of laboratory per week. It is ironic that although all students entering the B.Sc. program have some degree of specialization (plant, animal or basic science) in the first three years they all receive the same course program and graduate as "generalists." The proper application of electives, especially if there are more than the two courses proposed, will permit those so inclined to specialize to some extent, which should render them more competitive in the job market without sacrificing pertinent general knowledge. As an example, the need for all students to take a course in dairy processing technology is questionable. A student with primary interest in soil science should be allowed to select courses related to his/her area of interest rather than be required to take one having marginal value.

These deficiencies can be addressed in two ways. Short-term expertise can be provided in filling the gaps, primarily in developing a curriculum that will remain in place over at least a few years; instructing staff in teaching techniques so that what is to be covered is actually covered and covered well; and by bringing the labs up to the level where they can do what the course outlines suggest. Apart from what can be accomplished by short-term outside advisers, there is also a need for some internally-imposed control over courses and course content. Understandably, teachers will be resistant to changes

which may involve substantially more work and closer monitoring by the administration. It may well be the case, as many suggest, that teachers have little commitment to teaching and would leave if some of these changes were implemented. But it is also likely that in the absence of many of these changes IAAS may never mature as an agricultural institution.

One of the basic, underlying weaknesses of IAAS is a shortage of administrative experience. As was pointed out, few of the staff who were sent abroad for advanced training received teaching experience. It is also the case, and this may be even more critical, that there was very little training in administration in higher education or a related administrative field. One who did receive such training left; another took only a short course. Yet at present the size of the staff exceeds that of most large academic departments in MUCIA institutions, and over the next two years it will be increased by at least 50 percent. There is obviously a need for training in managing and motivating people, developing procedures for maintaining a smooth operation, handling conflict, developing commitment, establishing rewards and incentives, etc. So far there has been little realization that IAAS is a large institution (and becoming larger), and that specific skills for operating such an institution are required.

C. JTA/JT/B.Sc. Programming¹

The IAAS has the responsibility for training three levels of "agriculturists." The Junior Technical Assistant (JTA) enters a one-year certificate program at either the Lamjung or Paklihawa Branch

¹Footnote 1 on page 8 describes improvements made in IAAS course programs. The text in Section C. serves as background information related to these recent changes.

campus following completion of the School Leaving Certificate (SLC, equivalent to secondary level, with mathematics and sciences compulsory) and having specialized to some extent in plant, animal or basic science. Training for the JTA is in general agriculture including Extension Education, Farm Management, Animal Husbandry, Horticulture and Agronomy. JTAs are hired by the Ministry of Agriculture or by private farms and firms; some are selected to advance to the second year of training.

The Second-year certificate program produces the Junior Technician (JT) and is conducted at Paklihawa or on the main campus at Rampur. Selected on the merit basis for their second year of training, JT's receive instruction in basic sciences including Agricultural Chemistry, Physics, Botany, Mathematics and Zoology, Nepal Studies, English and Nepali language. JT's are hired by the HMG or private firms and farms or are selected to begin study for the B.Sc. degree.

The B.Sc. program is three years in length. The proposed curriculum will include 28 courses, of which 14 are in Plant Sciences, 6 in Animal Sciences, 6 in Rural Development (Extension, Sociology, Agricultural Economics, Statistics) and 2 elective courses. Emphasis on the plant sciences will be maintained at about a 3:1 ratio to the animal sciences and 1:1 with all other courses combined. Two classes already have completed the B.Sc. degree program.

It is difficult to assess the quality and relevance of this tripartite program. It is doubtful that the training given to meet the specific requirements of JTA's and JT's is fully adequate to meet the needs for students entering the three-year B.Sc. program. On the other hand, if the nature of current training at the JTA and JT levels

is adequate for those entering the B.Sc. program, first- and second-year certificate programs may be inadequate to serve the needs for work by JTA's and JT's. It is difficult to imagine that all course levels blend sufficiently well to produce three distinctly different products from one common educational track. What is known is that remedial courses are already given to JT's entering the B.Sc. program, to make up for deficiencies not found in individuals entering from the basic program given in the first two years at Tribhuvan University.

In brief, it is recommended that the appropriateness of course content at all three levels be examined closely--three distinct products suggest the need of three somewhat distinct programs, although some overlap would be expected.¹

D. Work Experience Program

A "rural practicum" or "Work Experience Program" (WEP) is certainly desirable as part of the IAAS curriculum. As envisioned at the present time, it appears that the program is and will continue to be unwieldy. We would suggest that the WEP would be most beneficial to Class III, and thus should be eliminated for Classes I and II. This would make it much more manageable for both administration and staff. There are also questions of how useful this practical experience is if it is required of everyone in the Institute, and if students who know very little in the technical areas are asked to develop a meaningful work program. For the third year students, then, there should be several options which would fulfill the requirements of a WEP. They could serve as interviewers on a staff member's research

¹Please refer to footnote on page 8.

project, work in the Rampur extension office, work on the Pilot Extension Project, or even design a project which involved farmer contact. There should also be some formal requirements of students in the WEP. At a minimum they should be required to write up a "work plan" (what they will do, for how long and to what end) and a final report (what they did, why, etc.).

E. Research

It is understandable that if teaching were not a part of the advanced training of most of the staff, much more attention would have to be given to developing these skills upon return. Conversely, one would expect that since their advanced training was primarily research-oriented, this would be the area in which the staff would demonstrate competence and strength. That has not been the case, despite the importance of research in improving the two other major functions of the Institute, teaching and extension. The reasons why research has received such low priority are as varied as the individuals queried. They range from the inadequacy of facilities, to a lack of incentives, to a belief that what has occurred has been better than what one could have expected. As is often the case in these types of issues, real reasons are hard to come by. At a superficial glance it appears that the laboratory-based research has not progressed nearly as far as has field-based research. It may be the case that there is a better "fit" between the field-based research that individuals conduct while taking advanced training and the conditions under which research has to be conducted in Nepal. The disparity between laboratory facilities in institutions where the staff received training and what they are faced with upon return is enormous. In

particular, there are vast differences in the maintenance and care of such facilities and equipment. In most of the labs at IAAS it's hard to envision any research being conducted at all, let alone quality research.

Despite the low level of research to date, there is a fragile but improving base. There is an active Research Committee, and with MUCIA support research proposals have been developed and funded. (cf. Attachment 5) To sustain this research thrust, however, there should be a closer examination of constraints and possible incentives. Questioning of some researchers has suggested several possibilities:

- The amount of research a staff member engages in should be a factor in allocating formal responsibilities across the teaching, research, and extension areas. There is no evidence that an individual with a substantial research commitment will be required to teach less. In fact he may teach more than an individual with no ongoing research. As the system currently operates the aggressive, hard working, innovative individual is rewarded with more work and little else. Although this problem may be obviated somewhat as the staff expands, it is time to take a close look at current inequities with regard to formal responsibilities.
- If research is to be reinforced it should be supported. Support for research is now provided by MUCIA funds and includes, where appropriate, such items as the provision of additional pay during vacation periods when research is underway, vehicles (bikes equipped for research, for example) for traveling back and forth between campus and research sites/Institute farms, minor pieces of equipment which seem to be in short supply (calculators,

cameras, typewriters), and backup support in the typing and reproduction areas. A policy is needed to provide research support on a continuing basis. Beyond material support, there ought to be some evidence that research efforts are recognized by administration. The feeling by staff is that whether one engages in research and publishing matters very little.

- Beyond its intrinsic merit, research conducted under local conditions yields knowledge which must be incorporated into course content. IAAS graduates will be working on Nepali agricultural problems; they should base their work on locally-verified principles. Definitive systems must be developed to encourage and assure the utilization of the knowledge gained from local research in teaching and extension programs.
- Publication of research should be encouraged. Several staff members have quite respectable publication records but feel that this was done almost entirely on their own. Encouragement could be provided by IAAS' agreeing to pay page-charges when so required by an international journal, (this has occurred occasionally--a clear policy is needed) providing a free copy service to produce the number of copies required by journals, and providing travel funds to meetings at which research results are presented. Regional travel is now possible (see Attachment 6A, notes).
- Technical materials necessary to keep abreast of research and research methods, as well as to develop research courses, should be readily available. The development of the library has contributed well toward resolving this problem, but access to new

texts and materials is still seen as a major problem. Faculty members are urged to make more diligent use of the library facilities to strengthen their work and to encourage student use of the library.

1. Research Funding

Until recently, there has been essentially no research budget at IAAS. At most, the Institute allocated about 15,000 rupees (about US \$1,150) annually for research. The research funds set aside by MUCIA have been a great stimulus to research, particularly among the staff who do not need laboratories for research. They have demonstrated in a relatively short time that with appropriate incentives the latent research talent can be released. These funds represent precisely the type of incentive necessary to move research, as well as other activities, forward.

The "Research Guidelines" (Attachment 5) which were developed to implement MUCIA's funding decision also represent an excellent model for establishing procedures to guide other parts of the institution. These guidelines detail a funding procedure, identify conditions of funding, point to several areas of need for research, and raise key issues related to institutionalizing the program. The results to-date of this effort have been very encouraging, with the disbursement of nearly \$50,000 across 11 approved research projects. Within the next few years these projects should begin to provide data that can be worked into extension efforts, curriculum improvement, as well as provide a base for expanding research. These spin-offs, however, are not automatic; IAAS, as well as MUCIA, will have to begin to develop these linkages and ensure the support for their continuation.

2. Short-Term Actions

MUCIA will continue to encourage the development of research proposals, particularly research oriented to the farm, as well as provide the necessary funding and whatever other technical assistance is necessary to prepare proposals and carry out research. If necessary and warranted, additional funds will be devoted to this activity.

The program will be carried out by long-term staff who have had research experience. A major component of the job description of one senior staff member will involve implementing and improving where appropriate, the "Research Guidelines" now in place. This involves eliciting proposals, working with staff in defining research problems, detailing research and statistical procedures, establishing a time frame and budget, and doing whatever else is necessary to carry the research through to the publication stage. This system is in place with the current Chief-of-Party, and it will be continued.

It is suggested that IAAS explore expanded cooperation with TU's Research Centre for Applied Science and Technology (RECAST) the program. The results to-date of this effort have been very IAAS serves as a member of the Research Advisory Board of RECAST which should enable this resource to be readily accessible. IAAS faculty could spend time at RECAST to learn needed skills.

3. Long-Term Actions

AID/N should consider ways of extending some of this funding effort beyond the next two years so that the research talent among the staff will continue to produce applied research on

local agricultural problems. IAAS, for its part, must begin to demonstrate a long-range commitment to supporting research among its staff, by creating incentives and increasingly assuming much of the cost in its own budget.

F. Laboratory Facilities

The lab equipment situation is this: some equipment is in place and being used; some has been ordered; some is in need of repair or cleaning; and some is on site but not in operation. There is an immediate need for developing an equipment inventory which specifies in detail, at least for the major pieces of apparatus, the name, serial number or other identifying information, and its condition (whether operating according to specifications, in need of adjustment or repair, or even operating at all). For the equipment operating it will have to be noted whether it has been broken or simply not assembled, and the exact nature of the problem. Such an inventory will serve as a document which can be used to identify needs for expertise in repair, calibration, adjustment, or assembly, as well as to identify present and future equipment needs. Once this inventory is prepared an effort should be made to quickly determine what portion of the work can be performed within Nepal. What can't will have to be done by a short-term consultant, either from the U.S. or elsewhere. What is critical, however, is that an inventory be developed and that it be as minutely detailed as possible. This will clearly facilitate the selection of an expert and help him/her make a determination of what is required to do the job.

A secondary, longer term need is for the development of a repair and maintenance capacity locally, whether on campus or in-country.

The Research Centre for Applied Science and Technology (RECAST) in TU has resources to assist with this effort. It is obvious that it is not possible to develop this capacity in a short period or with a wide range of services. It is possible, though, to begin to develop rudimentary skills which can go a long way toward solving some repair and maintenance problems. If this is a desirable goal, and a recognized possibility, there should be an immediate identification of a person who could be trained, either under a short-term advisor or in an out-of-country institution. Whichever option is chosen, it should be done quickly. If it is to be done by a short-term advisor, this will have to be included in a detailed job description. As an additional aspect of this possible short-term position, it is advised that an effort be made to identify individuals with the required expertise, and then an effort be made by MUCIA to recruit this person or persons. The vagaries of recruitment should not be left to chance.

1. Short-Term Actions

A thorough inventory will be made of laboratory and field research equipment, supplies and chemicals. MUCIA will prepare the inventory, arrange to make whatever repairs, installation, or adjustments are necessary. It is expected that a short-term consultant with expertise in equipment maintenance will be needed. When this task is completed a careful selection of additional equipment, supplies and chemicals will be purchased, depending on research needs. Cooperative programs with RECAST are recommended and should include IAAS faculty training at the Centre.

G. Extension

It is inappropriate to judge IAAS' Extension efforts against any set of formal extension precepts. The efforts at IAAS do not constitute an extension program; they do not represent an extension service; and they are not an extension system. It is also unlikely that IAAS would lay claim to its extension efforts being any of the above at this time. What the "extension" effort does consist of is a set of rather discrete activities which are being used in an attempt to establish a relationship between local farmers and the Institute, provide staff and students with exposure to farming conditions, and extend existing scientific knowledge to farmers. In some respects this is happening and there is a growing awareness among the staff of the need for extension activities. Farmers are coming onto the campus for demonstrations; they are using a contact office for veterinary and crop problems which has been set up in the village of Rampur; the breeding service is occasionally used; some work is proceeding on fruit preservation; pesticides and insecticides are being sold to farmers at cost; demonstration plots have been established in places visible to farmers; price information is being provided for local farmers; and so forth.

It is too early to judge the worth of these activities or to determine if they will evolve into anything approximating an extension system over a broader area. In addition, the role of extension by IAAS within the larger national Extension program has not been clearly defined. It is even difficult to judge how much effort among the entire staff is devoted to extension. Given the resources available, the lack of training and formal instruction in extension among

students and staff, and the paucity of knowledge about farmers' needs and problems in the area, it is not possible to progress quickly. However, something is in place, faculty are involved in extension-type activities, extension has been incorporated into the curriculum, and there is a mounting enthusiasm toward extension.

Prospects for a more than rudimentary extension effort are reasonably good. A returning staff member with an M.Sc. in extension education should be able to provide the conceptualization needed to undergird an extension effort. This is currently lacking among both students and staff. He should also be able to provide the necessary formal training in extension so that whenever students' work projects materialize they might result in a better understanding of farming conditions and farmers' problems. The recently developed Pilot Extension Program, similarly, should yield information useful in promoting extension activities. Other field research and surveys currently underway should provide an opportunity to disseminate locally-generated research results and recommendations to farmers. At present, almost all of the extension effort consists of diffusing existing scientific knowledge, but not locally-adapted research. More research under local conditions is a high priority need.

Extension work will be more effective and self-sustaining when the following occur:

- 1) an awareness is developed of what are farmers' needs, problems, and actual farming situation; 2) there is a better mesh between research and farmers' actual conditions and problems; 3) when farmers are able to approach IAAS with a broad range of problems and receive answers to their specific problems in a timely manner; and 4) when

farmers themselves become disseminators of information by word or example to other farmers. Some of these prerequisites will require time, while others could be met within the next few years. Current cropping-systems research, which is of utmost importance in the Chitwan area, should provide a much better understanding of local farmers' needs. Some of the research underway on wheat, rice, and soybeans will provide a data base for extending with confidence information on various farm practices. This process can be accelerated somewhat by: a) providing more time for those staff members who are inclined toward extension to pursue their ideas and develop programs; b) providing equipment, such as vehicles, that will facilitate staff-farmer contact; and c) supporting the development of information delivery techniques that will be effective in spreading new practices.

A focus on youth extension programs is deemed appropriate over the long term. Participation of youth in practical farm-cropping and animal projects is judged to be within the charge of the Institute and a worthy effort in terms of improving the quality of potential students - a recruiting mechanism to some extent. Besides, it is an excellent investment in the future of farming and agricultural education in Nepal.

1. Short-Term Actions

MUCIA has provided, and will continue to provide, a long-term rural development specialist with extension training to assist with and expand the following activities:

a) develop a systematic needs-assessment survey to determine farmers' problems and production constraints by crop and type of enterprise; b) work with researchers in extracting relevant

extension implications from their data, and working these into brief, attractive publications which can be disseminated to farmers individually or in group meetings; c) providing staff with whatever is needed in the way of supplies and equipment for conducting their extension programs; and d) explore the possibility of providing separate funding for well-developed extension program proposals similar to that currently offered in the research area.

H. Support Facilities and Activities

1. Library

The library is perhaps the most impressive facility on campus. The design is quite pleasing, aesthetically; there is adequate space for expansion of holdings; lighting and ventilation are more than adequate; and there are quite good facilities in it for a variety of other functions such as conferences and seminars. Library holdings are now approximately 11,000, a quite impressive start for a new institution. In addition, most of the books have been catalogued, and a bindery operation is currently restoring damaged books. What remains to be done, however, is to get students and staff to use the library. Maintaining longer hours in the evening (recently instituted) will permit greater student use, as well as provide a place where students can go in the evenings. In addition, staff should be encouraged to require library work by students and should use it themselves. Staff members are quick to identify library needs and gaps in the types of existing library materials (for example, abstracts, methods and statistics texts, certain professional journals). This

perceived need can be capitalized on by eliciting staff members' suggestions for books and materials, ordering them, and then reminding the staff that action has been taken on their suggestions.

A well-developed plan is in place for converting many of the areas in the library into usable facilities. There are plans for a lounge, an audio-visual aids center, a browsing area, and a reserve area; most of these can be completed over the next two years.

a. Short-Term Actions

MUCIA staff can assume a key role in ordering the necessary furniture and other equipment needed to complete the library as planned. An inventory of student and staff needs can be undertaken, and the requested materials can be purchased and brought to the attention of staff members.

2. Institute Farms

The south farm area on the Institute's property is a distinct asset that will have future payoff through commercial production and providing space for experimental plots. At present it is difficult to determine how much use is made of the land or the buildings. Record keeping is not one of the strong assets of the Institute, and a trained farm manager is desperately needed. It is important, however, that something be done, and soon. Local farmers are already complaining about the land lying fallow, and some have expressed interest in farming the land on a share basis. Current land tenure law prevents it, but it would be interesting to see how well a farmer could produce on

well-prepared land using his methods. Much could be learned. Land in the Chitwan Valley is scarce and thus quite expensive, and each year many additional migrants are arriving in the area from the Hills. So with each passing year non-productive use of the land will become more obtrusive.

One of the immediate needs is for increasing the area under production and doing what is necessary to prepare a portion of the farm for experimental plots. This latter use should be undertaken with the direct involvement of researchers who will develop a research program. They have suggested that land grading is the first priority along with land levelling, channeling, fencing, and sinking a couple of tube wells.

a. Short-Term Actions

Long-term MUCIA advisors can play a major role in expanding the Institute's south research farm operation, and in setting up experimental plots. In addition, assistance can be provided in setting up a record keeping system for the south research farm, and in training a farm manager.

3. Staffing

At present there are forty-three staff members to cover approximately 28 proposed courses. On average, staff members have 10-15 class contact hours each week over a 30 week school year. The range, however is wide, from less than five hours/week to over thirty hours each week. The teaching covers the standard set of courses covered in an agricultural curriculum. Beyond teaching itself, instructors are involved in conducting what might be loosely called a "Rural Practicum" involving essentially

first-hand field experiences that will familiarize students with actual farming conditions and problems of farmers in the immediate area. This is in response to the presence of a large number of students without a farming background, and to the need for students to be exposed to the types of farm situations in which they may be involved upon completion of the B.Sc.

Two areas of expertise are not now covered by courses: agricultural engineering and agro-forestry/natural resources. These are particularly important areas in a curriculum, given the types of problems that exist in rural areas of Nepal and the targets identified in the 1978 Five-Year Development Plan. Every effort should be made to cover these gaps in the curriculum through temporary or permanent measures. Ideally, training abroad will alleviate the problem, but not quickly. Perhaps, a loan of personnel can be worked out with other external donor projects currently operating in the agro-forestry/natural resources area.

a. Short-Term Actions

MUCIA will arrange for participant training for an IAAS staff member in Agricultural Engineering. One has been identified. An effort will be made to identify an individual who might pursue training in agro-forestry/conservation of natural resources.

4. Staff Evaluation

At some point soon in the development of IAAS, staff evaluation will have to be instituted to allow the administration to:

a) identify the range in levels of work actually being done by

individual staff members; and b) permit the more aggressive and innovative staff members to obtain some form of recognition. The more dynamic staff members are quite supportive of a formal evaluation procedure, while those who have managed to avoid their responsibilities probably would not be. The administration has mixed feelings, seeing both the advantages and by courses: agricultural engineers in so many other cases, an equity principle seems to underlie such decisions, and the avoidance of divisiveness is a goal which is being maximized. Yet the range in work levels are themselves inequitable, and divisiveness is occurring. Whatever form evaluation takes, it will be a sensitive issue, and there is bound to be some resistance. Obviously, a lot will depend on how the concept and program are presented, and on how committed administration is to the task.

Without question, evaluation will always be viewed by some as a threatening process. Perhaps a beginning can be made by presenting it in the context of simply requesting that staff members prepare an "annual review of activities." Some of the areas this review could encompass are:

a. Teaching

1. Number of classes taught and labs conducted each week, by course title.
2. Number of hours of class contact/week.

b. Research

1. Number of titles of research projects currently underway.
2. Amount of funds earmarked for the research, and some estimate of the adequacy of such funds.

3. Progress to date on each project and expected completion date.

c. Extension

1. Where appropriate, a description of extension activities (what was done, for what clientele group, and for what length of time).

d. Accomplishments

1. For the current year identify any awards or recognitions that have been received.
2. List publications, including those in IAAS Journal as well as in other journals, extension publications, or newspaper articles.

e. Goals

1. Given the opportunity, and resources, what research/extension activities would the staff member like to spend more time on during the next year; what outcomes might be expected; how might these activities be facilitated?

If an evaluation of this sort could be implemented it would go a long way toward providing administration and division chairmen with a basis for allocating a staff member's time across research, teaching, and extension responsibilities. It would also provide the material needed to develop an external promotion effort (cf. No. 7, below) and to generate recognition for individual staff members.

f. Short-Term Actions

MUCIA will provide the short-term expertise to design an annual activity review, and to assess the information it yields. This should be one component of the job responsibility for the long-term Rural Development adviser.

5. Incentives for Faculty

The need for a faculty incentive and reward system is so vital and yet inadequately addressed to date that only brief mention of the topic is made here; to do otherwise would generate a major document in itself. It is clear that the ability of IAAS to hire and retain faculty from the beginning of the project through mid-1981 was based primarily, if not solely, on the opportunity for graduate study abroad. Insufficient time remains on the project to offer any more scholarship opportunities. Incentives must be developed quickly to minimize the flight of faculty to other opportunities. Two people have already left to pursue Ph.D. study on their own; one person resigned to assume a better position in the government.

The beginnings of an incentive system have been made. The MUCIA research fund has enabled faculty members to undertake important research. The development of farmer contacts and the Pilot Extension Program provide the opportunity for faculty and students to test and expand their knowledge which will lead to greater self-confidence and esteem. The library facility is vital for assisting faculty in keeping current with their professional fields. Increasingly, the physical plant and grounds will provide an atmosphere conducive to taking pride in the institution.

Major attention must be given to developing an ingrained incentive and reward system for faculty and to eliminating several serious disincentives. Notable among the latter is the severe shortage of adequate faculty housing. Less than 20 percent of

the expected new faculty quarters have been constructed; this housing is very adequate and well-located. The withdrawal of financing for the remaining housing may have been appropriate at the time this action was taken. However, at present, and for the future, the lack of sufficient housing for faculty members and their families will be a major disincentive which may not be overcome by an otherwise excellent system of rewards and incentives. At the moment, over half the faculty are living in old housing, in conditions which are substandard. It is unrealistic to expect those faculty members and the additional 20 faculty who will return by mid-1984 to remain in Rampur very long.

We strongly recommend that the faculty housing situation be corrected beginning immediately. External or HMG funding should be sought, or funds for other capital outlays should be shifted for this construction. The development of a quality teaching program will be for naught if quality faculty seek other employment. Again, those responsible should "shift the problem"--shift from the problem of retaining faculty with inadequate housing to the problem of how to assign faculty to the various classes of adequate and sufficient quarters available.

6. Extra-Curricular Activities

There is little for the students to do in the evening or during other free time. There are occasional films, some sports equipment, a few board games and little else. Even in those sports where there is some equipment there is not nearly enough for 350-450 students. Some activities, such as debates, are discouraged because of the animosities they may engender. As a

start toward providing a broader range of activities and increasing participation, it is suggested that additional sports be added or supplemented, such as volleyball, tennis, table tennis, and so forth. Several sports can be improved by purchasing new equipment (soccer and basketballs, nets). Eventually sports could be made more ceremonial with awards and recognition being given. The administration is convinced of the need for additional recreational activities and for improvements along these lines. MUCIA should work with IAAS to provide equipment and other resources necessary to provide students and staff with recreational outlets.

a. Short-Term Actions

MUCIA can inventory athletic needs, purchase new or additional equipment sufficient for participation by at least half of the student body, and can also oversee land leveling for courts and installation of equipment. MUCIA should encourage cooperation and assistance of TU's Extra-curricular Division and of the National Sports Council for program development.

b. Long-Term Needs

As the Institute matures, coordinators or coaches for physical education requirements, as well as intramural and competitive sports will be required. Provision of arts and cultural opportunities are viewed as a long-term essential ingredient.

7. External Promotion

All institutions, and especially newer ones, must periodically engage in self-promotion efforts. The tendency on the part of many educational institutions is to assume that their worth is self-evident. It seldom is. Self-promotion, in the case of IAAS, should/could take any number of forms:

- a. A lecture series in which representatives from donor agencies, HMG, Tribhuvan University, other institutes, and Department of Agriculture are invited. This would contribute well toward creating a favorable image of IAAS as the agricultural institution in Nepal, which it is.
- b. Preparation and dissemination of a brief annual report on IAAS' activities, faculty accomplishments, and research and extension activities. At present, these accomplishments exceed the popular impressions held about IAAS.
- c. Copies of IAAS Journal and reprints of staff publications could be distributed to interested parties.
- d. Press releases on IAAS activities, extension efforts, and staff research could be prepared for the media, and in particular, newspapers.

To date, little thought or effort have been given to such activities. An agricultural journalist is on the staff and many of these activities could be worked out with him.

a. Short-Term Actions

MUCIA can provide short-term expertise in agricultural communication for setting up an external promotion effort.

This would involve determining which of the above options are feasible, what procedures would have to be developed, and what would be required to carry out the chosen options.

Long-term staff could then oversee and monitor the progress.

8. Observations on Physical Conditions

Several observations have been made throughout this document on the physical condition of various parts of the campus, for example the labs and library. Many areas of the campus are presently either being upgraded or in disrepair because of ongoing construction. What will be noted here are some improvements which could be made immediately to immeasurably improve the appearance of the campus. First, there are several areas where construction has been completed and landscaping could begin: the area around the library, new classrooms, and new student dormitories. This may involve leveling and/or grass cutting. Second, the older student hostel is an eyesore. It is in desperate need of scraping, painting, and an internal cleaning; some of this is underway, but not progressing quickly. Third, gravel walkways could be added to link the new dormitories with the road. Fourth, the new classroom block and new dormitories are in need of an internal cleaning. Much of the dirt and dust in the classrooms came from recent replacement of blackboards, but many of the cobwebs have been there for a long time. In addition, many of the walls have students' class notes written on them. If the above improvements were made they would go a long way toward creating a campus-like atmosphere, and perhaps an environment which students would be less likely to deface.

I. Summary and Interrelated Issues

Principal issues which are interrelated to most of the program components highlighted in this chapter are important to understanding several recommendations in this work plan. First, the issue of IAAS autonomy is a potentially attractive feature to some degree. It is most attractive when one considers the need for the Institute to "tailor" its operation to the unique characteristics of an agricultural institution as contrasted with a non-agricultural institution. It is vital that income realized from research farm (plant and animal) operations be retained by IAAS for maintenance and continuing research support. The academic calendar should be more closely related to field research needs and timing. A return to the semester system could increase flexibility and is more conducive to the learning process. These modifications, tailor-making, would be more readily possible with some increase in autonomy; the case for complete autonomy has yet to be made, and probably cannot be fully justified. There are advantages, even over the long run, to retaining affiliation with TU-- these should be identified for a longer term analysis of this issue. The authors believe that complete autonomy should not be a central issue at this time.

Second, the linking of teaching, research and extension activities must be continually strengthened. Each complements the other areas. Teachers with research and/or extension programs become more precise in processes of intellectual thought and inquiry. They gain greater perspective on fact vs. fiction. Researchers can lend more validity to what is taught. Extension activities and applied research in cooperation with farmers and farm families provide real world truth

to technical and socio-economic principles. Each component must provide feedback for the others. The Pilot Extension Program provides opportunities to strengthen working linkages among the elements of teaching, research and extension. Other programs like this should be developed.

Third, the staff evaluation, reward and incentives system, for which MUCIA is providing assistance, must be preceded by development of thorough job descriptions and expectations. Without such a frame of reference, little useful evaluation (by peers or administration) can emerge.

Fourth, the results of research programs initiated recently by MUCIA will be forthcoming soon. A system (procedures and guidelines) must be developed to evaluate this research on its own merits, and to use this evaluation for future research and extension planning formulation and for incorporation into curriculum improvement. Research oriented to the farm is of high priority.

Fifth, a "program," be it in research, teaching or extension, is a special state. In extension, a program is composed of a series of activities which are designed, over time, to produce knowledge about farmers' needs related to a problem, with all efforts focused on resolving that problem. All resources must be in place to attack the problem. The current Pilot Extension Project will serve to identify one or more major, continuing farm problems. Once the features are identified, a focused, long-term, problem-solving effort (a program) must be mounted. Combined with monitoring and evaluation of attempted remedies, adoption of recommendations, their benefit/cost, a program can be said to be operating. In the process, valuable field

experience for faculty and students alike will strengthen the Institute's service to its clientele through improved training of teachers, researchers and extensionists. This is the central *raison d'etre* of IAAS.

CHAPTER V - SUMMARY OF MUCIA PROJECT ACTIVITIES, 1982-1984

Several vital activities have been identified for the remaining two years of the MUCIA project. Among these are long- and short-term inputs by MUCIA advisers and short-term training programs for IAAS faculty and staff. A summary of the MUCIA staffing is contained in Attachments 2 and 4. Budget projections for the remaining two years are presented in Attachment 6B.

<u>A. Short-term Specialists</u>	<u>Expected Roles</u>
1. Audio-visual and Teaching Techniques	- Improve instructional techniques and use of audio-visual and other teaching aids.
2. Laboratory Improvement and Teaching Techniques	- Improve laboratory teaching techniques and equipment/teaching aid utilization.
3. Curriculum Specialist	- Improve curriculum and course content; improve handling of academic records and course evaluations.
4. Laboratory Equipment Maintenance, Repair and Handling	- Repair, install, adjust and calibrate major laboratory equipment; develop system of glassware and chemical utilization and management.
5. Staff Evaluation	- Develop a system of rewards and incentives based on sound evaluation of staff performance in research, teaching and/or extension.
6. Library Science	- Continue improving all aspects of library management.
7. Agricultural Experiment Station Management	- Establish planning and management system for more effective use of Institute farms; integrate activities into research, teaching and extension.
8. Horticulture	- To be determined.
9. Extension Communications	- Design procedures for external promotion and techniques for translating research findings into user-oriented materials.
10. Agricultural Engineering	- To be determined.

B. Long-Term Specialists*

1. Current:

-Rural Development/Chief of Party (Dr. Garland Wood, 12/20/80-1/19/83) See Attachment 7 for Work Plan

-Assistant to Librarian (Mrs. Jeanne Wood, 12/20/80-1/19/83) See Attachment 8 for Work Plan

2. Agronomy Specialist (Recruitment is in process) To be developed in consultation with IAAS administration and staff. See Attachment 4

3. Animal Science Specialist** (Dr. Weslie Combs, 10/82-9/84) To be developed in consultation with IAAS administration and staff.

4. Rural Development Specialist (Recruitment is in process)

- a. Administration and development of MUCIA research funding program.
- b. Continue development of Pilot Extension Program.
- c. Promote development of extension programs for MUCIA funding.
- d. See Attachment 4
- e. Identify ways for disseminating information from current research projects.
- f. Conduct needs assessment survey of local farmers' problems.
- g. Develop inventory of research and extension equipment needs.

C. Unallocated Needs (many of these responsibilities will be shifted to one or more long-term positions)

- a. Development inventory of major laboratory equipment and assessment of condition of each.
- b. Order necessary laboratory equipment.

*Chief-of-Party for 1982-1984 has not been selected. However, the person selected should spend, and be permitted to devote, a majority of time on administration and management of the project. Inputs in the area of specialization are important but deemed to be a secondary responsibility.

**Has been identified but appointment not yet fully processed.

- c. Order necessary furniture and equipment to complete the library.
- d. Purchase needed library supplies and texts.
- e. Expand operation of south farm and undertake construction of experimental plots.
- f. Set up a record keeping system for the south farm and provide training for maintaining records.
- g. Make necessary arrangements for sending staff member for agricultural engineering training.
- h. Purchase equipment for athletic program and oversee leveling of land for courts and installation of equipment.

D. Short-term Training for IAAS Faculty/Staff

Several USDA courses for foreign agriculturists have been identified by Acting Dean Joshi as valuable strengthening opportunities for IAAS faculty and staff. All but one course can be offered in Nepal; all are given in the U.S. The authors of the Work Plan agree with these course selections but recommend that IAAS and MUCIA staff together also consider other courses as the project proceeds.

The authors favor course participation in both 1983 and 1984; in some instances, more than one individual should attend a course in 1983 and 1984. It is most likely that only one or two candidates can attend any particular course, therefore they should be sent to the U.S. for that purpose. When a course appears to have broad application for 15 or more persons, it is feasible to arrange for the course to be conducted in Nepal. Perhaps participants from other AID projects and from the HMG would have sufficient interest in a

particular course to provide enough attendees for USDA to conduct the training in Nepal. MUCIA would be eligible to bid on many of these courses, to use its own or USDA-prepared materials.

The following table lists the courses by USDA course number, title, dates offered in 1982, course length in weeks, and total cost in 1982 per participant sponsored through AID contracts.

<u>COURSE NUMBER</u>	<u>COURSE TITLE</u>	<u>DATES (1982)</u>	<u>LENGTH (WEEKS)</u>	<u>COST U\$</u>
TC 110-15	Agricultural Trainer Development	7/26-9/17	8	6508
TC 110-16	Vocational Agricultural Education Systems in Developing Countries	6/14-7/23	6	4695
TC 110-19	Communication Skills for Develop- ment Professionals	12/27-1/7/83	2	1960
TC 120-1	Irrigation Problems and Practices	6/14-8/6	8	6705
TC 120-5	Soil Testing, Soil Classification and Fertility Management	6/7-7/30	8	6492
TC 120-10	Land Use Planning in Natural Resource Management	5/24-7/2	6	5826
TC 130-9	Intensive Poultry Production Systems	5/31-7/2	5	4334
TC 130-10	Small Ruminant Production Techniques	6/14-7/23	6	5161
TC 130-11	Vegetable Crop Production and Marketing	7/12-8/20	6	4906
TC 140-28	Effective Livestock and Crop Management for Small Farms	6/7-7/16	6	5148

5

CHAPTER VI - BEYOND 1984

The long-range future of IAAS is bright if careful and decisive actions are taken now to strengthen ongoing activities and to establish well-founded policies, procedures and programs. Specific planning for IAAS programs after September 1984 is beyond the scope of this report. However, because the authors believe in the mission of IAAS and are optimistic about the Institute's future, we also believe that it is responsible to offer some commentary on features which will bear heavily on the extent to which IAAS will evolve into the quality institution envisioned by all concerned. Among these features are items such as the need to continue research; to develop innovative programs in teaching, research and extension; to use farm income for maintenance of buildings and facilities; construction of staff housing; to continue M.S. and Ph.D. training programs for faculty. These serve as examples; the list is exhaustive.

MUCIA's involvement in IAAS is scheduled to end in two years. The next two years are important, therefore, in ensuring that many of the activities already underway or planned are maintained. In just about every aspect of the IAAS operation, administration and staff will be required to assess the worth of what is being left in place; they must take responsibility and will have to do this without outside prodding from MUCIA or AID. Decisions will have to be made regarding continuation of support for many of the activities introduced and supported by MUCIA. Without continued support or reinforcement much of what is or will be in place will gradually erode.

The implicit tenor of this report has been that an institute operating in a rationalized manner, according to recognized standards of quality, and in compliance with procedures and rules established by administration and staff will be less likely to experience "erosion" than one where decisions

are ad hoc, quality standards are given low priority, and involvement of staff is minimal. It is necessary for IAAS to begin thinking about the future beyond 1984, if not actually begin to anticipate it. And the future will likely be quite different from the past: (1) much more accountability for relevant, quality training will be expected by employers, other HMG ministries, and external donors; (2) there will be fewer opportunities to incur progress through growth and expansion of facilities; (3) the formidable problems posed by students in the past are not likely to be repeated; and (4) many of the externally-imposed changes of the recent past will not be experienced again, and if they are IAAS will be better prepared to deal with them. It is important that IAAS staff and administration realize that many of the challenges of the past several years are behind them. New challenges will undoubtedly arise, but these can be countered more effectively if the institute is operating from a base of strength grounded in a good quality education, sound applied research, effective extension activities and well-instituted policies and procedures.

The following represent some selected areas in which the Institute's role will change over time.

Research: The research program currently underway is supported by MUCIA, IAAS and AID resources. IAAS has contributed in-kind and rupee support. It would be desirable at this point to have IAAS begin to assume in its budget at least part of the MUCIA/AID funding responsibility, gradually increasing its commitment. Ultimately, IAAS will have to decide the merits of continuing the present research support, and there is no better time than now to increase significantly the level of research funding into its budget. If this is not done there is a strong possibility that research at IAAS will greatly diminish in two years.

Role of Women: Pressures are probably going to mount in several areas: to admit female students (one was admitted but quit); hire female faculty members; and involve women in the applied research and extension programs. Current estimates by staff indicate that, given their role in agriculture, women are disproportionately underrepresented in IAAS activities. Greater efforts will have to be made to incorporate such a significant segment of the farm population into research and extension, and new extension activities will have to be initiated with a family orientation. Given the current roles of men and women in the area, it will be necessary to hire female staff members to develop programs for women.

Institutional Linkages: Generally, new institutions devote a lot of time and energy vying with more established institutions to establish an identity and sphere of expertise. At present IAAS is viewed as the central institution, but one among several in the agriculture/rural development/natural resource areas. So while its place is assured, its identity and reputation are not. In a country the size of Nepal, and at its stage of development, there is more to be gained from cooperation than competition. At present there are very few contacts between IAAS and the Ministry of Agriculture, with other institutes and centers within the TU system, or with external donor agencies. Such contacts could work to the advantage of IAAS: there might be opportunities for exchanges of personnel to fill some of the existing gaps in the curriculum; there might also be better opportunities to gain some insights into the types of skills demanded by employers of IAAS' graduates. While such contacts are desirable from IAAS' standpoint, they aren't likely to develop overnight. At the beginning, an effort ought to be made to at least familiarize other institutions with the programs and activities of IAAS, either through printed material or occasional meetings. (Some of these possibilities are outlined in Chapter III, F. 7).

Other longer term considerations are presented in Appendix 9. We are optimistic about the prospects for the success of IAAS, particularly if external assistance is utilized rationally over time, commensurate with the Institute's needs. The next five years are crucial for putting into place and sustaining those features which will best serve the IAAS and Nepal over time.

5/6

Attachments

Summary of Participant Training Program (6/76-9/84)

	<u>6/76 - 6/82(returned)</u>				<u>End-of-Project</u>			
	<u>Non-Tech.</u>	<u>B.libe</u>	<u>M.S.</u>	<u>Ph.D.</u>	<u>Non-Tech.</u>	<u>B.libe</u>	<u>M.S.</u>	<u>Ph.D.</u>
U.S.	3	0	19	2	3(0)*	0	24(5)	5(3)
India	3	1	14	0	3(0)	1(1)	15(1)	3(3)
Philippines	0	0	1	0	0	0	8(7)	0
Total	6	1	34	2	6(0)	1(0)	47(13)	8(6)

* Figures in parentheses represent the number of participants in degree programs as of June, 1982.

Summary of MUCIA Staff Advisory Assignments (6/76-9/84)

	<u>6/76-6/82</u>		<u>End-of-Project</u>	
	<u>Number of Assignments</u>	<u>Person-months</u>	<u>Number of Assignments</u>	<u>Person-months</u>
Long-term	11	228	14	252
Short-term	18	24	29	68
	<hr/>	<hr/>	<hr/>	<hr/>
	29	252	43	320

Staffing and Training Pattern (1976-84)

Nepal Project
AID/NESA-C-1197

(as of June, 1982)

Long-Term Advisors

George H. Axinn, Team Leader and Rural Development Michigan State University	6/21/76 - 7/20/78
Nancy W. Axinn, Non-Formal Education Michigan State University	6/21/76 - 7/20-78
Herbert W. Bird, Animal Science University of Wisconsin	1/1/78 - 4/23-78
Harry C. Bittenbender, Plant Science Michigan State University	8/18/78 - 12/31/80
Henry D. Foth, Plant Science Michigan State University	12/30/80 - 6/30/82
Paul F. Kaplan, Rural Development Michigan State University	8/10/79 - 9/9/81
Glenn Maddy, Extension Ohio State University	1/20/76 - 6/24/77
O. Donald Meaders, Agriculture Education Michigan State University	2/1/76 - 4/21/77
Rex E. Ray, Team Leader, and Education and Curriculum Michigan State University	7/20/78 - 9/30/80
Jesse B. Williams, Animal Science University of Minnesota	5/1/79 - 5/31/81
Garland P. Wood, Team Leader and Rural Development Michigan State University	12/20/80 - 1/19/83
Weslie D. Combs, Animal Science*	10/1/82 - 9/30/84
Michigan State University	
(Agronomy)	(10/1/82 - 9/30/84)
(Rural Development)	(2/1/83 - 9/30/84)

*Has been identified but appointment not yet fully processed.

Short-Term Advisors

George H. Axinn, Rural Development Michigan State University	8/7/80 - 9/18/80 3/11/80 - 3/31/80
John W. Beecher, Library Science University of Illinois	4/28/79 - 6/10/79
R. Keith Chapman, Entomology University of Wisconsin	8/8/80 - 8/25/80
Weslie Combs, Animal Science Michigan State University	1/4/82 - 3/4/82
Harry C. Coppel, Entomology University of Wisconsin	3/19/79 - 4/18/79
Robert J. Deans, Animal Science Michigan State University	6/10/78 - 7/15/78
John Libby, Entomology University of Wisconsin	6/4/77 - 7/6/77 4/7/78 - 5/8/78
Lynne D. Mark, Administration Michigan State University	6/8/78 - 8/31/78
H. James Miller, Campus Planning University of Illinois	6/24/76 - 7/10/76 2/1/78 - 2/25/78
Kenneth P. Miller, Animal Science University of Minnesota	10/6/78 - 2/16/79
Wallace W. Nelson, Farm Management University of Minnesota	9/16/77 - 10/18/77
M. Don Scherer, Student Records Indiana University	5/9/78 - 6/13/78
Harry Schwarzweller, Rural Development Michigan State University	3/15/81 - 4/3/81
Emmett E. Schulte, Soil Science University of Wisconsin	6/4/77 - 7/6/77 2/12/78 - 3/17/78
Marlowe Thorne, Agronomy University of Illinois	7/6/82 - 7/27/82

Participant Trainees

Degree, date returned

Rishi R. Adhikari, Horticulture Michigan State University	M.S., 1980
Tika B. Adhikari, Plant Pathology University of the Philippines-Los Banos	M.S., (1983)*
Ganesh M.S. Adhikary, Agricultural Economics Michigan State University	Ph.D. (1984)
Sribindu Bajracharya, Agricultural Economics Michigan State University	M.S., 1978
Dilli R. Baral, Horticulture Ohio State University	M.S., 1982
Bishnu B. Bhandari, Rural Sociology University of Wisconsin	Ph.D., (1984)
Ganesh P. Dahal, Plant Pathology University of the Philippines-Los Banos	M.S., (1983)
Durga M. Gautam, Post-Harvest Technology University of the Philippines-Los Banos	M.S., (1983)
Jaya Joshi, Soil Science University of Wisconsin	M.S., 1981
Uma S. Gupta, Agronomy University of Illinois	M.S., 1982
Nanda Joshi, Poultry Science Ohio State University	M.S., 1978
Nav Raj K.C., Administration University of Minnesota Technical College Waseca	Non-degree, 1981
Tej Bahadur K.C., Soil Science University of Wisconsin	Ph.D., 1982
Bhairav Khakural, Soil Science Michigan State University	M.S., 1981
Mohan Kharel, Animal Science University of the Philippines-Los Banos	M.S., (1983)

*Dates in parentheses indicate participants who are still in training programs as of July 1, 1982.

Participant Trainees (Con'd)

Narayan Kunwar, Agricultural Journalism University of Wisconsin	M.S., 1979
Tara Nepal, Crop Science Michigan State University	M.S., 1980**
Fanindra Neupane, Entomology University of Wisconsin	Ph.D., 1982
Bhola Pokharel, Agricultural Economics Ohio State University	M.S., 1981
Kailash Pyakuryal, Rural Development Michigan State University	Ph.D., (1982)
Shyam Sah, Animal Science University of the Philippines-Los Banos	M.S., (1983)
Maheshwar Sapkota, Animal Science Michigan State University	M.S., 1981
Nagendra Shah, Dairy Technology South Dakota State University	M.S., (1982)
Shanta M. Shakya, Horticulture Ohio State University	M.S., 1982
Bal Krishna Sharma, Dairy Management South Dakota State University	M.S., (1983)
Krishna P. Sharma, Crop Science Michigan State University	M.S., 1979
Padam P. Sharma, Soil Science University of Minnesota	M.S., 1980
Ram Sharma, Agronomy Ohio State University	M.S., 1982
Chandra M. Shrestha, Dairy Science University of Illinois	M.S., 1979**
Krishna Shrestha, Administration Michigan State University	Non-degree, 1979 (Resigned)

**is currently studying for Ph.D. on own funds.

Participant Trainees (Con'd)

Lakshmi Subedi, Agronomy University of the Philippines-Los Banos	M.S., (1982)
Murari Suvedi, Agricultural Education-Extension University of the Philippines-Los Banos	M.S., 1982
Resham B. Thapa, Entomology Michigan State University	M.S., (1982)
Jagadish Timsina, Agronomy University of the Philippines-Los Banos	M.S., (1983)
Satya Tiwary, Extension Education Ohio State University	M.S., 1979
Pradeep Tulachan, Agricultural Economics University of Illinois	M.S., 1979
Gopi Upreti, Horticulture University of Hawaii	M.S., (1982)

IAAS Participant Trainees
Direct USAID Sponsorship

Tiwari, Krishna Raj, Animal Science INDIA	M.Sc., 1976
Manandhar, Lalita, Library Science USA	Training, 1977
Shrestha, Anidrudra, Agriculture Education USA	M.S., 1977
Bhandary, Bishnu Bahadur, Agri. Education USA	M.S., 1977
Chaudhary, Laxmi Narayan, Library Science INDIA	B. Libe., 1978
Sah, Sahadev, Animal Science INDIA	M.Sc., 1978
Koirala, Ramchandra, Horticulture INDIA	Training, 1979
Shrestha, Khadga Bahadur, Agri. Engineering INDIA	M. Tech., 1979
Shrestha, Gyan Kumar, Horticulture INDIA	M.Sc., 1979
Dhakar, Durga Datta, Horticulture INDIA	M.Sc., 1979
Dangol, Badri Bahadur, Agri. Extension INDIA	M.Sc., 1979
Shivakoti, Ganesh Pd., Agri. Economics INDIA	M. Sc., 1979
Sah, Moti Lal Prasad, Agronomy INDIA	Training, 1980
Shrestha, Sundar Man, Pathology INDIA	M.Sc., 1980
Gurung, Sant Bahadur, Agri. Botany INDIA	M.Sc., 1980
Sah, Srichandra, Soil Science INDIA	M.Sc., 1981
Mandal, Chandra Kishor, Entomology INDIA	M.Sc., (1982)

IAAS Participant Trainees
Direct USAID Sponsorship (Con'd)

Nepali, Bainik Bahadur, Animal Husbandry INDIA	M.Sc., 1982
Tiwari, Sudarsan, Animal Husbandry INDIA	Training, 1982
Yadav, Jagat Lal, Animal Science INDIA	M.Sc., 1982
Yadav, Dev Nath, Agronomy INDIA	M.Sc., 1982
Chaudhary, Narendra Kumar, Agronomy INDIA	M.Sc., (1982)
Malli, Thakan, Agri. Statistics INDIA	Ph.D., (1983)
Mishra, Nand Kumar, Agronomy INDIA	Ph.D., (1983)
Shrestha, Anand Prasad, Agri. Chemistry INDIA	Ph.D., (1984)

Long-Term Position Descriptions (1982-84)

- Positions open: : Two long-term advisors - one in agronomy or horticulture, one in rural development/ Extension. Depending on qualifications, one of these two advisors will also serve as Chief of Party of the MUCIA/AID Nepal Project.
- Date of opening : October 1, 1982 through September 30, 1984 for both positions.
- Location : Institute for Agriculture and Animal Sciences (IAAS), Tribhuvan University, Rampur, Nepal.
- Project Objectives : The purpose of the Nepal project is to assist the IAAS in developing an integrated program of teaching, research and extension which is particularly suited to the needs of Nepal agriculture. This is being accomplished through the formal academic training of IAAS staff in the United States, India and the Philippines; long-term technical assistance in program development to IAAS staff in Rampur; short-term advisors; and infrastructure support for library, supplies, equipment and other logistics. The project calls for a total of three long-term

advisors in the areas of animal science, plant and soil science, and rural development.

Position Descriptions:

Agronomy or
Horticulture
Advisor

: This individual should have a Ph.D. in plant or soil science with relevant experience in higher education in the United States. Successful overseas experience in institutional development is highly desirable. As grains and horticultural crops produced on subsistence farms are characteristic of Nepal agriculture, emphasis should be given to a farming systems approach. The Agronomy Advisor needs to work broadly within his/her own discipline as well as across disciplines.

He/she must be competent and willing to assume a leadership role in the development of plant sciences in the IAAS. The Agronomy Advisor is expected to work closely with the MUCIA team, the IAAS administration, and the faculty in agronomy and horticulture in designing appropriate curriculums; in developing an applied research program at IAAS including a sound knowledge of plant science practices and problems in Nepal; and in forming appropriate

linkages with plant science divisions in the Ministry of Agriculture and other agencies in Nepal and abroad.

Of major importance are three elements in background and experience: (a) breadth of experience in plant science, both practical and academic; (b) willingness and ability to use that experience to contribute to plant science specifically, and to institutional development generally, as may be necessary and appropriate; and (c) willingness and ability to innovate and adapt as conditions require. He/she will be expected to teach a minimum number of classes, though the major responsibility will be in the areas of institutional and staff development.

Rural Development/
Extension Advisor

: The Rural Development Advisor should have a Ph.D. in an appropriate field of rural development with substantial experience in this area in the United States, and preferably in an overseas institution. Formal training in agricultural economics and/or rural sociology is considered the most appropriate background for this position. Ability to adapt and innovate as conditions require is extremely important.

The IAAS program must be suited to Nepalese conditions and needs, and not simply a transplant of U.S. institutional structures to Nepal. Willingness and ability to learn Nepalese is important as a substantial amount of work will likely be in the rural environment.

He/she must be competent and willing to assume a leadership role in helping the IAAS define its role in rural development in Nepal and in developing an appropriate organizational structure for filling that role. The Rural Development Advisor is expected to work closely with the MUCIA team and the IAAS administration and staff (1) in developing an appropriate rural development curriculum; (2) in developing an applied research program in rural areas to provide a knowledge base in the IAAS for teaching and implementing rural development in Nepal; and (3) in developing a system for keeping the IAAS abreast of rural development problems in Nepal and abroad. The Rural Development Advisor will also be expected to work closely within the Pilot Extension program and help integrate

this experience into the teaching and research programs.

As is the case with the Agronomy Advisor, the Rural Development Advisor must perform an integrative function working broadly within his/her own discipline as well as with others. Some teaching activities will be desirable but should not be a major responsibility.

Chief of Party

Qualifications

: Additional qualifications required for the Agronomist or Rural Development Advisor chosen as Chief of Party are as follows: he/she must be a mature individual with experience in academic administration and overseas institutional development. The Chief of Party is expected to give leadership to the MUCIA field team in developing a coordinated effort as well as work effectively with Nepalese administrators and teachers in staff and program development. It is important to provide imaginative leadership without exerting a dominating role vis-a-vis the administration and staff of the IAAS.

The function of the Chief of Party is to work closely with the Dean of the Institute of Agriculture and Animal Sciences in policy and program development. He should assist the Dean in short and long-range planning in all areas of institutional development, including work with staff committees, as may be mutually agreeable, to implement various phases of institutional development. He/she will coordinate the program with the AID Mission in Nepal, keeping them fully informed of progress and problems; he/she will also assist the Mission as requested in planning as related to such activities as commodity procurement, participant training, etc. There may also be an opportunity to teach a minimum number of classes and/or conduct seminars, as agreed upon with the Dean and IAAS staff.

RESEARCH PROPOSAL GUIDELINES*

As of July 1, 1981, there will be several lacs** of rupees available yearly for research by IAAS faculty. These funds are provided under the MUCIA/AID Contract to Nepal. The general guidelines for supervision and dispersal of these funds are provided in the contract. The implementing procedures below will allow scholarly review of research proposals and meet the contractual requirements for accountability of funds. These guidelines have been reviewed with AID officials as well as IAAS administrative personnel. These guidelines supplement the Revised Research Proposal Form for IAAS Research Committee dated March 9, 1981.

MUCIA RESEARCH FUNDING PROCEDURES

1. The research proposal is submitted to IAAS research committee by the researcher:
 - a) Departments or Divisions may do prior screening of proposals.
 - b) The research committee as outlined in Wood March 27, 1981 memo is composed of:
 - One member from each department
 - Dean or Assistant Dean
 - MUCIA Chief of Party
 - Invited participants including the proposed research leader or research team, interested faculty members and outside agency representatives.
 - c) Each proposal should include a clear statement of
 - 1) Why the problem should be studied.
 - 2) The researcher's knowledge of the problem--discussions with farmers, coworkers, other professionals.
 - 3) Review of the literature.
 - 4) How the research is related to researcher's on-going professional interests.
 - d) How does this research relate to the forward planning of researcher's department articulated in the 1981 JAR (Joint Annual Review), related to teaching, extension and research.

*First presented by Dr. Garland Wood, MUCIA Chief of Party in Memorandum #4, June 21, 1981.

**One "lac" equals 100,000 rupees or about US\$7600.

2. If favorably recommended by the research committee, the MUCIA research fund commitment will be made by the signature of the Dean or his designated authority and the MUCIA Chief of Party or his designated authority.
3. If research is more than six months in length, provision will be made for a biannual review. A shorter period for review may be set by the research committee.
4. At termination of any funded phase of research, an end-of-project report shall be submitted outlining research results and budget expenditures. Additional research funds to the listed research leader shall not be authorized until the previous research report is submitted.
5. Funds released to IAAS from MUCIA research fund and not expended for the specific research shall be returned to MUCIA with the end-of-project report.

RESEARCH COMMITTEE POLICY QUESTIONS

1. General Emphasis
 - a) Nepalese agriculture and related problems.
 - b) Farm-related problems.
 - c) Multidisciplinary problems.
 - d) Areas not now emphasized but needing support.
2. Major research thrusts, policy question

Shall IAAS cover as wide a range of subjects as the research interests of its faculty indicate or shall it concentrate the majority of research time and money on three or four main topics over the next four or five years? There are pros and cons on either side and this is a critical decision for IAAS at this stage of development.
3. Specific research areas to be considered (not prioritized)
 - A) Production
 - a) Crops - what crops, why? diseases, pests, utilization.
 - b) Soils - production emphasis, other rationale for emphasis.
 - c) Horticulture research - what emphasis, why?
 - d) Livestock research - what animals - focus on nutrition, health, new breeds, rationale for choice.

B) Farm Management

Helping farmers and their families make better use of their resources to improve their quality of life and that of Nepal.

C) Home Economics

A field of study receiving minimal attention as of now in Nepal but of critical importance for the future well-being of Nepalese families.

D) Rural Development

Farmers, their families and rural neighbors live in a matrix of institutions. Institutions are created by man to help them gain a better life but some institutions have lost their usefulness. How can we improve the institutions of education, communication, transportation, health, credit and markets that will improve the quality of rural life?

R.D. research work covers a wide range of social, economic, cultural and political factors. Choosing first priority topics requires much deliberation.

MUCIA CONTRACT
AID/NESA-C-1197

Budget Summary (1976-82)

	Budget 12/01/75- 9/30/84	Expenditures 12/01/75- 5/31/82	Balance*
(1) Salary and Wages	\$1,215,470.00	\$ 820,839.27	\$ 394,630.73
(2) Indirect Costs	640,005.00	423,843.20	216,161.80
(3) Fringe Benefits	315,648.00	194,473.34	121,174.66
(4) Differential Allowance	247,508.00	173,363.71	74,144.29
(5) Travel and Transporta- tion	556,536.00	297,434.72	259,101.28
(6) Equipment and Material	500,136.00	310,948.48	189,187.52
(7) Participant Costs	1,106,336.00	715,263.08	391,072.92
(8) Other Direct Costs	98,459.00	59,058.39	39,400.61
(9) Local (Nepal) Costs	397,712.00	134,018.38	263,693.62
(10) Research Support Costs	<u>162,500.00</u>	<u>-0-</u>	<u>162,500.00</u>
Total Budgeted Funds	<u>\$5,240,310.00**</u>	<u>\$3,129,242.57</u>	<u>\$2,111,067.43</u>

*Does not reflect obligated funds which are estimated to be \$699,450.

**Base budget unofficially increased by \$95,126 per PIO/T No. 367-0102-3-10029 (June 1982) to be used and distributed as follows:

"The contractor will fund invitational travel costs for: (a) approximately ten IAAS staff to travel to Asian regional seminars, conferences, and meetings dealing with agriculture or related concerns of the IAAS; (b) approximately 20 HMG officials to travel to Rampur for seminars and study/observational tours; and (c) two IAAS officials to travel to the U.S. to visit MUCIA institutions. (Estimated additional cost - \$41,000).

The contractor will fund costs related to improvement of the operation of the IAAS farm and IAAS extension program. These costs may include labor, seed, fencing, minor repairs and maintenance, and whatever additional costs allowable by AID, which are needed to improve the teaching and demonstration value of the farm and extension program. (Estimated additional cost - \$54,126)."

BUDGET PROJECTIONS (06/82 TO 09/84)

1. The balance of contract funds as of May 31, 1982 was \$2,111,067.43. Of this balance, \$699,450 of "obligated" expenditures were estimated. Included in this amount are known billings but in process of payment, and projected (known obligations) expenditures as follows (from 06/01/82):

a. Long-term Specialist (Woods and Foth)	\$ 41,666
b. Short-term Specialists (June/July 1982)	11,010
c. Long-term Participants	353,430
d. On-campus Support	99,400
e. Equipment and Material	1,500
f. Research Support Costs	41,556
g. Other Direct and Nepal Costs	<u>150,888</u>

"obligated" = \$699,450

2. AID has provided additional funds to the contract in June 1982 which are earmarked for specific purposes (see Attachment 6A) in the amount of \$95,126.

3. Summary of funds remaining through September 1984:

\$2,111,067.43	May 31, 1982 balance
- 699,450.00	"obligated"
<u>1,411,617.43</u>	subtotal
95,126.00	additional funds
<u>\$1,506,743.43</u>	total unexpended

4. Projected expenditures through September 1984 (including indirect costs)

a. Long-term Specialists	
3 persons @ \$108,000/yr x 2 years each	\$648,000
b. Short-term Specialists	
10 persons for 3 months each at \$9,800/mo.	294,000
c. Long-term Participants (four for MS degrees)	
Animal science, agricultural engineering, horticulture, forestry/natural resource management; 4 @ \$24,000/yr x 2 years	192,000

d. Short-term Participants	
10 persons to attend 1 USDA training course in each of 2 years (\$51,800/yr)	\$103,600
e. Research Support Program	
\$50,000 committed to first 11 proposals plus \$50,000 more recommended	100,000
f. AID Special Funds	
Regional travel, U.S. visits	41,000
th Farm and extension improvements	54,126
g. Project evaluation (November-December 1982) per PIO/T No. 367-0102-3-20066	<u>30,000</u>
	SUBTOTAL \$1,462,726
h. Unidentified expenditures	
Equipment, support services/ amenities, library purchases, etc.	\$ <u>44,017.43</u>
	TOTAL = <u>\$1,506,743.43</u>

Work Plan for Dr. Garland P. Wood

July 1, 1982 - January 31, 1983

I. Current and projected development at IAAS.

The fourth JAR held December 1 - 3, 1981 at Rampur currently foresaw many of the developments now taking place at IAAS. Leadership changes have taken place with a new Vice Chancellor and Rector at-post. The former dean of IAAS, Mr. N. Basnyat, is now the Registrar of Tribhuvan University. The new dean of IAAS should be announced in the very near future.

Discussions are currently underway in Tribhuvan University and in national level committees regarding the future structure and autonomy of the various campuses and institutes of Tribhuvan University. The new Vice Chancellor of Tribhuvan University, Mr. Singh, is in favor of more autonomy and decentralized decision making at IAAS but the specifics of such policies have not yet been made public.

Infrastructure development - The library building has been finished but it cannot be utilized fully for three or four months since tables, chairs, control desks and other wooden furniture will not be built before then. The additional and final classroom unit anticipated under this building phase has now been completed. The Cafeteria building has been taken over by IAAS and its first use was for the 4th Joint Annual Review. The old dormitory is still under renovation and new bathroom facilities on the east end are nearly completed. Exterior works of roadways, sewer, water and surface drainage channels continue under construction except as monsoon rains interrupt.

The Campus Development Committee has faced difficult decisions in recent months. Since there is insufficient USAID money to pay for all the faculty housing, student dormitories, bank, clinic, post office and primary schools incorporated in the original plan, cuts had to be made. Our committee decided to delay the building of several buildings until future funding is found; reduce the number of faculty houses to be built; reduce the number of rooms in the new student dormitories and economize on the structures of the clinic, post office and primary schools. Even some of those decisions are tentative depending on costs projected for the simplified structures.

The discussions at the 4th JAR regarding the need to actively seek other sources of funding for IAAS in addition to AID/N funding are beginning to bear fruit. An agreement between IAAS and Chitwan Development Project (CVDP) will provide a large increment of capital investment for the development of the Rampur Livestock Farm. The final implementing agreement has been signed. Some 3,900,000 rupees will be available for this work.

Faculty development remains a high priority for this project. Currently we have seven participants in training in the USA of which three are candidates for Ph.D. Three other Ph.D. candidates are at US universities being funded from other sources. Another seven M.Sc. candidates are at the University of the Philippines-Los Banos. Other faculty are currently in training in India under USAID direct funding arrangements.

The reorganization of IAAS from three divisions to six departments has required a reappraisal of further training needs. I have held numerous meetings with acting dean Joshi, the six departmental chairmen, Tribhuvan and other HMG officials to ascertain the most pressing leadership needs for

Nepal and IAAS. The consensus is that livestock and horticulture need immediate and sustained attention. Both fields have received major emphasis in the new five year plan. I have recommended to IAAS faculty and administration that MUCIA would be willing to fund Ph.D. candidates in these two fields. This recommendation has now been acted on and the possible participants' names have been forwarded to the responsible HMG offices and approved for training. Final funding arrangements and acceptance into desired universities is now being negotiated.

There is another field that is critical to IAAS and to Nepal. That is the field of Agricultural Engineering (See my JAR Report, The Journey of IAAS Appdx. A.). So far we have made little progress. IAAS salaries and perquisites have not attracted and retained a minimal staff. We have one Ag. Engr. on contract from India and we have proposed one of our faculty for an M.Sc. degree in Ag. Engr. at the University of the Philippines, Los Banos. I had hoped to bring a short term consultant in Ag. Engr. to Nepal but this would be unwise until counterparts are on the IAAS faculty with whom to work.

We have begun regional seminar trips and visits outside Nepal for individuals and groups of faculty members. We are encouraging IAAS faculty to interact more fully with Nepal professional staff as well. Funds are available for an expansion of both activities from MUCIA funds and from the Invitational funds now reassigned from USAID to MUCIA. We plan to hold one or two workshops in Rampur during the fall and winter period. Guest speakers will be invited and given an honorarium to present seminars at IAAS. At the fourth JAR, we discussed the problems of implementing decisions imposed from above that affect the quality of instruction and the course of

the institution. Four such decisions are being discussed at the national level that will have a major impact on IAAS.

1. The proposal that all JTA and JT training should be done in special centers under the department of Agriculture. This would include all students at the two satellite campuses of Lamjung and Paklihawa and over one-half the students at the Rampur Campus.
2. If item 1 is put into effect will IAAS maintain a responsibility for some level of training at the two satellite campuses?
3. Shall a temperate climate hill country horticulture farm become a part of the IAAS complex?
4. Will the annual system of classes with the system of outside examiners persist or will we again be moving to the semester system in a year or so. The long period of overlapping of courses with the semester system during the transition period is very burdensome.

Imposing buildings may be built, widespread lands and livestock acquired yet none of these are the essence of an educational institution. What we seek are trained faculty dedicated to the teaching, research and extension functions of IAAS. Their commitment must be more than to themselves or even to IAAS. They have a responsibility acquired from their years of training to aid the people of Nepal in their quest for a better life. They have a responsibility: to teaching so as to convey to an ever widening circle of students the knowledge available in their field from co-workers around the world; to research, since much of the knowledge of plants, soils, livestock and human management gathered in other nations needs testing in the Nepal environment; to extension, because extension's

contact with the farmer gives that empirical test of research that keeps us attuned to the needs of the rural dwellers.

II. Work Plans with IAAS Administration.

Development Administration is my field of concentration within the discipline of Agricultural Economics. Institution building is the essence of Development Administration. The present MUCIA/AID/N contract as stated in its Pro. Ag. recognized institution building as its major thrust at this time, quote, "Specialists may be called upon for diverse services, given the fact that staff at the IAAS is generally young and inexperienced. Such service will include teaching but it is the intent of the project that institutional planning and staff development will be of higher overall priority." Much of my time during the next months will be invested in the following institution building activities and managing the MUCIA support lifeline. These include:

- A. Continue discussion with IAAS and T.U. on budgeting needs including an augmented maintenance budget. Discuss strategic areas in which IAAS needs budget control. The Dean of IAAS has now received confirmation of the more than doubling of this year's budget. The maintenance budget has increased four-fold.
- B. Continue exploration with various international organizations for multiple funding possibilities for IAAS for both capital investment and future staff training.
- C. Continue talks on which units of a university system should be considered first if additional support is found for such ideas. Continue joint planning with administration and faculty for the long run development of IAAS.

- D. Continue discussions with IAAS and Tribhuvan University officials on desirable levels of autonomy at IAAS.
- E. Work with IAAS administration to establish an effective management of the North/South Farms and their integration with the teaching, research and extension programs of IAAS.
- F. Improve the arrangements for a joint MUCIA/IAAS clerical pool. Acquire the necessary machines so the faculty can have adequate handouts for students who generally do not own textbooks.
- G. Work with IAAS on a systematic upgrading of IAAS maintenance staff. This would include training and providing maintenance equipment and the perquisites to retain staff once trained.
- H. The managing of the MUCIA support lifeline is important to the effectiveness of long and short term consultants and to IAAS. There is a very large range of equipment, chemicals, machines and replacement parts required by a multidisciplinary technical institute such as IAAS. It is a long, tedious task to get such items cleared through Calcutta, transported to Nepal's border, cleared through customs and then try to decide whether certain items were never shipped or where they separated from the shipment.

III. Other duties.

In addition to the general institution building activities outlined in Section II there are a number of specific jobs, some of which reinforce the institution building thrusts. I will be involved with the following activities over the next months in the teaching function:

1. There is a need to reorder the sequencing of courses. Present courses tend to cover too much material. This encourages shallow understanding. There is much repetition of material in a number of courses. There is a need for the progressive building of course material in each of the fields of study. The first course outlines will be where we have long and short term consultants here at Rampur.
 2. There is a need for laboratory furniture, equipment and chemicals. We need to bring water, electricity and equipment to the two old laboratories on the east side of the campus. I will be working with MUCIA contract funds plus the Campus Development Committee efforts to achieve this objective.
 3. We need to acquire additional audio visual equipment plus the repair and maintenance of existing equipment so that the faculty will be encouraged to improve their communications skills in classes and seminars.
 4. We shall encourage teaching seminars to improve teaching techniques. These seminars will be presented by long-term consultants, short-term consultants plus specialists from Kathmandu.
 5. We shall continue discussions for a five year curriculum at Rampur with the possibility of remedial courses being offered. The curriculum will be heavily influenced by the nature of the decisions given to the issues mentioned in Section I.
- B. Research: The research program of IAAS is now moving. The research committee has considered some twenty projects since January 1, 1982. Three of these were low budget research of less than Rs.2,000/- and

will be funded by IAAS. Another 13 projects have been approved with a funding commitment of more than \$50,000. The remaining funds budgeted through January, 1983, are expected to be fully committed before that date.

My responsibilities for monitoring the progress of the research is spelled out in appdx. B Research Guidelines.

Additional research proposals are being written by IAAS staff and I am encouraging each returning training participant to get involved in research immediately.

It is anticipated that long term consultants will be actively involved in these research efforts.

We had ordered an Apple II data processing system to be air shipped to IAAS. This has now arrived and been installed in the new library building. We are now using MUCIA power generation for the Apple II because of voltage stability needs. As of this date classes are being held to acquaint all the faculty with the Apple II operations. Research programming classes will be started in August.

C. Extension

A farmers' field day was held on the Rampur Campus March 1. Our JT-JTA's working in the surrounding thirteen Panchayats brought over 300 farmers to look at crops, kitchen gardens, livestock programs, horticulture plants, soil laboratory, the maize seed program on the adjoining National Maize Farm and peanut production.

Our pilot extension project in the adjoining Panchayat has received much attention during the past six months. A brief report on the work there is given in appdx C. The project has involved a number of our staff in activities ranging from soil analysis, securing vaccines from Kathmandu to stem a Hemorrhagic Septicemia outbreak, dealing with insect infestations and senior students conducting farmers' surveys.

My involvement in this extension program is through our extension committee which monitors our extension program, supporting the program through MUCIA vehicles, secretarial facilities and funding if needed. Research projects are also directed to the pilot extension project so I'm involved through the research function as well.

- D. Livestock Program: I will spend the necessary time with the livestock faculty to encourage its growth until the long term livestock advisor arrives on post about October 1. The Vice-Chancellor has already augmented the present livestock staff and the additional faculty that will be returning from training during the next 10 months will strengthen teaching, research and extension functions of the livestock unit. There is a major need for a nutrition laboratory, dairy processing equipment and research equipment including weighing scales. The Chitwan Development Project fund will add needed monetary inputs for the overall strengthening of the IAAS livestock effort.
- E. Interaction Committees: I will continue active involvement in the Campus Development Committee, Research Committee, Extension plus other committees when requested for MUCIA representation. I also attend faculty meetings and meetings dealing with the Primary School and

medical needs. Faculty members have emphasized that two of their main concerns about living in Rampur are the lack of good schools for their children and inadequate medical facilities. The schooling facilities are improving both at the on campus public school and the new private school. The medical facilities are minimal or non-existent. A medical doctor and clinic are available in Bharatpur, 10 kms. from the campus.

- F. MUCIA Support System: Managing this support system is a daily responsibility in personnel direction, ordering supplies, budgetary matters, record keeping, monthly and semi annual progress reports, other reports including this one.
- G. Rural Development Advisor: The Rural Development division is now divided into the Department of Basic Sciences and Humanities and the Department of Rural Development. To date the Rural Development faculty has also carried the major responsibility for the IAAS extension effort.

As previously explained in this work plan I have been directly involved in all aspects of the extension effort. In the Rural Development department I have met with the curriculum committee to evaluate the sequencing and integration of the courses offered. This effort plus encouragement for the developing of course outlines will be carried out in the months ahead.

The R.D. faculty is short handed at the present time. Three of its senior staff are in the US working on their Ph.D. degrees. Two others are campus chiefs of the Lamjung and Paklihawa campuses. Another member is slated to go to the Netherlands for a year's training

in the near future. Even with over half the faculty away from Rampur research is ongoing. We have three major research projects funded by MUCIA in the areas of farming systems, communications and an evaluation of B.Sc. graduates of IAAS. Mr. Subedi has recently returned with an M.Sc. degree from the Philippines and Mr. Kailash Pyakural is expected to return shortly from Michigan State University with his Ph.D. degree. The addition of these two to the department should add a leadership dimension to our teaching, extension and research effort.

H. Lessening IAAS Isolation: This refers to professional isolation and various approaches are being used to overcome this problem. In October, I took six faculty members to visit National Research Centers, three major universities and stations in New Delhi and the Punjab region of India. See my report appdx D. Dr. Foth has taken two faculty members to attend the International Conference of Soil Scientists in New Delhi. A number of individual faculty members have participated in regional conferences in Bangkok, Indonesia and the Philippines. We shall be encouraging an increase of this professional interaction.

Summary: The years of effort at IAAS are now reaching the payoff stage. Senior faculty of IAAS are now returning with highest academic degrees. Mr. Khatri Chetri, Tej Bdr. has recently returned with a Ph.D. in Soil Science from the University of Wisconsin. Mr. Fanindra Prasad Neupane is now with us with a Ph.D. degree in Entomology also from the University of Wisconsin. In September, Mr. Kailash Pyakural will be returning to IAAS

Attachment 7
Page 12

IAAS with a Ph.D. in Rural Sociology from Michigan State University. These three have a heavy responsibility in furnishing the academic leadership for IAAS in the years ahead.

Submitted by Dr. Garland P. Wood
July 1, 1982

Work Plan for Mrs. Jeanne Wood
Assistant to the Librarian
IAAS, Rampur Library
July 1, 1982 - Jan. 31, 1983
(Not necessarily in order of importance)

1. Continue cataloguing new books and new materials in the Documentation Center. This is an on-going process and will require one person full-time. The present Librarian must be encouraged and trained in the following months to take more of this responsibility as well as develop a card catalog for the Nepali books. Also now that our Documentation Center is established, new materials must be sought out at their sources in Kathmandu, i.e., U.N.D.P., F.A.O., UNICEF, and the myriad project offices. Volumes of research are being printed, but little effort is put into the distribution of same. These materials must be sought after and brought to Rampur to keep us abreast of on-going research. International agencies, i.e., IRRI, CYMMIT, etc. are much more generous with the distribution of their publications.
2. Assist the Librarian in preparing a new checkout system to be implemented at the opening of the new library, after summer break July 1982. The present system is cumbersome at best, and currently the Librarian is spending a week at the T.U. library in Kathmandu to fully acquaint himself with their system as well as other procedures.
3. Prepare a student guide to be used in conjunction with the new library. This will include rules, procedures, location of materials, use of the card catalog, Dewey Decimal System, etc.
4. Bring together bindery equipment for the new library. This will include the training of a technician in its use as well as the on-going

process of book repair. To date, 282 volumes of journals have been bound in Kathmandu to bring our current collection up to date. Missing issues have been requested to complete the collection.

5. Continue ordering of textbooks from the U.S. This will necessitate motivating the IAAS staff to check book reviews and catalogues within their area of interest. From January 1981 through June 1982, over 1,500 books have been added to the library. Of these, almost 400 were from a U.S. donation and about 400 funded by MUCIA. Several hundred more are now on order.
6. Continue input into the campus Development Committee until the library furniture is complete and the building is in operation. Furniture completion date is now targeted for October 1982. In the meantime, we are functioning with new book cases and old everything else.
7. Continue pursuing agencies that might fund a textbook subsidy that would allow students to buy textbooks at a reduced rate or rent on a semester basis. This system is being used in India with great success and we would like to see it implemented here.
8. Consolidate the audio-visual equipment into the new library. This will involve the training of a technician to handle the equipment, as well as evaluating the current equipment in relation to anticipated needs. We plan to develop a learning center for English, as well as introduce a microfiche/ film system on an experimental basis. Previous library facilities prohibited housing this type of equipment.
9. Encourage policy/budget makers to be realistic in assessing the staffing needs of the new facility. The facility will only be functional as they allow for expansion of staff. On an experimental basis, MUCIA

has been funding overtime help during 1982 so that the library can maintain evening hours (not funded in current IAAS budget). We were recently asked to extend from 8:00 P.M. to 9:00 P.M. to meet the student demand. This is one of many areas that need realistic evaluation.

10. Maintain some sense of sanity and sense of humor during the actual move from the old library to the new. This may be the greatest challenge yet. (This was accomplished the first week in June 1982).

Submitted by Mrs. Jeanne Wood
July 1, 1982

Additional Recommendations

The principal recommendations have been discussed in the text of this IAAS/MUCIA Work Plan, to serve as a reference for those responsible for implementing the activities.

Note: All parties to the contract must prioritize the recommendations in the process of reaching accord on the plan. Prioritized and distinct actions can then be incorporated into a revised operational plan.

Given the nature of IAAS' development, the authors are aware of the temptation and immense opportunity to generate an exhaustive list of all possible recommendations for all time. However, we believe that it is realistic and useful to set forth primarily those recommendations which are central to the mission and capacity of MUCIA in the overall IAAS development effort. Further, it is useful to provide some information and insight to guide implementation; this has been done in the text.

It has been suggested that, ideally, all recommendations should be implemented by the recommender. This is not practical in some cases but is encouraged in other cases, for example, through the use of short-term specialists on a repeat visiting basis. However, the IAAS staff and long-term MUCIA field team must take primary responsibility for implementation of the recommendations by using their judgment, imagination and initiative to determine how best to proceed to complete all agreed-upon tasks.

The following additional recommendations to be considered are presented in no hierarchy of importance; all are important, they bear heavily on the success of the IAAS, and are either broad-sweeping or narrowly-focused in content. Some may overlap with portions of recommendations in the text.

- A. The current Chief of Party, Dr. Garland Wood, is encouraged to write a scholarly treatise on the IAAS experience in institution building. He should draw upon his experience at IAAS, with special emphasis given to the development administration perspective. This work would be separate from his end-of-tour report. It would enhance the in-country understanding of the development needs of such an institution and would contribute significantly to the U.S. store of knowledge on institution building concepts. Dr. Wood should be allowed ample time to devote himself to this work before his assignment ends in January 1983.

- B. A document should be prepared before the end of 1982 which outlines in detail, and provides the rationale for, the changes in direction of the MUCIA project, AID support and IAAS/HMG priorities since the project was implemented in 1976. This document should be available for review by the Evaluation Team whose work is scheduled to occur during the second quarter of 1983. The current Chief of Party, Dr. Garland Wood, should provide much of the leadership and substance for preparing this report.

- C. Serious consideration should be given by all parties, including the Evaluation Team, to reformulation of the current project. It is suggested that the remaining two years of the IAAS/MUCIA/AID contract be perceived as the first two years of a longer, five-year institution building effort at IAAS. This suggestion does not, in any way, obligate AID to provide support beyond the end of the current contract. We do believe, however, that longer-term AID support of IAAS' development program would be valuable. MUCIA will continue to have a long-term

interest in the development of IAAS. Regardless of the source, the needs of IAAS for enhanced program quality and scope will require significant levels of internal support and external donor financing. All parties are concerned about the future--a reduction of U.S. support appears premature, but should be gradual, if reduced at all. Reformulation is a difficult process. But, the return of all faculty to IAAS makes reformulation even more attractive since IAAS will then be better prepared to solidify and polish its programs. The long-range prospects are exciting; the nature of the processes needed for IAAS to achieve its major place in Nepal are intriguing. Reformulation is viewed even more essential in light of the amount of assistance IAAS needs compared with the inadequate level of support currently in the U.S. donor budget. The level did appear adequate during the first four years, however. In addition, graduate training should continue beyond 1984--with the present schedule there will be a void in upgrading faculty skills in an orderly manner.

- D. The use of short-term specialists will be most effective if IAAS and the MUCIA field team submit highly detailed information on work responsibilities. This will enhance MUCIA's ability to identify the best person for the positions. IAAS must identify and commit counterpart personnel for each specialist.
- E. There exists a serious lack of second-echelon administrative support staff in IAAS and, to a lesser extent, on the MUCIA field team. Logistical support, daily routine chores and short-term planning is best

accomplished by appropriate personnel. Responsibility must be delegated much more than is evident now.

- F. IAAS, with appropriate MUCIA staff, should make a concerted effort to evaluate the quality and suitability of the training given to the first two graduating classes with the B.Sc. degree. The graduates themselves and employees should be queried for major input into this evaluation.
- G. One of the best evidences of the importance of an activity initiated on a project is the eventual assumption by the host institution of the cost of that activity. IAAS is urged to gradually assume, within its budget, some costs for the research proposals as an example, for those activities which are of greatest importance. This means that items for earlier-identified activities will be reduced. The relative importance of all activities must be assessed carefully. A shift among line items may be a bit easier during the next year--IAAS received a 110 percent increase which should enable it to put into place for a long time those activities which have recently become high priority for the vitality of the institution.
- H. All MUCIA project reports should be made available to IAAS faculty and staff. This can be achieved in several ways. A copy of each report, including the Work Plan, could be distributed to each person, but this is costly. At the very least, each report should be made available in the IAAS library, with recent ones placed on the publication bulletin board. Notice of the existence of each report should be circulated to each faculty and staff member.

- I. All IAAS faculty/staff publications should be made available to IAAS personnel, including students. As with project reports, the research, teaching and extension publications of faculty/staff should be placed on display in the IAAS library. General announcement upon issuance of the publication should be made to faculty and students alike.
- J. IAAS should prepare and distribute widely an Annual Report. This document, by definition, should be published annually (the last one was published in 1980). MUCIA field staff should take major responsibility for coordinating this effort, for training people in data collection and in its preparation. Included in the report should be a summary of programs developed, progress toward goals, faculty and staff listings, new directions for the past and coming years, committee membership and purposes, policies instituted, etc. etc.
- K. Publish the IAAS Journal regularly. To date, four issues of the bi-annual research journal have been published since Vol. 1, Number 1 emerged in December 1977. The latest was published in June 1981; five biannual issue dates have been missed. In all, 32 quality research articles have been published in the Journal, each of vital interest and relevance to the IAAS program. With proper coordination and attention to timeliness, this publication can contribute significantly to the national and international stature of IAAS. Intrinsic in this recommendation is the need for all at IAAS to apply more energy and thought to timely and quality publication of this Journal. With the return of more faculty members, there already exists a backlog of research

Attachment 9
Page 6

articles; all effort should be made to publish acceptable reports at the earliest possible moment.

Summary of the Work Plan of IAAS/MUCIA/AID Project, Effective Oct. 1, 1982 - Sept. 30, '84*

Project Goals	Mode	Time Frame	MUCIA Recruitment Implications	Training	Timing of Training (Months 1-24)	Remarks
I. Improve Quality of Teaching						
<u>Actions</u>						
1. Improved teaching techniques, etc.	MUCIA Long Termers plus short termers	Continuing w/ emphasis first year	- Job specs for long termers - 2 short termers 1) Audio Visual +tch. tech. (months 1-6) and 2) Evaluation - (months 7-12)	Special Seminars, Work shop and Training programs	- Training on cont'g basis	Incentive system is responsibility of IAAS w/MUCIA's help
2. Implementation Strategy	IAAS Task Force with MUCIA involvement T.U. Specialists Seminars at Rampur					
II. Overcome Curriculum Weakness & Deficiencies						
<u>Actions</u>						
1. Improve curriculum	- MUCIA Long term & Short termers	Continuing, w/ emphasis in first year	- Job specs for long termers - Short Termers 1) Lab Improvement and teaching tech. (1-6 mo.) 2) Curriculum generalist (1-6 mo.) (Asst. Dean) 3) Horticulture? (13-18 mo.) 4) Ag. Engineer (19-24 mo.)	- Short term seminars in and out of country - Partic training for 2: Ag. Eng. Nat'l Res/Agro forestry if curriculum evolves)	- 1 partic to be sent in 1st. 6 months - 1 partic to go in 7-8 months (Agro-forestry)	- TF created by Faculty Board in July '82 - Proposed IDRC grant for agro-forestry to IAAS/IOF - Interchange of nat'l resources agro forests/ personnel
2. Instruction in Teaching tech.	- Short term trng. off campus (Ex:Regional visits to Ag. universities	IAAS Dept. Chairman will develop plan for monitoring during months one-six				
3. Improve Labs.	- IAAS-RMC-MUCIA/TF					
4. Monitor course content	- Participant training					
III. Implement Effective Work Experience Program						
<u>Actions</u>						
1. Faculty TF to examine and Implement alternatives	TF IAAS+MUCIA long termers	First year, Elaborate existing plan and explore alternatives;		Short term visits in region for IAAS staff	Regional visits in 1st. year	Plan should be carefully analyzed and phased in
2. Evaluation process		2nd year, implement				

Project Goals	Mode	Time Frame	MUCIA Recruitment Implications	Training	Timing of Training (Months 1-24)	Remarks
IV. Sustain and Expand New Research Thrust						
<u>Actions</u>						
1. On-going committee to deal with:	Existing IAAS(Research Committee)	Continuing				
a. Funding sources	- HMG Ag.Min.Consultation					
b. Linkages w/users	for coordination purposes					
c. Publications						
d. Improve Research guidelines	- Regional Ag. Res. experts					
			- Long termers job specs			
			- Possible short termers 2nd. year. (Ag Exper. station expert)			
V. Improve Lab equipment situation in general						
<u>Actions</u>						
1. Staff to inventory and appraise needs	- IAAS+MUCIA staff activity	Months 1-12 (first year)	Short termers on equip. maintenance & repair	Regional short term trng. for technician		
2. Develop maintenance capacity at IAAS using long + short termers	- Short terms + training					
3. Bring equip into shape						
					- Second quarter short termers	
					- Training 3rd. quarter	
VI. Improve effectiveness and long term commitment in Extension						
<u>Actions</u>						
1. Through IAAS and MUCIA long termers	- Existing IAAS committee (inc MUCIA)	Continuous with balanced inputs	Short termers on Extension Communication (2nd year)			
a. Examine on-farm needs	- Consultation					
b. Estab. incentive system	- Equipment					
c. Solve transport deficiencies						
d. Improve info delivery system						
						- Extension to evolve gradually as part of academic program
						- Now partially in place
						- Two motorcycles + possible vehicle

Project Goals	Mode	Time Frame	MUCIA Recruitment Implications	Training	Timing of Training (Months 1-24)	Remarks
II. Faculty and Staff Development	Exploration by IAAS/ MUCIA of short term training (USDA Courses etc.)	Contg.		Short term (USDA etc) to be specified for Nepal and outside	Beginning 2nd. quarter and continuing	See list on Page 50 as exemplary
GOALS RELATED TO SUPPORT FACILITIES AND ACTIVITIES						
1. Library -Action: continued growth and improvement	MUCIA staffer as at present - Training	Continuing		Regional training for librarian	1st year.	
2. IAAS Farms -Action: Long termers (MUCIA) to improve farm operation	- Implement and update existing plan - Training	Contg. with 1st year emphasis		Regional short term training for farm managers	1st year	MUCIA short termers have provided farm plans - now exists
3. Staffing gaps in Ag.Eng., Agro forestry	- (As above in II) - IAAS Employe instructors	Continuing		Two regional Masters degrees (as in II)	(as in II)	
4. Staff evaluation - Improve staff eval. system	- IAAS Action aided by long termers, possible short termers	During 1st year	Short termers in second quarter (See I)	Regional visits	Visits in 12-18 month period	
5. Faculty Incentive System	- Training - Training - Research grants	Soonest (contg)		Staff and Faculty short term training in region	Continuing	- IAAS Policy Action - Work and family environment are critical
6. Extra-Curricular Activities	- Amenities - MUCIA IAAS sports program	Continuing				- Equipment to be supplied

Project Goals	Mode	Time Frame	MUCIA Recruitment Implications	Training	Timing of Training (Months 1-24)	Remarks
7. External Promotion multiple activities	IAAS staff plus MUCIA Short term (?)	Contg.	- Seminar people Borlaug, Johnson, (Int'l figure) 2nd year (?)	Short Term for IAAS Publication Center	2nd year.	In progress several documents are published
- Lecture Series - Annual Report - Journal distribution - Press Releases - Rampur Roundup						
8. Maintenance of Buildings and Grounds	IAAS policies and management	Contg.				Expanded 1982-83 IAAS Budget approved
9. General Issues	- IAAS/MUCIA team and T.U. policies	Contg.				On-going action on these issues is needed
- Autonomy for IAAS - Linkage of teaching research, extension - Staff evaluation - Research eval. - Programs oriented to farmers problems						

*General Remarks

1. Short termers may be U.S. or other country, are for 2-3 months, and to be brought in based on program evaluation.
2. Job descriptions for all short termers are to be developed by IAAS/MUCIA team.
3. This plan represents current thinking; it is subject to modification.
4. For greater detail on goals and planned activities, see MUCIA Work Plan, June 16-30, 1982.

MUCIA/AID Project
The Institute of Agriculture and Animal Science
of Tribhuvan University
Rampur, Nepal

SUMMARY OF WORK PLAN GOALS
1982-1984

Two types of goals are included in the 1982-1984 Work Plan, each of which will be achieved through mutual cooperation of IAAS and MUCIA: (A) activities which will be completed by the end of the project (September, 1984); and (B) long-term programs or processes which will be initiated by the end of the project. Primary focus will be on improving teaching, research and extension efforts which are already underway.

- A. By 1984, major lines of activity by MUCIA and IAAS will be to:
1. Develop detailed job descriptions and expectations, and a system of faculty evaluation, reward and incentives for teaching, research and extension.
 2. Establish a personnel management system to allocate work responsibilities of faculty according to skill and need in teaching, research and extension, based on the evaluation system and annual faculty reports on accomplishments and proposed activities.
 3. Improve the quality of teaching methods, course content and curricula.
 4. Evaluate course content compared with employment needs of JTA, JT and B.Sc. graduates, in particular by surveying employers on improvements needed.
 5. Develop detailed outlines of all courses, with sufficient information to facilitate the preparation of the external examinations. All effort must be made to assure that students are examined on what has been presented to them.
 6. Publish on a timely basis a comprehensive IAAS annual report and the IAAS Journal. Publication of papers on extension and farming systems is suggested.
 7. Establish a procedure to make available to all IAAS faculty each project report and all IAAS publications.
 8. Complete, then develop a system to maintain current, a bibliography of faculty publications.
 9. Provide three MUCIA advisors who will serve for two years each, beginning in October, 1982, in the fields of Agronomy, Animal Science and Rural Development.

10. Provide short-term MUCIA advisors, many of whom will serve on a repeating basis, to assist in the areas of teaching methodology, academic administration, library science, laboratory management, laboratory equipment calibration and maintenance, horticulture, agricultural communications, and organizational administration and management. Other advisors will be identified as needed, giving emphasis to former graduate advisors of IAAS faculty members.
 11. Obtain funding for and complete needed faculty housing.
 12. Arrange for short-term faculty training programs in the U.S. and conduct in-service training programs in Nepal.
 13. Improve the management and mission of the IAAS branch campuses.
 14. Complete an inventory of laboratory equipment, reagents and supplies with indication of condition and additional needs.
 15. Develop an engineering services capacity to serve laboratories, research farms, teaching facilities, and building maintenance and construction.
 16. Select and send faculty to regional seminars and workshops.
 17. Establish a Distinguished Lecturer program in which national and international figures are invited for presentations to IAAS and for interaction with the faculty, students and officials of HMG.
 18. Develop a system of support staff to administration and faculty.
 19. Continue the research support program.
 20. Conduct a needs assessment of farmers which will assist the setting of priorities in the teaching, research and extension programs.
 21. Expedite infrastructural development on the research farms and establish procedures for managing and utilizing these facilities.
 22. Expand resources and facilities for extra-curricular activities by students, faculty and staff.
- B. For longer-term, continuing processing, IAAS and MUCIA will:
1. Initiate a promotion program to produce publications which describe the goals and programs of IAAS. This will be directed toward national and international audiences and will strengthen respective inter-institutional linkages as well as the image and stature of IAAS.

2. Develop a system to evaluate the effectiveness of linkages (feedback) among the teaching, research and extension programs of IAAS.
3. Continue the acquisition of library materials and development of the bindery and documentation center.
4. Begin a shift to the IAAS budget of those activities which are of high priority and currently financed by project funds.
5. Expand working relationships with appropriate national and international institutions.
6. Determine the longer-term role, scope and nature of IAAS extension programs.

In addition, it is suggested that the current Chief-of-Party devote the necessary time to the following:

1. Draft a scholarly document on the institution building process from the perspective of development administration using the IAAS example.
2. Assume leadership for developing a document which details the changes in project and IAAS missions since 1976 and provides the rationale for those changes.
3. Conduct an in-depth assessment of the roles and needs of the IAAS branch campuses at Lamjung and Paklihawa.