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

END OF TOUR REPORT

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PREFACE

The period of my association with the MUCIA/IAAS project (September of 1982 through the close of the project in September of 1984) was an exciting and productive one. I first went to Rampur as a short-term consultant from September 17 through October 16, 1982, at which time Dr. Garland Wood of Michigan State University was Chief-of-Party. During this time I worked with IAAS staff to conduct a baseline study for the rural Development Division of IAAS with a specific focus on implementation of the Pilot Extension Project.

In December of 1982, I returned to Rampur as the MUCIA long-term Rural Development advisor at which time I had the good fortune to serve under the leadership of Dr. Marlowe Thorne of the University of Illinois. In June of 1984, Dr. Thorne departed from post and I was appointed Chief-of-Party for the remainder of the contract period. I retained my position as Rural Development advisor but became much less active in this area because of the pressing demands of the administrative duties required to oversee the continuation and close-out of MUCIA's nine-year involvement with the IAAS.

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A REVIEW OF THE GROWTH OF RURAL DEVELOPMENT
AND EXTENSION EDUCATION AT NEPAL'S
INSTITUTE FOR AGRICULTURE AND ANIMAL SCIENCES

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I. INTRODUCTION

In September and October of 1982, I was a short-term consultant for MUCIA's project with the Institute of Agriculture and Animal Sciences of Tribhuvan University in Nepal. I returned as long-term Rural Development advisor in December of 1982 and remained until the completion of the project in September of 1984. This was the close of MUCIA's nine-year involvement with IAAS and was, in many ways, an ideal and rewarding period to be associated with IAAS. During the course of a project such as this one, the roles of advisors change. In the early phases of the project, many of the IAAS staff were abroad for advanced training and the advisors during this period were involved in innovating and helping establish directions for programs and some advisors occasionally taught courses. During my tenure with the project in its final two years, the role of advisor changed, in my view, from innovator to facilitator. By this time, the majority of the IAAS staff had completed their training and were in Rampur. A "critical mass" of faculty was present and ready to establish their own programs and priorities. They were ready to make the Institute their own and it began to move forward under its own force. At this point, the role of the advisor was to help guide, advise, and facilitate, sometimes pushing a bit in one direction or another and, at other times, simply supporting the Institute staff and they explored new directions for development.

During the period of my short-term consultancy, the RD staff and I reviewed the position description for the long-term RD advisor. They suggested additional roles and activities for the advisor which are detailed in my short-term report.

When I arrived in Rampur to begin my term as long-term RD advisor, one of my first tasks was to work with the new MUCIA team, the IAAS faculty, and USAID personnel to develop a specific workplan for the remainder of the project. This specific workplan was designed as a supplement to a general workplan developed by Dr. Kim Wilson (MSU) and Dr. Andrew Soefranko (UI) earlier in 1982. To construct priorities and guidelines for the remaining period of the project, each member of the MUCIA team worked with the IAAS unit to which he was assigned and the final document was produced and approved in April of 1983. According to that workplan, the Rural Development advisor was to:

"focus on acting as a general resource person to the Rural Development Division (including Rural Sociology, Agricultural Economics, Agricultural Communications, and Extension Education) and to the Administration of IAAS concerning such activities as

manpower and staff development, institution building, teaching and curriculum development, and research and extension activities in Rural Development. The Advisor will act as a general consultant to the IAAS Pilot Extension Project and aid in the development and dispersion of information generated by campus research activities through support of the campus seminar committee, the IAAS Journal, and the proposed Agricultural Communications Services Center."

For clarity, this report will follow the activities of the specific workplan; thus, the numerical headings in this report are not internal but refer to line items of the specific workplan. When this workplan was devised, each item was made the responsibility of one or more of the three MUCIA advisors (designated in the workplan as "P" - Plant Science Advisor; "A" - Animal Science Advisor; "R" - Rural Development Advisor). I have reported here on each item designated as in my area of responsibility although some of the items, as noted in text, are discussed much more fully in my Chief-of-Party end-of-tour report. A copy of the specific workplan is appended (Appendix I) so that readers may refer to it and place the activities noted here in context. Hereafter, material quoted directly from the workplan is underlined. After an introduction to the Rural Development Division and its staff, this report begins with a review of short-term consultants to the project.

II. THE RURAL DEVELOPMENT DIVISION AND STAFF

At the beginning of the Rural Development Advisor's tour in 1982, the Rural Development Division was one of three major groupings on the campus. The other major groupings were the Animal Science Division and the Plant Science Division. In addition, there was also a unit called the Basic Sciences. The Rural Development Division was composed of Rural Sociology, Agricultural Extension and Agricultural Economics. During the two year period covered by this report, the Division was divided into the Department of Rural Sociology and Agricultural Extension (RSAE) and the Department of Agricultural Economics (AE). Unless more specificity is required for clarity, all members of these departments will be referred to as within the Rural Development (or RD) group.

The Rural Development group contains some of the most dynamic individuals at IAAS. At the close of the project, both assistant deans and, until recently, the campus chiefs of both branch campuses were from the RD group. Likewise the leadership for the extension unit has always come from the RD group. In addition, the newly developed Agricultural Communications Services Center is a product of the RD group. The editors of both the Rampur Roundup and, until recently, the IAAS Journal were members of the RD group.

Inasmuch as most of the RD staff members will be referred to repeatedly in this report, a short introduction to each of them has been provided in Appendix II. Of the 13 individuals listed, 11 received training under the MUCIA/IAAS project.

III. RURAL DEVELOPMENT ACTIVITIES AS DELINEATED IN THE SPECIFIC WORKPLAN

I.D. Short-term Consultants

In designing its portion of the specific workplan, the RD group outlined three areas in which it felt that short term consultants could be helpful. The first position (I.D. 2), a communications and audio-visuals specialist for one month, was to advise the RD group on the design of and equipment for the audio-visual center it was developing as well as to provide training in the use and maintenance of the equipment. A short term specialist in the training of trainers (I.D. 4) was requested because most members of the RD group are involved in training not just with undergraduate students but also with farmers and, eventually, will be involved with upgrading courses for JT's and JTA's. Extension activities at IAAS fall within the purview of the RD group and they thought that communication was one of the major problems with the extension programs. They thought, therefore, that a third short term consultant (I.D. 7), a specialist in extension communications, could help with these programs.

The communications and audio-visual specialist position was not filled for several reasons. Both the RD advisor and the IAAS staff had considerable knowledge in this area as did Mr. Helmich van Rees, a student from The Netherlands who was resident at IAAS for several months. All of these people put considerable time into preparing the physical location for the audio-visuals center and ordering and obtaining equipment. Mr. van Rees was especially helpful in preparing lists of appropriate supplies for the photographic unit of the center. In addition, Mr. David Krauss (MSU), who came to Rampur as a laboratory equipment specialist (item I.D. 3 in the workplan), also had considerable expertise in audio-visual equipment and especially in photography. Mr. Krauss's duties were to assist the Institute in general but he also worked with the audio-visual unit--subsequently named the Agricultural Communications Services Center (see Appendix III).

On his first visit to IAAS (July-August 1983), Mr. Krauss worked with Mr. Kunwar, Chairman of the Rural Development Division and the RD advisor to develop an initial equipment list and to redesign the old library building attached to the administration building to house the audio-visuals unit. By the time of Mr. Krauss's second visit (July-August 1984), most of the equipment had arrived. Mr. Krauss helped to assemble and set up the equipment and directed the completion of the darkroom. By the end of Mr. Krauss's consultancy, the darkroom was operational and the first rolls of film had been processed. In addition, Mr. Kunwar and Mr. Krauss had developed plans for the future of the unit. During this whole period, Mr. Suvedi played an active counterpart role. The investment in equipment for this unit has been substantial and other items may be needed but, most especially, additional training in the use and maintenance of existing equipment is needed.

The short-term consultancy position for a specialist in the training of trainers (workplan item I.D. 4) was filled by a team: Dr. Carroll Wamhoff and Dr. Colleen Cooper of Michigan State University. They presented a 30-day course entitled Effective Teaching in which over 30 IAAS faculty members were enrolled. The participants learned the latest developments in teaching methodology and how to critique their own teaching performance. They were able to see themselves and their colleagues perform on videotape as a means to

improve their effectiveness in the classroom. When Dr. Cooper returned to the U.S. on April 6, 1984, the RD advisor continued the course through April 13 to complete unfinished components and to ensure the full 30 days of instruction required for participants to be able to use the course for credit towards promotion in the Tribhuvan University system.

The third short-term position (item I.D. 7 - Extension Communications specialist) was not filled. The staff of the Rural Development Division and the RD advisor agreed that this item was of fairly low priority as there was already considerable expertise in the area on campus with a number of staff with advanced degrees having returned from abroad and the RD advisor in residence. By the end of the project, the extension group organized a Farmers' Advisory Group composed of farmers from the Pilot Extension Project area as a step towards improving communications with local farmers.

In addition to the three short-term RD consultants called for in the workplan, the RD advisor coordinated the visit of a fourth consultant. Dr. Russell Middleton, Rural Sociologist from the University of Wisconsin, came to Rampur for two weeks with partial funding from MUCIA. His visit was primarily to assist his student, Mr. Bishnu Bhandari, who had returned to Rampur from the University of Wisconsin to complete the research for his Ph.D. dissertation. In addition to directing Mr. Bhandari's research, Dr. Middleton presented a faculty seminar on sociological approaches to development and he worked with RD faculty members and the RD advisor. In particular, he visited the extension area and discussed problems of extension programs and appropriate technology. In addition, Dr. Middleton visited and reviewed several extension course practicals and discussed student involvement with survey research.

IV. TRAINING

Short-Term Training

Training of trainers (March 11-April 12, 1984). The originally-proposed course on training of trainers was changed to a course on effective teaching. See item I.D. 4 above. A detailed report, including all course handouts, has been reproduced and is on file with AID/Nepal and with IAAS.

Audio-visual training (July 30-August 30, 1984). An individual was not recruited specifically for this position but, as noted in item I.D. 2, Mr. David Krauss, who came as a specialist in laboratory equipment, also provided a great deal of assistance to the audio-visuals unit. On his first visit, he trained several people in equipment repair and maintenance and on his second visit, he spent a considerable time training key members of the Agricultural Communications Services Center on the use of new equipment.

Overseas Short-Term Training for Academic Faculty of IAAS

The Chief-of-Party, Dr. Marlowe Thorne, had the primary responsibility for the coordination and management of this component of the workplan; however, both of the other advisors worked with their respective units to ensure

the best selection of participants based on the needs of the units. Of the ten people selected for short-term training in the U.S., three were from the Rural Development Division. They were:

1. Mr. Narayan Kunwar was enrolled in a 6-week USDA short course on Agricultural Communications (TC 110-3 held at Iowa State University; Summer, 1983).

2. Mr. Muari Suvedi was enrolled in a 10-week USDA short course on Development and the Operation of Agricultural Extension Programs (TC 110-5; Fall 1983).

3. Mr. B.B.S. Dongol was enrolled in the same course as Mr. Suvedi.

All three of these faculty members said their training courses were useful in that they provided practical instruction that was directly usable. Mr. Kunwar employed what he had learned in the course in the planning for the Agricultural Communications Services Center. After his return to Rampur, Mr. Suvedi presented a seminar for the faculty with an excellent comparison of the extension systems used in Michigan, Wisconsin, and New York and then pointed out aspects of the systems that might be applicable in Nepal. He also took on a more active role in extension activities by becoming Member Secretary of the Extension Committee. Mr. Dongol has also taken a key role in extension activities as he has become Chairperson of the Department of Rural Development and Extension Education.

Other Overseas Training and Educational Travel

1. At the beginning of the period covered by this report, Mr. Ganesh Shivakoti (agricultural economist), former Chairperson of the Rural Development Division and Coordinator of the Pilot Extension Project, was in The Netherlands for a 10-month, non-degree course in rural development (August 1982-June 1983). This training was funded by the government of The Netherlands. At the end of Mr. Shivakoti's training in The Netherlands, MUCIA provided funds for him to return to Nepal via the USA so that he could visit Michigan State University and the University of Wisconsin and learn more about current American approaches to rural development. Mr. Shivakoti returned to IAAS in July of 1983 and shortly thereafter became chairman of the newly formed Department of Agricultural Economics.

2. Mr. Shivakoti was selected to represent the Institute at the 43rd Annual Conference of the Indian Society of Agricultural Economists held in Kanpur, India, in December of 1984. MUCIA provided funding for Mr. Shivakoti to attend this event. After his return, he submitted a report on the conference and presented a faculty seminar on current research on agricultural economics in Asia.

3. Mr. Narayan Kunwar, former Chairman of the Rural Development Division and current Assistant Dean for Academic Affairs, was supported by MUCIA for travel to Thailand, Korea, and the Philippines in November and December of 1982. The focus of this trip was to see how agricultural communications, journalism, and audio-visual resources were handled in other universities and

centers. While in the Philippines, he presented a paper at the Workshop on Agricultural Teaching Methodologies for Trainers and Technical Personnel held at the University of the Philippines, Los Banos.

4. Mr. Pradeep Tulachan, lecturer in Agricultural Economics and former coordinator of the Pilot Extension Project, was invited to participate in an IRDC seminar in Singapore on the Socioeconomic Aspects of Livestock Production. MUCIA provided funds so that on his return from the conference, Mr. Tulachan was able to spend several days in Thailand to visit agricultural training centers in Bangkok and at Suwan Farms.

5. Mr. Pradeep Tulachan was also invited to participate in a workshop/seminar on the socioeconomic aspects of livestock production sponsored by the Agricultural Development Council and held in Thailand.

Before the MUCIA project closed September 30, 1984, arrangements had been made for two additional training/professional development activities.

1. Mr. Muari Suvedi received funding through ILO to attend a workshop on the training of trainers in the Philippines in November of 1984. ADC/Nepal agreed to provide partial funding to allow Mr. Suvedi to remain in the Philippines for the International Conference of Rural Sociologists in December of 1984.

2. Mr. Narayan Kunwar has been funded by the Population Commission to attend a one-month workshop in Japan on population problems. This conference will be held late in 1984 or early in 1985.

These opportunities to travel to conferences, workshops and seminars and to meet with colleagues in other countries are particularly important for the IAAS staff. In their isolated location in a country in which they are among a very few experts in their respective fields, they could easily become an inbred group. These travel and training opportunities help them to keep abreast of developments in their own fields, stimulate their own research interests and allow them to share their work with a range of colleagues. The training and experience gained from these opportunities are day-to-day topics of discussion among faculty members as well as having direct influence on faculty members' work. The experience that Mr. Kunwar had in visiting the Philippines, Korea and Thailand, for example, fed into the planning for the ACSC, and Mr. Tulachan's participation in the workshop in Thailand resulted in a new orientation to his research on farming systems.

Study Tours for IAAS Academic Staff

In the specific workplan, three study tours were planned: a livestock study tour to the Mediterranean; a rural development study tour to Indonesia; and a plant science study tour to India. These tours were all supported by MUCIA and all have been reported on elsewhere. Only reference to rural development participation in the tours will be made here.

1. Mediterranean livestock study tour (June 3-27, 1983).

One member of the Rural Development Division, Mr. Bhola Pokharel (agricultural economist), participated in the tour organized and led by Dr. Weslie Combs, MUCIA Animal Science advisor. The tour focused on dairy animal systems (sheep, goats, buffalo) in Greece and Italy. Mr. Pokharel did not complete a formal report on the agricultural economics aspects of the tour but he did spend considerable time discussing the tour with his colleagues in the Rural Development Division.

2. Rural development study tour to Indonesia (June 1-29, 1984).

This tour was led by the Rural Development advisor with five IAAS staff members participating. The tour included both university institutional development and integrated rural development projects. Given the focus on integrated projects, the participants were selected to represent each major unit of IAAS. Dr. Kailash Pyakuryal (rural sociologist) represented the Rural Development Division and Dean Sinha, who is an agricultural extension specialist, also participated. The tour included agriculture and rural development related agencies and universities in Thailand and Indonesia. Details are presented in the RD advisor's report on the tour. The introduction to the RD advisor's tour report has been included in this report as Appendix IV.

3. Plant science study tour to India (June 17-29, 1984).

The plant science tour was originally to be led by Dr. Marlowe Thorne, Plant Science advisor and Chief-of-Party. As Dr. Thorne terminated his assignment at IAAS early and returned to the U.S., Dr. Whittier led the tour. The Dean, working with Dr. Whittier, chose a group of nine IAAS staff members for the tour. The Dean himself was a participant with only one participant was from the Rural Development Division. The focus of the tour was five major Indian agricultural universities and institutes. A primary concern was to see how these institutions were handling the development and coordination of teaching, research and extension and what lessons could be useful to IAAS as it grapples with these problems. After the tour, the participants prepared detailed reports and presented a seminar for the entire IAAS staff. The reports were compiled into a volume. Appended to this report are the introduction to the tour by the Dean and the RD advisor and Mr. Satya Man Tiwari's report on the extension education components of the tour (see Appendices V and VI).

4. Horticulture study tour (December 11-15, 1983).

This fourth, brief study tour was not sponsored by MUCIA but by the IAAS using a MUCIA vehicle. On this study tour, the RD advisor, Mr. D. D. Dhakal (Chairman of the Horticulture Department) and Mr. D. R. Baral (Horticulture Department) visited the Eastern Zone of Nepal to observe the research and extension activities at various units in that area of Nepal. In addition, the horticulturalists were able to obtain several varieties of fruit and vegetable germplasm for research trials at IAAS. If the results of IAAS trials are good, the new varieties will be disseminated among local farmers through the extension project. The tour report is appended here (see Appendix VII) because the tour presented a good view of extension and training programs in

action. In the course of the tour, we met more than 20 IAAS graduates on the job and discussed their educational preparation with them and their supervisors. The response was overall positive on the quality of the training of IAAS graduates.

V. RESEARCH PROGRAMS

As specified in the workplan, MUCIA advisors worked with the IAAS faculty and administration to help build skills in research in general and to help develop the IAAS Research Committee's capabilities to review, guide and manage research. Thirty projects were funded by MUCIA of which three were terminated. Of the remaining 27 projects, three were conducted by members of the Rural Development Division and were completed before the IAAS/MUCIA project terminated. These three projects were:

1. Radio and other sources of information to the farmers in Chitwan District. IAAS/MUCIA Project #11. PI: Mr. Narayan Kunwar. Funds allocated: Rs. 31,267. Funds expended: Rs. 12,088. Final report submitted.
2. Evaluation of the B.Sc. program at IAAS. IAAS/MUCIA Project #5. PI: Mr. Bhola Pokharel. Funds allocated: Rs. 36,950. Funds expended: Rs. 13,837. Final report submitted.
3. A study of farming systems: A case study of Sharadanagar Panchayat. IAAS/MUCIA Project #3. PI: Mr. Pradeep Tulachan. Funds allocated: Rs. 72,942. Funds expended: 36,367/79. Final report submitted. Using the body of data gathered for this project, Mr. Tulachan also co-authored a paper on livestock in the local farming system that was published in the IAAS Journal.

Another category of research that took place under MUCIA sponsorship during the reporting period was the work of Mr. Bishnu Bhandari. Mr. Bhandari is doing graduate work in rural sociology at the University of Wisconsin and return to IAAS for several months (May-October 1983) to conduct field research. He worked in two villages in the Chitwan District on nutrition problems and on questions of land tenure and social stratification. Upon return to the University of Wisconsin, Mr. Bhandari completed his Master's thesis using the nutrition data. The analysis of his material on land tenure and social stratification is now finished and he expects to complete his Ph.D. dissertation in early 1985.

In addition to the work funded by MUCIA, several members of the Rural Development Division did research or held consultancies with other agencies. Mr. Tulachan worked with A/D/C funding and data on a comparison of hill farming systems in various areas of Nepal. He also received IRDC funding to continue specific research into the livestock component of farming systems in the Chitwan. Dr. Pyakuryal worked for USAID as an evaluator for the Integrated Cereals Project and for another project. Mr. Ganesh Shivakoti worked with SECID and USAID on a feasibility study for one of the Resources Conservation Utilization Projects. Mr. Bhola Pokharel worked with IDS (a private consulting firm) on marketing and pricing policy for the Resources Conservation Utilization Project and the Rapti Area Development Project. Mr. Muari Suvedi consulted with the ILO on preparation of curriculum for the training of female

farmers. These activities demonstrate the growing esteem for IAAS by both governmental and private agencies. One additional research proposal deserves mention though it was not funded. Mr. Shivakoti worked with representatives of Netherlands Radio to develop a proposal on radio and communications in the rural sector. The proposal was excellent but the Netherlands agency lost its research funding and was unable to follow through.

In addition to these funded projects and consultancies, members of the Rural Development Division engaged in various sorts of social survey research, often involving IAAS students. As part of their coursework, Mr. Suvedi and Mr. Gupta regularly assigned their students to work on household surveys in the adjacent panchayats. In the 1983-1984 academic year the RD Division sponsored the Work Experience Program for third year B.Sc. students in which each student spent a term studying the daily lives of farming families in the Chitwan under the guidance of the RD staff. Mr. Kunwar and the RD advisor initiated a total baseline survey of the families in the Pilot Extension Project area; this was designed to be the basis for measuring the effectivity of extension projects. By the termination of the MUCIA project, the data had been collected and tabulated and the analysis begun.

In summary, the RD group was active in research during the final two years of the project despite the fact that several members of the group carry administrative responsibilities in addition to their teaching commitments. It should be noted that the kind of research conducted by members of the RD group is especially time-consuming as it usually involves work off-campus surveying, interviewing, and observing. Simply traveling from campus to the research area can be difficult.

Two aspects of research by the RD group deserve comment. First, the staff is developing programs to involve students in research. By the time they graduate, these students will have more than a textbook acquaintance with the conduct of social science research. Second, at least some of the RD staff make regular use of their own and their colleagues' research in the classroom, demonstrating to their students that knowledge is not something that comes condensed and ready to be memorized in a textbook.

A difficulty for research in the future may be in funding. The IAAS has only a small budget from Tribhuvan University (NRps 50,000 for 1984-85) allocated to research. Members of the RD group have demonstrated their ability to attract consultancies and short term research positions with government and private agencies. These positions are usually well-funded and this may lead members of the RD group more into applied and evaluative work rather than developing research directly related to the programs of the Institute or their own interests.

VI. TEACHING PROGRAMS

All three MUCIA advisors worked in their respective areas to improve teaching and curriculum. Five major items were included under this workplan heading.

1. Preparation of syllabi and/or textbooks for assistance to teachers and guidance for external examiners.

The RD group developed new syllabi and course outlines for all their regular courses as well as for nine new elective courses (see item 3 below). These syllabi include both major and minor course objectives, provide topical breakdowns of the major subject matter covered in the course, and usually include a list of required and recommended readings. These syllabi were reproduced for distribution to students and to external examiners. Examples of the syllabi for new elective courses are included in Appendix VIII.

No new textbooks were produced by members of the RD group during the reporting period but activities were underway for the development of at least two books. Mr. Shivakoti has begun teaching a course on agricultural development strategies and has begun to collect relevant papers to put together a reader for students in that course. Mr. Suvedi and Mr. Kunwar have assembled a number of papers on population problems that they used in a training session with first year I.Sc.Ag. students. They are now developing a reader using this material that will be used in a course on population problems now being planned. Mr. Suvedi and Mr. Kunwar are also preparing a field research manual for students in extension education; this will be used to aid students in their practicals (field laboratory sessions related to lectures).

2. Development of course outlines to define course objectives and to report accurately what is being taught.

This goal was met as part of the development of the course syllabi discussed in item 1 above. Drafts of all course outlines were developed as part of the new five-year curriculum and accepted by the IAAS Faculty Board in the spring of 1984. Abbreviated versions of the course outlines in the form of course descriptions were assembled and printed, with MUCIA funding, in September of 1984 as the IAAS Bulletin for 1984 (2041).

3. Development of elective courses to permit some specialization and pursuit of special interests and talents.

The Rural Development Division responded very well to this concept. The Agricultural Economics Department introduced three new elective courses and the Agricultural Extension and Rural Sociology Department introduced six new courses. One of the courses, Survey Research Methodology, is a joint course taught by each of the two departments in alternate years and required of all students electing to pursue specialization in either department.

The new elective courses are listed below:

Department of Agricultural Economics

--AGEC 5120E Agricultural Marketing and Price Policy	50 marks, 2 credits no practical
--AGEC 5211E Agricultural Finance	50 marks, 3 credits no practical
--RS 5111E Survey Research Methodology.	50 marks, 3 credits no practical

Department of Agricultural Extension and Rural Sociology

--AGEXT 5120E	Communication and Social Change	50 marks, 2 credits no practical
--AGEXT 5211E	Audio-visual Communications.	50 marks, 3 credits no practical
--AGEXT 5320E	Program Planning in Agricultural Extension	50 marks, 2 credits no practical
--AGEXT 5420E	Leadership Development	50 marks, 2 credits no practical
--RS 5111E	Survey Research Methodology. (see above)	50 marks, 3 credits no practical
--RS 5220E	Sociology of Migration	50 marks, 2 credits no practical

These courses are only available to final year students in the B.Sc.Ag. program. Once a student elects a disciplinary area, he must take all the electives in that area and will then receive a specialization in that area. A student cannot take electives from several departments; once the elective area is chosen, the elective courses become compulsory. Thus, the term "elective course" is slightly misleading; it is the area of specialization that is elective rather than the courses themselves. Agricultural Economics began teaching its electives in February of 1984 and added two new staff members to help with the additional load. Agricultural Extension and Rural Sociology does not have sufficient staff to offer its new courses in 1984, but the courses are prepared and will be started in 1985. The department also decided to wait a year to offer the new courses in the hopes of improving library support in the relevant areas. See Appendix VIII for syllabi of these new courses.

4. Arranging of seminars concerned with teaching improvement, evaluation of teaching, and related subjects.

With the exception of the formal course "Effective Teaching Methods" offered in March and April of 1984 by two short-term consultants and the RD advisor, there were no formal institute-wide seminars in this area. Each advisor, however, worked on a one-to-one basis with faculty in his area on these issues. The preparation of the draft staff evaluation program generated a great deal of discussion in these areas by the committee of which the RD advisor was a member. Likewise, these issues were brought to the fore when the draft document was distributed to the faculty for feedback.

5. Encouragement and assistance in developing at least ten textbooks for use in IAAS courses.

As noted above in item #1, no textbooks have yet been published by members of the RD group although two are in preparation. Although MUCIA offered financial incentives to develop textbooks, financial incentives do not seem to be a prime variable. The desire to provide the best and most useful materials for their students seems to be more significant to those of the RD group who are working on texts--i.e., Mr. Shivakoti, Mr. Kunwar, and Mr. Suvedi.

Comments

Most of the general comments one could make about the teaching program in RD are not unique to that group but would apply throughout the IAAS. The problems of inadequate student preparation in English and the external examination system, for example, affect the entire Institute. And, as in our own university system, excellent teaching does not necessarily bring tangible rewards. The new faculty evaluation document (see Whittier, Chief-of-Party Report) attempts to deal with this issue but how effectively remains to be seen as teaching is notoriously difficult to evaluate.

There is a fairly high level of interest among members of the RD group in teaching and improving the quality of instruction. Every member of the group who was on campus at the time completed the course Effective Teaching. During the final two years of the project, Mr. Bhola Pokharel of the RD group was the only staff member to regularly distribute a form for the students to evaluate his teaching.

VII. EXTENSION ACTIVITIES

The section that follows is disproportionately longer than other sections but this is justifiable since one of the main tasks of the RD advisor was to work with the development of extension activities. The success of programs in this area is in large part due to the support the program received from the Dean who is himself an expert in extension and who was previously a director of extension with the Department of Agriculture, most recently in the Eastern Zone. At the beginning of the period covered by this report, there was a temporary lull in extension activities as the Extension Coordinator had left for academic training abroad and had not been replaced.

In January of 1983, Mr. Pradeep Tulachan, agricultural economist, was appointed Extension Coordinator on a part-time basis. He immediately set about developing a new plan of action for extension activities in general and the Pilot Extension Project in particular. Among other things, he pushed for a full-time position for the Extension Coordinator and for an increase in staffing for the Pilot Extension Project. At the beginning of Mr. Tulachan's stewardship, there was but one full-time staff member housed at the PEP offices in Rampur Bazaar. Mr. Tulachan, working with the RD advisor, compiled lists of necessary equipment, most of which was obtained with the help of project funding. This equipment included such items as: bicycles for the use of the PEP staff; racks for supplies at the PEP office; sprayers for demonstration and for use by local farmers; sign boards for displaying current crop prices in the PEP area; and measuring tapes for laying out demonstration plots.

To facilitate the access of subject matter specialists to the farmers in the PEP and make the most efficient use of their time, Mr. Tulachan and the RD advisor arranged for 10 specialists to be trained in the use of motorbikes and to obtain licenses. MUCIA provided two motorbikes to be used for this purpose.

Under Mr. Tulachan's leadership, two additional field technicians (JT level) were hired and several new programs were developed. Major activities

included a Farmers' Fair held on the campus to familiarize people in the PEP area with the on-going activities at IAAS in animal science, plant and soil science and horticulture. In addition, IAAS scientists, through the extension group, participated in a district-wide display of crops, techniques and science and technology at the Devghat Mela, a religious celebration attended by over 30,000 people. Two special training sessions were held for farmers from the local area. One of these, sponsored by the Horticulture Department, was specifically for female farmers and focused on fruit and vegetable production and methods of preservation. The second session was sponsored by the Animal Science Department and focused on dairy technology. This second training session was attended by both male and female farmers from the area.

A program for inoculating livestock in the area, initiated by Mr. Tulachan, not only improved animal health but had the additional benefit of improving the relationship between IAAS and the local community. One part of the program provided rabies vaccine for dogs in the PEP area and a second part provided vaccination against hemorrhagic septicemia for cattle. This inoculation program was in response to farmers' requests as ascertained by a needs assessment survey conducted by IAAS. It should be noted that this program brought almost every farmer in the PEP area into contact with IAAS personnel and gave the farmers a better understanding of IAAS's purposes and goals. On their side, Institute personnel became more intimately involved with the local farming situation and established a better rapport with farmers. This rapport benefits the Institute in a number of ways; one is to provide greater acceptance of IAAS students assigned to work on practicals in the PEP area.

In January of 1984, at the end of a year of service, Mr. Tulachan relinquished the post of Extension Coordinator. Meanwhile, the Rural Development Division had split into the Department of Agricultural Economics and the Department of Agricultural Extension and Rural Sociology. The locus of extension activities was placed in the latter department under the authority of Mr. Narayan Kunwar, department chairman. Mr. Robi Poudel was appointed full-time Extension Coordinator. Mr. Poudel (B.Sc.Ag. IAAS) had worked with Mr. Tulachan in extension and had been involved with the inoculation program. His first task on assuming the coordinator post was to develop a new work plan which included part of the previous program as well as new approaches. A copy of this work plan and a summary report prepared for the Extension Committee are included in Appendix IX.

Under Mr. Poudel's leadership, the number of field personnel was increased to four, allowing increased interaction with the farmers in the PEP area. On-farm demonstrations of improved varieties of wheat, rice and winter vegetables were conducted at several locations throughout the PEP area.

In June of 1984, Mr. Murari Suvedi replaced Mr. Poudel with the title of Member Secretary of the Extension Group and developed a detailed program for extension activities and, like previous coordinators, worked to ensure the cooperation of other departments on campus. A copy of his program is in Appendix IX.

One of the new programs implemented under the leadership of Mr. Suvedi was the Farmers' Advisory Board whereby a group of leader farmers and the Pradhan Pancha (Panchayat Leader) from the PEP area began monthly meetings

with members of the Extension Committee. This group discussed local problems and possible solutions and worked on strategies for improving the effectiveness of the extension services that IAAS could provide.

In addition, Mr. Suvedi, with the permission of the Dean who was coordinator of the extension activities, expanded the area officially serviced to include all panchayats adjacent to IAAS rather than just the original PEP area. This was in large part a response to the growing number of requests from farmers in the adjacent but previously unserved areas.

Throughout the period covered by this report, students in extension education courses were active in the IAAS extension activities. At large-scale events on campus, such as farmers' fairs and training sessions, students acted as guides and commentators on demonstration plots. In addition, students were regularly involved in survey work such as the needs assessment and socio-economic baseline surveys of the PEP area. Assistants for the PEP were chosen from the second year students to provide supervised on-the-job training for IAAS students.

During the two-year period covered by this report, there were a number of changes in the organization and administration of extension activities and in the Extension Coordinator/Member Secretary. One main thread of continuity was Mr. Narayan Kunwar under whose direction extension activities fell, first as Chairman of the Rural Development Division and then as Chairman of the Department of Agricultural Extension and Rural Sociology. Mr. Kunwar was always very supportive of the activities of the extension group, conducted his own extension-related research and, in addition, took over and completed a baseline survey of the PEP that had been begun by Mr. Tulachan and the RD advisor. In June of 1984, Mr. Kunwar was appointed Assistant Dean for Academic Affairs and Mr. B.B.S. Dongol, former campus chief of the Paklihawa branch campus, came to Rampur to become Chairman of the Department of Rural Sociology and Agricultural Education. In his new administrative position, Mr. Kunwar is likely to maintain his interest in and support of extension activities which can only be to the benefit of extension programs at IAAS.

VIII. SPECIAL ACTIVITIES

A. Seminars

MUCIA advisors in general and the Rural Development advisor in particular were to assist in the development and support of a regularly scheduled faculty seminar series at IAAS. Mr. Muari Suvedi was appointed seminar coordinator and Mr. Narayan Kunwar frequently provided help in this area, especially with the arranging of the appropriate audio-visual equipment. The RD advisor served as a direct counterpart to Mr. Suvedi in this task.

At the time of the RD advisor's first progress report in June 1983, no seminars had been presented by IAAS staff although there had been some seminars presented by foreign advisors. By the end of the second reporting period in January 1984, however, at least six seminars had been presented by IAAS staff members and five seminars had been presented by visiting foreign advisors. The six IAAS seminars presented during that period included:

1. Mr. Rishi Adhikary - research seminar on "Crop Studies in the Chitwan."
2. Mr. Murari Suvedi - end-of-tour seminar on "A Look at Cooperative Extension Service in the USA."
3. Mr. Narayan Kunwar - end-of-tour seminar on "Communication Planning and Strategies for Agricultural and Rural Development."
4. Mr. Padam Prasad Sharma - seminar on "MSTAT Computer Programming and Its Uses for Agricultural Research."
5. Dean B.P. Sinha, Dr. Kailash Pyakuryel, Mr. Santa Man Shakya, Mr. B. Kakhurel and Dr. Herbert L. Whittier - joint seminar on "Higher Education and Rural Development in Indonesia."
6. Dr. Weslie Combs, Mr. M. Sapkota, Mr. Panta, Mr. Yadav and Mr. Bhola Pokharel - joint seminar on "Livestock Activities in the Mediterranean Area."

The period from January 1984 through the end of the project in September 1984 saw an increasing regularity in the presentation of seminars by IAAS staff members. Towards the end of the project one of the greatest difficulties was finding available time in which to schedule seminars. The sharing of information through seminars has reached such a level that we can say that institutionalization has occurred in this area. Examples of seminars presented by IAAS staff during the final period include:

1. Mr. Padam Prasad Sharma (Lecturer and Chairperson of Soil Science and Agricultural Chemistry Department) - "Contribution of Dew on Winter Wheat in Rampur." NOTE* This seminar marks the first presentation of the results of an IAAS/MUCIA funded research project.
2. Mr. Jagadish Timsina (Lecturer in Agronomy) - "Effect of Indeterminate Cowpea Varieties on Crops of Dry Seeded Rice."
3. Dean B.P. Sinha, Dr. Tej Bhadur K.C., Mr. U.S. Gupta, Mr. M.H. Khan and Dr. Herbert L. Whittier - seminar on the India study tour, "Agricultural Institutions and Education in India."

There is generally a high level of involvement of those attending the seminars with many comments and questions. There has been a tendency to try to include as many students as possible in the audience to add to their educational experience. Enlargening the audience, however, tends to destroy the seminar format by curtailing the kind of involved interaction that has made the seminar series so interesting. It might be best to institute a lecture series especially for students with presentations by both IAAS faculty and visitors and retain the seminar series as a faculty event.

B. Survey of IAAS Graduates

The RD advisor was assigned to assist IAAS in conducting a survey of its graduates to help evaluate the IAAS program and plans were made to develop a

scope of work so that external groups could bid on the proposed evaluation. Before the scope of work was started, the Institute decided not to put the survey up for bids to an external agency. Instead, at the Institute's request, Mr. Bhola Pokharel revitalized his IAAS/MUCIA research project (#5) dealing with the evaluation of B.Sc. graduates from IAAS. The evaluation was completed. Some of the results of the study are discussed in Whittier's chief-of-party report.

C. IAAS Alumni Homecoming

The IAAS Alumni Homecoming specified in the workplan has not been held. The delay was related to waiting for the evaluation (item B above) to be completed and a more complete compilation of the current addresses of the graduates. In discussions with the Dean it was decided that the alumni invited to the homecoming would probably be restricted to a sample of the group, cross-cutting graduating classes, occupation and other variables. The reduced number would allow for longer and more intense interaction of the faculty and the alumni at the homecoming and, thus, provide a more controlled situation to obtain feedback and meaningful ideas for improving instruction and the quality of IAAS graduates in the future.

H. Completion of Campus Master Plan for Medium Term (10-20 years)

A master plan for the campus was to be developed during the final two years of the project. Several steps were made in this direction but a master plan was not begun. Whittier's chief-of-party report contains details about activities in this area.

IX. ACQUISITION OF EQUIPMENT AND MATERIALS

MUCIA advisors worked with their respective faculty counterparts to select and order appropriate equipment and materials to enhance the teaching, extension and research functions of the counterpart faculty and the Institute as a whole. The RD advisor worked mostly with groups under the administrative wing of the Rural Development group, namely the extension program and the audio-visual center (formally known as the Agricultural Communications Services Center). In addition, the RD advisor worked with the Animal Science advisor to provide support to the Computer Center.

C. Audio-Visual Equipment

During most of the two year period the RD advisor worked closely with Mr. Narayan Kunwar to help prepare a physical location and equip an audio-visual center. They were aided by advice and help in equipment procurement by the short-term laboratory equipment specialist, Mr. David Krauss and by the Netherlands student, Helmich van Rees. In addition to ordering and helping to install and operate the equipment listed below, MUCIA also provided curtains, one refrigerator and two air conditioning units to help prepare the center for the new equipment.

All equipment ordered for the audio-visual center or the Agricultural Communications Services Center was received by the end of the project; a detailed list is in the inventory records included in the appendix of Mr. Krauss's 27 July-01 September, 1984 tour report. Major items selected and purchased include a complete audio-learning center with facilities for 24 participants, darkroom supplies complete with an enlarger, two new cameras and lenses, a portable video tape recorder and monitor, four slide projectors, four overhead projectors, four cassette recorders and a 16 mm motion picture projector. The center/laboratory has a good supply of basic materials suitable for providing training to students, services to teachers in their classrooms and services to both extension and research activities at IAAS. This is a beginning and Mr. Kunwar has already prepared new lists of equipment as well as specifications for a new physical facility which he hopes will be funded under the IAAS II contract.

D. Extension Program Equipment

Throughout the final two year period, the RD advisor worked with the various extension coordinators to obtain equipment to help the development of extension programs in general and the Pilot Extension Project in particular. Five spraying devices were obtained to use in demonstrations and for the farmers to borrow from the extension office. Measuring tapes and scales were obtained to help the extension group carry out field activities. Two storage racks were obtained for the extension office and two bulletin boards were also purchased. The bulletin boards are located in two locations in Sharadanagar Panchayat and provide a place to post notices important to the farmers as well as a place to display on a weekly basis the prices of basic farm produce as paid in Narayanghat. Three Atlas bicycles were purchased to enable the staff members to have greater access to the PEP area. At the end of the project, three Honda motorcycles that had been under MUCIA's control were transferred to the Institute and it is likely that the Dean will assign at least one or two of these to the extension group.

X. IAAS COMMITMENTS

MUCIA advisors worked to help IAAS activity commitments. The RD advisor specifically concerned himself with four of the five activities.

A. Complete Campus Development Master Plan.

This activity was not completed, but some progress was made in defining what was necessary for the development of master planning. This has been reported on more fully in Whittier's chief-of-party report.

B. Curricula revision is a continuous activity at IAAS. This has been reported in Section VI 1 and VI 2 above. A revised and updated IAAS Bulletin for 1984 which includes the new five year B.Sc.Ag. curriculum, was submitted and printed in September of 1984. Printing expenses were provided by MUCIA.

C. Other than discussion, no progress was made in developing an IAAS Faculty Policy Handbook and the Institute continues to rely on Tribhuvan University's policy handbook which it must follow in any case. An abbreviated

version may be forthcoming after the implementation of the Staff Evaluation and Incentive Program referred to in part E below.

E. Implement Staff Evaluation and Incentive Program.

A draft document for staff evaluation was prepared by a committee selected by the Dean. This committee included the RD advisor who was active in producing the first draft. A second, revised draft was reviewed at a full faculty meeting. The Dean and assistants then took on the task of modifying the document to incorporate suggestions received. The evaluation methods were to be tested in June of 1984 but because of commitments of key members of the evaluation team including the Dean, the testing had to be put off. As of the close of the project the trial run of the evaluation device had not yet been done. There appears to be widespread interest in this program, however, and the testing will be done soon. The plan is then to develop incentive programs after the successful implementation of the staff evaluation procedures.

XI. SUMMARY COMMENTS

The body of this report has detailed what did and did not happen in terms of implementation of the specific workplan in those areas for which the RD advisor was responsible. I conclude here with some more personal remarks and observations on my experience with the Institute in general and the RD group in particular.

It is my nature to take a positive view but I think that the accomplishments detailed in the preceding pages show that the process of institution building is well underway at IAAS. We should keep in mind that this is a very young institution. Only in the past two years have the majority of faculty been on campus. Prior to that, at any given time, many were abroad for degree training. In addition, the decision of Tribhuvan University in 1981 to switch from a semester system to an annual system required extensive curriculum revision. The adjustments required major efforts from a new dean and a young and inexperienced faculty learning to work together.

RA and the Institute

I was associated with several activities in which I think considerable progress was made although some of these were just at the "take off" point when the project terminated.

The extension program, which was in a temporary lull when I arrived at Rampur, has developed steadily over the past two years. What may seem a relatively minor part of the program--providing vaccinations for animals in the area--was quite significant for reasons aside from the actual services provided. It was a program offered in direct response to farmers' requests, demonstrating to farmers the Institute's interest in their perceived needs, and it created a great deal of rapport between IAAS and the surrounding community. This is vital to any extension program. The Animal Science Department still poses a difficulty in implementing extension programs since

staff members there feel they should be paid for services in the community and, consequently, do not want to be involved in providing services off campus. This problem may be ameliorated by the implementation of the new evaluation program which will recognize and give faculty members credit for participation in extension programs. Given the start the extension program has now and if the faculty receive this recognition and credit for extension activities, the program should continue to flourish.

The audio-visuals unit represents another activity that is well underway. Two years ago there were only a few pieces of equipment and no specific space allocated. It has developed into the Agricultural Communications Services Center with over \$15,000 US. worth of equipment housed in the refurbished library room in the administration building. Just as the project terminated, the center was ready to operate with a system set up for borrowing and using equipment. A foreseeable problem will be maintenance of the equipment, particularly given the hot humid climate. There are a few staff members trained in the use of this equipment but these individuals also have many other duties. There should be a staff member (technician) trained in routine maintenance and perhaps minor repair. Throughout the IAAS, there is very little money budgeted to maintenance and repair work. Unfortunately, it is unlikely that a technician skilled enough to undertake adequate routine maintenance and minor repair of this kind of equipment would be attracted to a position at Rampur; such an individual could do much better in the private sector in Kathmandu.

The IAAS Journal has continued to grow over the past two years with increasing numbers of manuscripts submitted to the editorial committee. It should be noted that this is not just an in-house publication but receives submissions from agriculturalists throughout Nepal. Timely publication continues to be a problem but, at least for the issues in the past two years, the main difficulty was with the Tribhuvan University printer. Unless the Institute acquires its own printing facility (not a measure I necessarily recommend) or is allocated a budget for printing that would allow it to select a printer with whom to do business, this will continue to be a problem.

Another program that has been successful and that I think will continue is the seminar series. This program is significant not only for the information conveyed and views exchanged but also for the spirit of collegiality and common enterprise it engenders. IAAS may not yet be a "community of scholars" but this is an important step in that direction.

A program ready to go but not yet implemented at the close of the project is the staff evaluation program. I worked with the committee to develop a draft of this document which was presented to the faculty for comment and then revised. There is some ambivalence among the faculty about the evaluation system. Some would undoubtedly prefer a more traditional seniority and patronage system for deciding on such matters as promotion and access to other opportunities. There is, nevertheless, enough support for the evaluation system that it will be implemented to some degree.

The RD Departments

As stated in the introduction to this report, I saw my role as RD advisor in the project as one of providing guidance and advice--mostly where

requested--and facilitating the work of my colleagues in RD. I am convinced that only by working as a colleague could I provide any real assistance to the RD group. The members of the RD group are particularly dynamic and ready to take initiative. From a departmental point of view, a somewhat unfortunate consequence of the dynamism and abilities of the RD group is that two of its members have been drawn into major administrative positions (assistant deans) which will lessen their direct contributions to their departments. In addition, many of the RD faculty who currently hold M.Sc. degrees are actively pursuing opportunities to study for the Ph.D. Mr. Tulachan in Agricultural Economics left Nepal in June of 1984 for Ph.D. work at Cornell University funded by A/D/C. Others have applications pending and I believe that most will eventually be successful. This will further draw staff from RD at least temporarily. It will also give RD the most highly trained faculty on campus. This group intends to take the lead in instituting M.Sc. programs at IAAS. While this is a desirable goal, the timing of its implementation needs careful consideration.

As noted previously, the RD unit is no exception to the general tendency of IAAS units to divide and multiply. In late 1983, the RD unit split into two departments--Agricultural Economics and Rural Sociology with Agricultural Education. This is not a step that I or any of the other advisors would recommend but it is understandable in terms of "how the system works" in Nepal.

Both departments feel that they are understaffed for the teaching loads that they must handle. At first glance this may seem an exaggeration since most faculty members teach no more than two courses per term and these are usually taught jointly with at least one other faculty member. If one considers, however, the system of course practicals, the teaching load is fairly heavy. In this system, there are usually two hours of practicals for each hour of lecture. For the practical, the class of 100 students is divided into four groups. Thus, three hours per week of lecture means 24 hours of practical (4 groups at 2 hours each) for a total of 27 contact hours per week. Added to committee and administrative responsibilities, this is an impressive total.

A partial solution to this problem might be restructuring some courses and reconsidering the use of practicals. They may not be equally appropriate for all courses in the RD area. If the practicals in some courses were eliminated (as they have been for the new elective courses in RD), instructors could share the remaining practicals, removing some of the time burden from those instructors who teach the courses that do have practicals. Another possibility might be to develop a system of teaching aides whereby senior level students could be used to assist with practicals in at least introductory level courses.

Both departments feel that the library holdings in their areas need substantial improvement. As the IAAS funding for library acquisitions is unlikely to increase, this should be a priority for any future IAAS project.

Another perceived need of both departments is for more support staff, including staff for the extension program, a technician for the Agricultural Communications Services Center and at least one secretary/typist.

These three items (additional teaching staff, support staff and library resources) are what the faculty in the RD group themselves see as their major needs at this time. Obviously, these are needs that can only be met by increased budget not by technical assistance. Indeed, it is my feeling that these departments do not see a need for additional long-term assistance at this point. Should a long-term advisor be assigned to work with this group in the future, one of his/her main tasks should be to work with them in developing position descriptions for short-term advisors to work on very specific programs as the need arises.

APPENDICES

SPECIFIC
WORK PLAN OF MUCIA/NEPAL PROJECT
through September 1984

Supplement to: GENERAL WORK PLAN
OF WILSON AND SOFRANKO (1982)

February 1983

PROJECT 367-11-110-102

CONTRACT AID/NESA-C-1197

MUCIA/NEPAL PROJECT
IAAS, Nepal
P.O. Box 984
Kathmandu, Nepal

The Specific Work Plan is a supplement to the General Work Plan of Wilson and Sofranko developed in 1982. The Specific Work Plan was formulated by the joint effort of MUCIA, IAAS, and USAID. MUCIA advisors began discussions with their counterparts of the IAAS faculty through the winter of 1982-83. Priorities emerging from these discussions were put forward by the MUCIA advisors in discussions with the Project Officer of USAID and with the MUCIA Nepal Project Coordinator when he visited IAAS in February 1983. The draft plan was discussed in detail with the Dean of IAAS and his advisors and their suggestions for modification were incorporated into the final work plan. It encompasses IAAS development in broad aspect and with sufficient flexibility to permit modification to accommodate unforeseen events. The final document owes much to the efforts and guidance of Dr. Marlowe D. Thorne MUCIA Chief of Party and Plant Science Advisor until his departure due to the medical evacuation of Mrs. Thorne. In this he was assisted by:

- Mr. B.P. Sinha, Dean, IAAS and his staff and Administrative advisors.
- Mr. Gary Alex, Project Officer, USAID/Nepal.
- Dr. Darrell Fienup, MUCIA/Nepal Project Coordinator.
- Dr. Herbert Whittier, MUCIA/IAAS Rural Development Advisor.
- Dr. Weslie Combs, MUCIA/IAAS Animal Science Advisor.

Submitted by: Weslie Combs, MUCIA Acting Chief of Party (April 1983)

Work Plan of MUCIA (through Sept 1984)

I. Technical Assistance

A. Plant Science Advisor (P)

The Plant Science Division at IAAS includes Agronomy (Field Crops and Soils), Horticulture, and Plant Protection (Entomology, Plant Pathology, Weed Control) Departments. Nearly all food whether of plant or animal origin, depends ultimately on the growing of plants in soils. The program of the plant science advisor involves working with all faculty members in the division to achieve better teaching, research, and extension programs in pertinent aspects of field and horticultural crop production, crop protection and soil management. The Plant Sciences Advisor also serves as Team Leader to coordinate activities of the team and to help provide logistical support to team members and to IAAS. He works closely with the Dean and Assistant Deans in many matters not directly related to the subject matter role and including improving internal organization of IAAS, strengthening of MUCIA/IAAS relationships, teaching improvement, faculty development and evaluation, research improvement and management, completing inventory of MUCIA/AID supplied equipment and keeping accurate records of location and condition of such equipment; and assisting in promoting student welfare.

B. Animal Science Advisor (A)

The general role of the Animal Science Advisor will be: (1) resource person to the Department of Animal Science, and (2) technical advisor to the Dean and the Animal Science faculty on matters of research, teaching, extension, curriculum and live-stock farm and herd development and management. In addition, the Advisor has been assigned as liaison person between the MUCIA team and IAAS in matters of safety and medical first aid, and for library and computer development.

C. Rural Development Advisor (R)

The Rural Development Advisor's work plan focuses on acting as a general resource person to the Rural Development Division (including Rural Sociology, Agricultural Economics, Agricultural Communications and Extension Education) and to the administration of IAAS concerning such activities as manpower and staff development, institution building, teaching and curriculum development, and research and extension activities in Rural Development. Advisor will act as a general consultant to the IAAS Pilot Extension Project and aid in the development and dispersion of information generated by campus research activities through support of the campus seminar committee, the IAAS Journal and the proposed Agricultural Communications Services Center.

D. Short-Term Consultants

The long-term advisor who will work most closely with the indicated short-term advisor is shown by: (P) for Plant Science, (A) for Animal Science and (R) for Rural Development.

1. Statistics and Research Design (A) 3 mos.

A short course in research methods and analysis will be offered at IAAS for faculty on a credit basis. Two instructor/consultants will be recruited to teach and consult with individual faculty members on their research.

2. Communication and Audio-visual specialist (R) 1 mo.

In line with the development of the Agricultural Communications Center, a short term consultant will be arranged who will help develop the organization for the use and maintenance of equipment for the center and help refine future growth plans for the center.

3. Laboratory Equipment Specialist (P) 2½ mos.

A person with training and broad experience in maintenance and repair of general kinds of laboratory equipment will be recruited. At IAAS the specialist will work with one designated faculty member in each department. He/she will train these faculty members and others in preventive maintenance as well as in repair procedures. He/she will also stress laboratory organization and sanitation.

4. Specialist in Training of Trainers (R) 2 mos.

All of the IAAS faculty members are trainers of trainers and it is expected that the B.Sc. graduates of IAAS will also eventually be trainers of trainers. USDA Short course #TC110-15: Training of Trainers for Agriculture and Rural Development offers a set of objectives which will fulfill this need. Rather than send a large group of participants to the USA for this course, arrangements will be made to teach this course or its equivalent to a selected group of IAAS faculty members on campus.

The participants will develop knowledge and skills to : (1) improve training effectiveness, using training resources to give the most appropriate information and skills to trainees; and (2) strengthen and update their knowledge in their own areas of specialization.

5. Library Science Specialist (A) ½ mo.
 The Library Consultant will review library operations and advise on library development. Services of the consultant will not be scheduled until a librarian is recruited.
6. Experiment Station Management Specialist (P) 5 mos.
 Two kinds of assistance will be provided by one or two consultants: (a) Layout of a part of the IAAS farm for improved drainage and for irrigation. (b) Training of IAAS farm manager(s) in providing routine farming operations and labor for field research projects and working with project leader to schedule field activities ahead of time so farm managers can provide services requested & use labor & equipment most efficiently.
 If it is not possible to recruit one individual who can perform both tasks, two consultants will be provided within the time allotment indicated.
7. Extension Communications Specialist (R) 1 mo.
 A specialist will be selected to help bridge the gap between the proposed Agricultural Communications center and the pilot extension project if this is deemed necessary.
8. To be determined (P) 1 mo.
 Provision is made for a short-term consultant in a field not yet identified as requiring assistance.
- II. Training (Long-term advisor who will assume primary responsibility for facilitating the training shown by (P), (A) or (R) as above.)
- A. Short-term training
1. Courses in Nepal
 An attempt will be made to schedule an appropriate USDA short-course to be given in Nepal. If arranged, this course would be instead of the services of a corresponding short-term consultant indicated above. If the course can not be arranged, the consultant recruited will present an organized course as part of his consultancy.
- ✓1. Design and analysis of agricultural experiments (A)
 A 6-week short course in research methods and analysis will be offered by short-term consultants at IAAS for faculty with credit toward promotion; lectures and individual consultations will be included.

1.2. Training of Trainers (R)

The short course mentioned above (I.D.4) will be offered on IAAS campus for selected faculty members either by USDA sub contract personnel or by approved short term consultants. If possible credit towards promotion will be arranged for participants.

1.3. Audio-visual training (R)

Training in the use and maintenance of audio-visual equipment will be provided for a group of persons who will be associated with the Agricultural Communications center. This training will be handled by the short term consultant listed in I.D. 2 above.

2. Training for administrative staff of IAAS (P)

Selected administrative staff members will be provided short-term training at appropriate institutions to improve their competence to manage a growing institution. Training course available in the region will be utilized wherever possible.

3. Overseas training course for academic faculty of IAAS (F)

Selected faculty members will be provided short-term non-degree training in specialized subjects. The program of the faculty member and the relevance of available courses will be considered in selection. USDA short courses offered in USA will be utilized for part of the training.

B. Study tours for academic staff

1. Mediterranean Live-stock Study Tour (A)

A 3 week tour with 7 or 8 faculty members will be taken to Cyprus (goat and sheep), Greece (sheep, goats, cheese processing), and Italy (buffaloes, cattle, sheep) with emphasis on multi-purpose livestock models applicable to Nepal.

2. Rural Development Study Tour to Indonesia (R)

Rural Development Study Tour to Indonesia. A 3 week study tour of 5 of the major agricultural universities in Indonesia, with special conferences with members of the Ministry of Agriculture and the Ministry of Higher Education and the Consortium of Agricultural Sciences will be arranged for a team of 7 or 8 faculty members from IAAS including members from each of the major disciplines (Animal Science, Plant Sciences, and Rural Development) and the Dean of IAAS. MUCIA R.D. Advisor will be the coordinator and the tour guide.

3. Plant Science Study Tour (P)

One or more tours of one to three weeks duration will be arranged to study plant sciences programs in relevant country or countries. It is expected that these will be arranged in late 1983 or in 1984. Tours will include the international center, ICRISAT, in Hyderabad, IARI in New Delhi and some agricultural universities in India. A tour to the international center, IRRI, and to University of the Philippines at Los Banos may also be arranged.

C. Administrative Visit to MUCIA Universities (P)

The Dean and one other senior administrative staff member of IAAS will each visit MUCIA Universities for approximately ten days to confer with MUCIA officials and to review administrative procedures and policies at those universities.

D. AID financed training program in India

Two or more participants per year can be sent by AID funded India Training Program for degree training in India at no cost to the project. Two or three short-term participants can also be sent each year.

III. Research Programs

MUCIA Advisors will work with IAAS faculty and administrators and serve as members of the research committee to best utilize project financial support for building research capability of IAAS faculty. Research proposal guidelines will be revised to insure that research is adequately planned and is pertinent to Nepal's agriculture and to IAAS's mission. Encouragement and assistance will be offered to faculty members in planning and conducting applied research and in making results available to interested persons.

A. Plant Science

Currently there are twelve research projects in progress in the plant sciences which are receiving MUCIA funding. Other areas of research which should be emphasized in plant sciences include;

a. Water management for crop production

There is immense opportunity for improved drainage, irrigation, and moisture conservation programs.

2. Development of cultural practices of field and horticultural crops for increased yields including:

2.1. Screening of germ plasm for selection of cultivars with potential for high yield under Nepalese conditions in cooperation with national programs in important crops.

- 2.2. Improved tillage and planting procedures.
- 2.3. Improved plant protection practices.
3. Nursery management for horticultural crops and improved landscape design and maintenance.
4. Improvement of integrated pest management programs.
5. Nursery management practices.
6. Seed quality studies.

B. Animal Sciences

The general areas of research to be emphasized in animal science include:

1. Forage evaluation
Evaluation of varieties of *Leucaena leucocephala*, a productive tropical leguminous fodder shrub/tree, has been formally proposed.
2. Feeding of crop residues
 - 2.1. Concentrates
Projects evaluating mustard cake are in progress.
 - 2.2. Roughages
Projects testing grain straws have been formally proposed.
3. Biogas residues
The feeding of biogas residue/slurry/sludge will be undertaken when biogas units are installed and operating.
4. Breed Evaluation
 - 4.1. Goats
Improvement of the size and milk yield of local goats while maintaining or improving their prolificacy will be undertaken.
 - 4.2. Sheep
Improvement of size, prolificacy, milk yield, and wool yield of local sheep will be initiated as this offers enormous opportunities for developmental research.
 - 4.3. Poultry
Poultry developmental research with chickens, pigeons, and Guinea fowl will be initiated under conditions of village scavenging.

5. Milk characteristics and processing

5.1. Comparison of milk composition of Haryana cows and Murrah buffaloes has been formally proposed.

5.2. Evaluation and characterization of goat and sheep milk for cheese, yoghurt and ghee will be undertaken.

6. Integrated fish-animal production

Construction of fish ponds is in progress.

7. Animal traction

Research into modernization of traditional farming techniques with modern equipment for animal traction will be undertaken.

C. Rural Development

Current and projected projects include:

1. Radio and other sources of information to the farmers in Chitwan District (P.I. Narayand Kunwar). Funded MUCIA project in process.
2. The evaluation of the B.Sc. Agriculture Program at IAAS, Rampur, Nepal, (P.I. Bholu Pokharel). Funded MUCIA project. Original project stalled but about to be reactivated.
3. A study of Farming Systems: A Case Study of Sharadanagar Panchayat (P.I. Pradeep Tulachen). Funded project in process.
4. Continuous research and evaluation of IAAS Pilot Extension Project. (RD Advisor and RD staff).
5. Assist in the development of new research projects within the Rural Development Division.
6. Research in the area of women's role as agriculturists in the Terai.

IV. Teaching Program (P) (A) (R)

MUCIA Advisors will assist IAAS faculty and administration in their efforts to improve teaching and curriculum and to encourage and reward superior teaching. This will include.

1. Preparation of syllabi and/or textbooks for assistance to teachers and guidance to external examiners.
2. Development of course outlines to define course objective and to reflect accurately what is being taught.
3. Development of elective courses to permit some specialization and pursuit of special interests and talents.

4. Arranging of seminars concerned with teaching improvement, evaluation of teaching, and related subjects.
5. Encouragement and assistance in developing at least ten textbooks for use in IAAS courses. Financial incentives will be offered from MUCIA funding.

V. Extension Activities

MUCIA Advisors will assist IAAS faculty and administrators in conducting and improving the extension activities of IAAS. MUCIA will provide financial support for extension activities as mutually agreed upon.

The Rural Development Advisor serves as the primary counter part of the Coordinator of the IAAS Extension Committee. He also helps coordinate extension support by the other advisors. Special attention will be given to making the IAAS Pilot Extension Project more effective and relevant, not only to the needs of the local farmers but also as a teaching and research unit for the Institute.

VI. Special Activities

A. Seminars (R)

MUCIA Advisors will assist in development, conduct, and support of a regularly scheduled seminar series at IAAS. The R.D. Advisor will work closely with the seminar coordinator in this effort. While this will include guest speakers from other Nepal-based projects and agencies as well as visitors from other countries, one focus will be to encourage IAAS staff members to share the results of their research, study tours and experiences abroad.

B. Survey of IAAS Graduates (R)

The R.D. Advisor will assist IAAS in conducting a survey of its graduates. Terms of reference are being written to contract with an objective, external organization to conduct the survey.

C. IAAS Alumni Homecoming (R)

Related to the above survey, IAAS plans to invite selected alumni to return to IAAS and participate in a seminar to help ascertain any weaknesses in the IAAS curriculum. The R. D. Advisor will provide assistance.

D. Fencing and forage development of North Farm (A)

A strong perimeter fence of about 4.2 miles (ca 7000 metres) is required to stop encroachment of villagers on IAAS fields and to prevent contact of outside live-stock with IAAS livestock with risks of disease and unscheduled matings. MUCIA will assist in planning and in financing this activity.

- E. Farm land shaping and irrigation development (P) (A)
 In order to improve drainage to permit earlier planting after rains and to permit development of deeper rooting zones for crops, a land shaping and ditch-drainage system will be installed on part of the IAAS farms. A short-term consultant may assist IAAS faculty and MUCIA Advisors. Funds may be available from the Chitwan Irrigation Development Project to help with the North Farm.
- F. Installation of Bio-gas Unit (A)
 Biogas digesters will be installed to render night soil and livestock dung safe for use as fertilizer or ruminant feed and to provide some of the fuel needs of staff and laboratories.
- G. Provision of Medical Doctor (A)
 Arrangements are being made for a volunteer physician. MUCIA will provide housing on a trial basis for the doctor.
- H. Completion of Campus master plan for medium term (10-20 years)(R)
 Long-term advisors, with possible assistance of a short-term consultant, will assist IAAS staff with the development of a Master Plan for Campus Development. The master plan will take into account future teaching, research and extension responsibilities of IAAS and will be for use by the Institute in obtaining future funding for campus development and in planning campus development and conform to an over-all plan.
- I. Establishment of Livestock Breeding Herds
1. Goats
 The project will assist in procuring nucleus herds of local and Damascus (Shami) goats for evaluation and to initiate improvement of local goats in meat and milk production.
 2. Sheep
 The project will assist IAAS in procuring nucleus flocks of local Kage. A prolific milking breed such as the Greek Chios or German East Friesian Sheep will be established with importation of animals or semen. These flocks will permit evaluation and initiation of genetic improvement of local sheep in meat, milk, and wool production.
 3. Poultry
 - 3.1. Chickens
 The project will help provide flocks of local chickens, jungle fowl, and "improved" breeds or hybrids for evaluation and for development of improved local breeds.
 - 3.2. Guinea fowl
 The project will help provide local and improved guinea fowl for evaluation as alternatives to chickens under village conditions.

3.3. Pigeons

The project will help provide local and selected populations of pigeons for evaluation and possible hybridization for improvement of meat and egg production.

4. Buffaloes

The buffalo development program will be funded by Chitwan Irrigation District under an Asian Development Bank Loan.

5. Swine

The project will help acquire some breedingboars or semen, plus the establishment of a nucleus herd of local swine.

6. Cattle

Bulls and/or semen for the Hariana cattle herd will be acquired for improvement of milk yield and draught characteristics, through pure breeding or crossbreeding.

J. Water for Lamjung Campus

A water supply is urgently needed. Some MUCIA funding may be available but not in amounts adequate to complete a water supply. Assistance in securing other funding sources will be provided if desired.

VII. Acquisition of Equipment and Materials

MUCIA Advisors will assist IAAS faculty in developing lists of needed equipment for teaching, extension and research. MUCIA funding will be utilized within the limits of the budget available. Special attention may be given to the following:

A. Laboratory equipment (P) (A)

The short-term consultant in laboratory equipment maintenance and repair should provide valuable advice regarding laboratory equipment needs. Completion of the inventory of MUCIA/AID-provided equipment will facilitate development of needs. A workable fume hood will be obtained.

B. Horticulture Nursery Stock (P)

Assistance will be provided to develop needs for nursery stock and to help finance acquisition.

C. Audio-visual center equipment (R)

The R.D. Advisor and the short-term consultant will assist in organizing the Audiovisual Center, in ascertaining the equipment needs and in facilitating the purchase of the proper equipment. Tentative lists have already been prepared.

D. Extension program equipment (R)

The R.D. Advisor will assist the coordinator of the Extension committee to define the equipment needs of the Pilot Extension Project and assist in obtaining the required equipment.

E. Livestock equipment (A)

The following equipment needs are recognized and the project will assist in purchase of the equipment.

1. A 1000 kg weigh scale as well as several smaller scales for small animals.
2. A heavy-duty squeeze chute to facilitate the handling of buffalo and cattle with a minimum of risk to the livestock and the staff and students.
3. Livestock identification equipment and supplies and other livestock management equipment.
4. Milk processing laboratory-
Equipment for processing up to 1000 litres of milk per day for the making of cheese, yoghurt, and ghee.
5. Veterinary laboratory-
Equipment for blood testing and other routine diagnostic procedures.

F. Books and Equipment for Branch Campuses (P) (A) (R)

The Project will procure books and equipment necessary to meet the immediate teaching needs of the branch campuses. Emphasis will be on purchase of textbooks and of equipment for student practicals.

G. Plant Protection Equipment (P)

Field plot and laboratory equipment are needed for teaching research and extension program in plant protection. Assistance will be provided, as feasible, to meet the need.

H. Seed testing and laboratory processing equipment (P)

Equipment is needed for student instruction in seed technology and for short-course instruction if IAAS decides to undertake such activities. MUCIA will help provide such equipment.

I. Sports and recreation equipment (P) (A) (R).

MUCIA will assist IAAS in acquiring needed equipment for group sports activities to promote student health, welfare and recreation.

VIII. IAAS Activity Commitments

The following activities are considered very important for the future development of IAAS. IAAS will assume responsibility for implementation of these activities. MUCIA specialists will serve as advisors and work as appropriate with IAAS staff complete these activities.

A. Complete Campus Development Master Plan

While MUCIA will assist in development of an up to date campus master plan, major responsibility for planning and final acceptance of a master plan lies with IAAS. The plan should identify future goals and responsibilities of IAAS and also identify construction and other needs to meet these goals. MUCIA will print the final master plan.

B. Complete Curricula Revision

Curricula revision will be a continuing activity of the Institute as courses change. During the final period of the IAAS project, the Institute will revise and MUCIA will print an up-dated IAAS Bulletin.

C. Develop IAAS Faculty Policy Handbook-

IAAS will review current Institute policies and establish other policies as appropriate. Those will include policies on such issues as housing assignments, research activities, training eligibility, leave, consulting assignments, and assignment of other perquisites and duties. In areas where the Institute is constrained to follow T.U. regulations, the appropriate T.U. policies will be included in the Handbook. MUCIA will print the Handbook developed by the Institute.

D. Development and Implementation of a Farm Plan

IAAS will revive its Land Utilization Committee to develop and begin implementation of a comprehensive Farm Plan based on current soil survey information. A variety of appropriate local cropping systems will be utilized on appropriate land areas to make maximum use of the Institute farm in teaching research, demonstration, and production. The Farm Plan, to the extent possible, will integrate farm activities and stress those activities appropriate to the conditions of Nepali farmers. MUCIA will print the Farm Plan developed by the Institute.

E. Implement Staff Evaluation and Incentive Program

IAAS will develop a system for regular staff evaluation, including both quality and quantity of work output. Institute policy in this regard will be included in the IAAS Faculty Policy Handbook. The Institute will begin implementation of this evaluation system and will establish an incentive program to recognize outstanding staff members.

APPENDIX II
THE RURAL DEVELOPMENT GROUP

THE DEPARTMENT OF RURAL SOCIOLOGY AND AGRICULTURAL EXTENSION

1. Dr. Kailash Nath Pyakuryal (Professor of Rural Sociology;
Assistant Dean for Administrative Affairs)

Dr. Pyakural completed his Ph.D in Rural Sociology at Michigan State University and returned to IAAS in September of 1982. Since that time, he has been promoted to Assistant Dean for Administrative Affairs at IAAS and has served on the Research Committee of the Royal Commission for Higher Education in Development. In addition to teaching, heading the Campus Planning Committee, and serving on the Staff Evaluation Committee at IAAS, Dr. Pyakuryal has also held at least two consultancy positions. He served as the social scientist for the USAID team evaluating the Integrated Cereals Project and worked with APROSC in an evaluation of the impact and efficiency of government agricultural farms. In June of 1983, he participated in the MUCIA-funded Rural Development/Institutional Development Tour of Indonesia and Thailand.

2. Mr. Narayan Kunwar (Lecturer in Agricultural Communications;
Assistant Dean for Academic Affairs)

Mr. Kunwar received his M.Sc. in Agricultural Information from the University of Wisconsin in August of 1979. During the reporting period, Mr. Kunwar was chairperson of the Rural Development Division and then the Department of Rural Sociology and Agricultural Extension until May 1984, when he became Assistant Dean for Academic Affairs. He was also editor of the IAAS Journal until August 1984 and has served regularly on the Extension Committee. He completed a MUCIA-funded research

project on the use of Radio for Farmers' Education and was the prime mover in designing an audio-visual services center and in preparing the equipment lists for this unit. During the reporting period, Mr. Kunwar made two trips abroad under MUCIA funding. In November and December of 1982, he visited the Philippines, Thailand and Korea to study agricultural communications systems and audio-visual services systems. He also went to the United States to participate in a six week USDA organized short course in Agricultural Communications held at Iowa State University. Working with Mr. Suvedi, Mr. Kunwar helped design a curriculum unit for teaching population problems to first year students. This project was financed through the Population Commission and has proved so popular and useful that it appears that the unit will be taught to other professionals in Nepal.

3. Mr. Badri Bahadur Singh Dongol (Lecturer in Extension Education; Chairperson for Rural Sociology and Agriculture Extension)

Mr. Dongol received his M.Sc. in Agricultural Extension in India in October 1979. For most of the reporting period, Mr. Dongol served as the Campus Chief of the Paklihawa Branch Campus of IAAS near Bhairawa. During the summer of 1984, he transferred to the main campus at Rampur and replaced Mr. Kunwar as Chairperson of the Department of Rural Sociology and Agricultural Extension. In 1983 he joined Mr. M. Suvedi of RD and the two of them spent ten weeks at the University of Wisconsin in a USDA-organized short course on Agricultural Extension.

4.Mr. Muani Suvedi (Lecturer in Extension Education; Member Secretary of the Extension Committee).

Mr. Suvedi received his M.Sc. in Extension Education at UPLB in June of 1982. During the reporting period Mr.Suvedi served as Seminar Coordinator, was promoted to Lecturer, and August 12, 1984 became the Member Secretary of the Extension Group. In addition he also served as a Hostel Warden. During the summer of 1983, he held several consulting positions. He worked with UNICEF on the development of curriculum for training women as group organizers, worked with IDS (a private consulting group) on an evaluation of panchayat training programs, and did a critical review of the Training Materials Production Center for the Ministry of Panchayat and Local Development. In 1984, with a grant from the Population Commission, Mr. Suvedi and Mr. Kunwar organized a group of 10 other professionals and prepared a curriculum for special training in population problems for 1st year students from both branch campuses.

5.Mr.Satya Narayan Tiwari (Lecturer in Extension Education; Campus Chief of the Lamjung Campus)

Mr. Tiwari received his M.Sc. in Extension Education from Ohio State University in March of 1979 and was assigned to the Lamjung Campus until June of 1984. The RD Advisor thus had less contact with him than with other members of the RD group. Mr.Tiwari made continuous efforts to improve conditions for both the staff and the students at this semi-isolated branch campus in the low hills. In June of 1984 he joined the Dean of IAAS and eight other staff members for a two week tour of Indian Agricultural Universities and Training Centers.

6. Mr. Narsingh P. Gupta (Lecturer in Extension Education)

Mr. Gupta received his M.Sc. in Extension Education from the American University in Beirut (date unknown). He is the newest member of the Rural Development group, coming to Rampur in March of 1983 after having served with HMG's Department of Agriculture, Extension Division for 16 years. He was, among other things, the first ADO (Agricultural District Officer) for the Chitwan area. As a Lecturer at Tribhuvan University's College of Education for two years, he taught vocational agriculture and biological sciences. At IAAS, he lectures on Agricultural Education at the Diploma and Certificate levels.

7. Mr. Bishnu Bhandari (Lecturer in Rural Sociology)

Mr. Bhandari received his M.Sc. in Agricultural Education in 1977 at Michigan State University and is now at the University of Wisconsin completing his Ph.D. in Rural Sociology. In May, 1983, he returned to the Rampur campus to spend several months collecting data for his dissertation. His research concerned land tenure and social stratification although he also investigated nutrition. Mr. Bhandari returned to the University of Wisconsin in October of 1983 and expects to complete his degree in early 1985.

THE DEPARTMENT OF AGRICULTURAL ECONOMICS

1. Mr. Ganesh Shivakoti (Lecturer in Agricultural Economics;
Chairperson Department of Agricultural Economics)

Mr. Shivakoti received his M.Sc. in Agricultural Economics in India in October of 1979. In August of 1982, he resigned his post as Chairperson of the Rural Development Division in August of 1982

to attend a ten-month course in Rural Development in the Netherlands. After he completed this course, MUCIA funded a trip to the USA to visit Michigan State University and the University of Wisconsin from June 12-June 27, 1983. Mr. Shivakoti resumed his duties at IAAS on June 30, 1983. Mr. Shivakoti is the first chairperson of the newly-formed Department of Agricultural Economics. He held at least two consultancies, the most recent of which was with SECID examining the feasibility of one of the USAID-funded Resources Conservation Utilization Projects (RCUP) on Agroforestry. Mr. Shivakoti was the second Coordinator of the Pilot Extension Project.

2. Mr. Bholu Nath Pokharel (Lecturer in Agricultural Economics; Editor of the Rampur Round Up)

Mr. Pokharel received his M.Sc. in Agricultural Economics from Ohio State University in January of 1981. Just prior to the reporting period (in August 1982), he was funded by MUCIA to attend the International Conference on Agricultural Economics in Jakarta, Indonesia. Mr. Pokharel has been very active in committee work on campus including serving on the Library Committee, the Hostel Committee, the Property Management Committee, the IAAS Budget Preparation Committee, and the Campus Development Committee as well as the Staff Evaluation Committee. He conducted research on IAAS's B.Sc. Ag graduates and their current employment situations, providing information that will be extremely useful for planning. He is now in charge of a committee to produce a new annual report of IAAS activities. Mr. Pokharel reactivated the campus newspaper, the Rampur Roundup, and serves as its editor. In addition to his many campus duties, he has held a consultancy with IDS where he worked on marketing and pricing policy for the

RCUP project and the Rapti Area Development Project. He participated in the MLU --funded Animal Science Tour of Cyprus, Greece and Italy. Mr. Pokharel was the first coordinator of the Pilot Extension Project.

3. Mr. Pradeep Tulachan (Lecturer in Agricultural Economics)

Mr. Tulachan received his M.Sc. in Agricultural Economics from the University of Illinois in August of 1979. During the reporting period, he was appointed to the important post of Coordinator of the Extension Committee. He was also recipient of the Best Teacher Award from the Ministry of Education. Mr. Tulachan completed two research projects (one funded by ADC and another by the IAAS/MUCIA Research Committee) on farming systems in the Chitwan District, wrote a research report, and presented a paper at the 10th Annual Seed Research Conference sponsored by ICP. In addition, he attended an ADC-funded short course in Bangkok on socioeconomic aspects of livestock production and prepared a report for ADC at APROSC. He also attended a seminar in Singapore sponsored by IDRC on the socioeconomic aspects of livestock production. In June of 1984 he departed from Rampur for Cornell University to begin his Ph.D program in Agricultural Economics with funding from ADC.

4. Mr. Gihmire Cholendra (Assistant Lecturer in Farm Management)

Mr. Cholendra is a recent B.Sc. graduate from IAAS (1982) who joined the staff at IAAS in 1982 to teach Farm Management. At the close of his first year, he left the Rampur Campus to join the teaching staff at the Paklihawa Branch Campus as an Assistant

Lecturer in Farm Management.

5. Mr. Ganesh M. S. Adhikary (Reader in Agricultural Economics)

Mr. Adhikary was at Michigan State University during the final two years of the project. He has completed his coursework at MSU and is working on his research proposal. He planned to return to Rampur in the Fall of 1984 and carry out the field research necessary to gather data for his Ph.D. dissertation.

6. Dr. C. M. Shrestha (Lecturer)

Although he is officially still a member of the Department of Animal Sciences, Dr. Shrestha did his Ph.D. work at the University of Kentucky in Agricultural Economics. It is expected that he will join the Department of Agricultural Economics on his return to Rampur.

APPENDIX III

A proposal to develop an
Agricultural Communication Service Center (ACSC)

IAAS should plan to develop a separate information processing unit - a communication service center at the central campus, Rampur.

Immediate need to establish such a organized center to support communication services is felt because so far IAAS faculty members lack facilities and equipment to develop instruction materials beside carrying our other responsibilities - research and extension work. Following facts clearly point out the need to establish a Agricultural Communication Center (ACSC) at the central campus:

1. To teach effectively, IAAS faculty members need to develop teaching materials for classroom use.
2. Also, to support their lecture and laboratory presentation, faculty members should get regular supply of audiovisual materials such as slides, photographs, audiotapes, wall charts, posters, models, specimen and overheads.
3. IAAS students should develop skills in handling and preparation of low cost audiovisual materials because when they get various types of jobs, they are expected to handle audiovisual materials. There is a need to develop an audiovisual laboratory to teach students about handling and development of audiovisual aids.
4. IAAS needs printed and audiovisual materials and media for effective communication to the farmers through extension programs.
5. IAAS needs a typing and printing unit to facilitate publication of research results in various farms. IAAS Journal, news bulletin, periodicals, extension publication, etc. could be printed and published by the Communication Services Center.

IAAS should organize seminars, workshops, meetings, etc. regularly in various disciplines of agriculture to exchange ideas within IAAS staff members or with outside scientific communities. A conference hall well equipped with audiovisual aids within the conference hall will facilitate to organize such seminar, workshops and meetings in Rampur.

Functioning of the ACSC: -

ACSC will have three types of functions: -

- | | | |
|----------------|---------------------|-------------------------------|
| i) Programming | ii) Production and, | iii) Distribution/Utilization |
|----------------|---------------------|-------------------------------|
- 1) Programming:-
 1. Consultancy with specialist (teachers), communicators
 2. Data Collection,
 3. Design teaching aids and communication aids,
 4. Media selection,
 5. Scripting,

Functioning of the ACSC

- ii) Production: -
1. Graphics,
 2. Photography,
 3. Audio-recording,
 4. Printing/photocopy,
 5. Reproduction,
 6. Storage of master materials,
 7. Maintenance of equipment.

iii) Distribution/Utilization: -

1. Inventory of software/hardware,
2. Distribution,
3. Check-out/check-in,
4. Storage/retrieving.

Recommended Staff and Their Qualifications: -

1. Center Director: - A faculty member with MA or Ph.D. degree from Rural Development Department should be assigned as Center Director on full or part-time basis.
2. Program Officer: - He will be the assistant to the Director. He should be cooperative to the teachers and interested in audiovisual productions. A B.Sc. (Ag.) undergraduate could be hired and trained if necessary.
3. Audiovisual Technician: - He will operate and maintain audiovisual equipment. An interested IAAS certificate/diploma student could be hired and sent for training.
4. Graphic Illustrator.
5. Photographer and Dark Room Technician.
6. Typist and offset operator.
7. Peon.

Through UNDP, Kathmandu, Development Training and Communication Planning (DTCP) office in Bangkok can be asked for training audiovisual technician and graphic illustrator. DTCP can provide training itself or can recommend training institutions.

Mr. Om Bahadur, who is already a graphic illustrator can be sent for further training in graphics.

Design for the Communication Center: -

IAAS should not make delay to develop the Agricultural Communication Services Center. It should start with whatever equipment and manpower it has already. A short term expert should be invited through MUCIA to design the communication center in consultation with Rural Development faculty member and IAAS/MUCIA Project Manager. DTCP personnel can also be consulted. They will not charge IAAS if we make the request to them through UNDP, Kathmandu.

Commodities for the Communication Center: -

IAAS has a few audiovisual equipment. Some of them need to be repaired. Following is the list of equipment that need to be ordered for purchasing immediately: -

<u>A. Dark room equipment.</u>	<u>Quantity</u>
1. Enlarger condenser, lenses	2
2. Enlarging easel	1
3. Dark room timer	1
4. Negative developing tanks	5
5. Negative developing trays	5
6. Safe lights	
7. Print washer	1
8. Printer dryer (rotary drum dryer)	1
9. Contact print easels	2
10. Camera (35 mm) with 50 mm lenses	3
11. Lens 55 mm, 24 mm, 135 mm one each	
12. Vivitar 285 flash units and accessories	2
13. Tripod	
14. Dry-mount press	
15. Copy stand	1

Commodities for the Communication Center: Continued

	<u>Quantity</u>
16. Temperature control unit for water system	
17. Refrigerator for film storage	
18. Sink facility for film processing	1
19. 32 oz/1 liter graduate	2
20. 16 oz/500 ml graduate	2
21. Thermometer, °C and °F	2
22. 16" paper cutter	1
23. Wirecutter pliers	1
B. <u>Graphic Arts</u>	
1. Graphic arts camera, vertical graphic film processors	
2. Drafting tables with drafting machines, triangles, rulers, pen, scissors, and general graphic supplies.	
C. Preview/conference (audiovisual items): -	
1. Kodak slide projectors	2
2. Stacking stands	1
3. Projection stand	1
4. 3-M overhead projectors with stands	1
5. Tape recorder/player synchronizer	1
D. <u>Audio recording:</u> -	
1. Microphones	4
2. Restored recorders, Sony	1
3. Cassette recording decks, Sony	1
4. Monitor speakers	2
5. Headphones	2
6. Portable battery operated	
7. Cassette recorders	2
8. Phonograph turntables	
9. Amplifier	

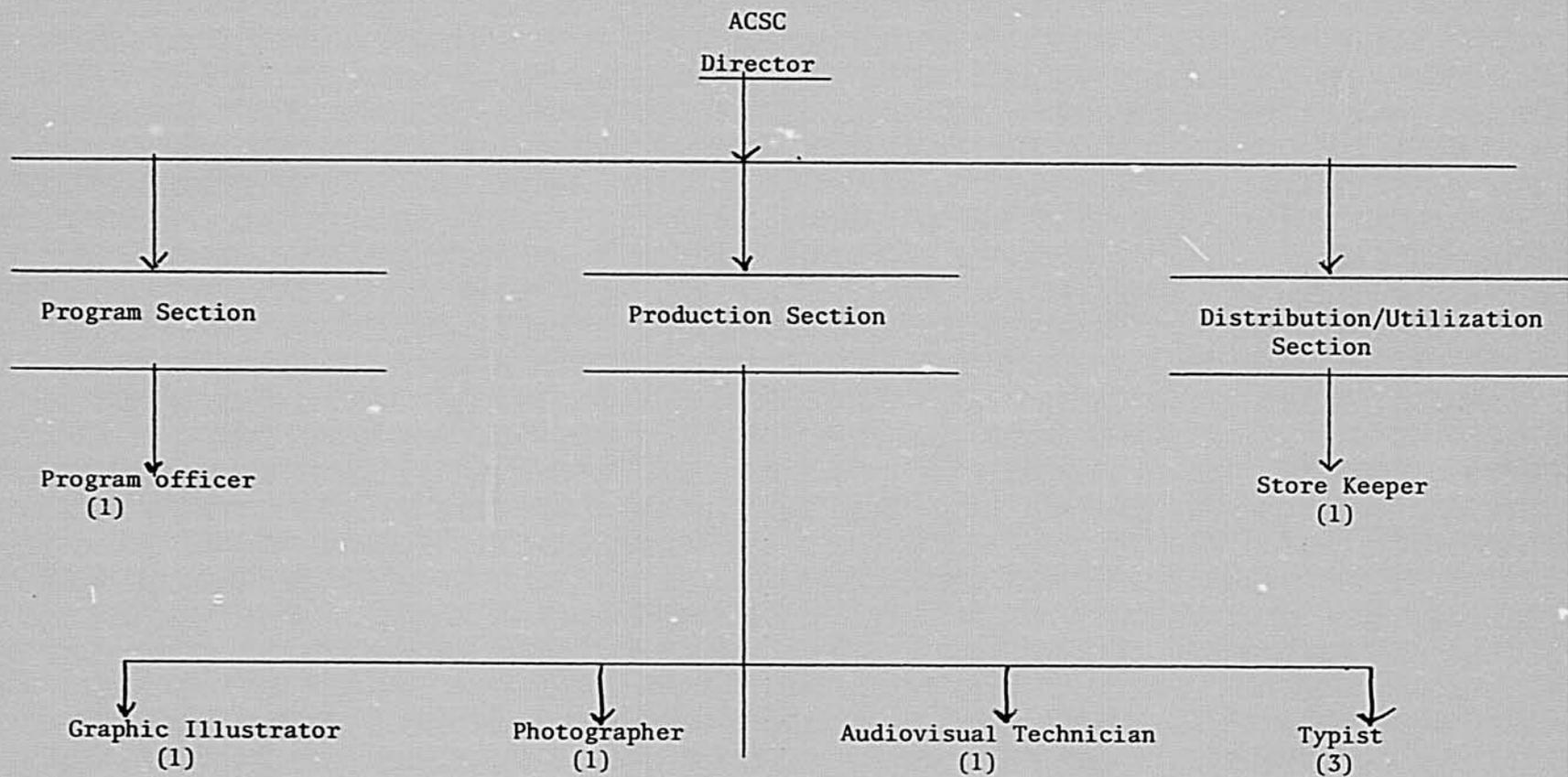
Commodities for the Communication Center: Continued

	<u>Quantity</u>
E. Printing: -	
1. Offset press Multigraphic AM 1250N, maximum sheet size 11.7" X 17"	1
2. Plate maker	1
3. Line up/stripping table	1
4. Spiral punch binder	1
5. Perfect binder	1
6. Paper cutter	1
7. Stapler (power)	1
8. Paper drill	1
9. Perfect dinder	1
10. IBM electric typewriter	1
11. Manual typewriter	2

Submitted by: Narayan Kunwar

lj

Recommended Organizational Chart of ACSC



APPENDIX IV

INDONESIA STUDY TOUR: EXECUTIVE SUMMARY

Dr. Herbert L. Whittier, MUCIA Rural Development Advisor, led a group of five IAAS staff members on a tour of universities, agencies, and development projects in Thailand, Indonesia and Singapore. Members of the tour were: Dean Bindeshori Prasad Sinha, Dean of IAAS and Agricultural Extension Specialist; Dr. Karilash Nath Pyakuryal, Assistant Dean for Administration and Reader in Rural Sociology; Mr. Santa Man Shakya, Lecturer in Horticulture; Mr. Bhairab Raj Khakurel, Lecturer in Soil Science; and, Mr. Kulakkattolicka Theve sia Augusthy, Lecturer in Animal Science.

The first stop on the tour was Thailand where the group spent three days. While processing visas for Indonesia, the group made several visits to important agencies and universities. At Kasetsart University, the group visited the various departments concerned with agriculture, fisheries, sociology, and rural development. They also visited the offices of the Association of Southeast Asian Nation's (ASEAN) Economic Development Programme, located on the university campus. In Bangkok, the group also visited the United States Agency for International Development (USAID), the Agricultural Development Council (A/D/C), and the Asian Institute of Technology (AIT).

From June 4th through June 25th (27th), the group toured Indonesia. This portion of the tour began with briefings by the Rural Development and the Education and Human Resources offices of USAID. The group then visited the following universities: the Institute of Agriculture (IPB) in Bogor; Padjadjaran University (UNPAD) in Bandung; Gadjah Mada University (UGM) in Yogyakarta; Udayana University (UNUD) in Denpasar, Bali; Airlangga University (UNAIR) in Surabaya; and, Brawijaya University (UNIBRAW) in Malang. Each of these institutions has departments or other units concerned with teaching, research and public service in agriculture and/or rural development. At each of these universities, the whole group first met with the Rector or his representatives and with the Deans of the colleges they were interested in visiting. The group then split up and individuals visited those faculties, departments, or units most in line with their interests. In some cases, the entire group visited major campus research facilities and projects. At each university, tour members collected sample curricula, research reports, and information on public service projects.

In addition to university visits, the group spent one day visiting the USAID funded Citanduy II Watershed Management Project located between Bandung and Yogyakarta. Another day was spent touring the island of Bali to observe the farming systems. This was of particular sociological interest to the group because the Balinese, like most Nepalese, are Hindu and their farming systems are based on irrigated rice on hillside terraces. Another day was spent observing farming systems on the Island of Madura which, unlike adjacent Java, is dry with less fertile soils and grows large amounts of maize. En route to UNIBRAW in Malang, the group spent one day visiting a dairy cooperative in the mountains and the Royal Botanical Gardens near Malang.

On June 23rd, the group returned to Jakarta and joined a debriefing at USAID/EHR on the 24th. On the 25th of June, the tour group participants flew to Singapore to visit the International Development Research Centre (IDRC) on the 27th. The tour leader remained in Jakarta until the 27th to attend a pre-arranged meeting with members of the Government of Indonesia's Ministry of Education and Culture (the sponsoring agency for the tour) concerning the results of the tour. On the 26th of June, the tour leader met with members of a contracting group (PADCO) working with the USAID-funded Training of Agricultural Trainers Project to discuss problems of agricultural training.

On June 27th, the tour participants flew to Bangkok and on the 28th had meetings at the United Nations Development Programs Office (UNDP), the Food and Agriculture Organization (FAO), and the International Development Training Centre (IDTC). The tour leader flew to Singapore on the evening of June 27th and on the 28th met with the Director of IDRC for 2 hours concerning programs at IAAS. On the 28th, the tour leader flew on to Bangkok, and on the 29th, the group reassembled at the Bangkok airport and returned to Kathmandu, officially concluding the tour.

In the course of the tour, the members of the group collected a large amount of literature from the various universities, institutes, and agencies and a variety of newsletters and other publications. This material is now in the IAAS library and includes 157 titles (209 items as there are multiple copies of some publications). They also obtained 5 new varieties of cassava (*Manihot Esculanta*), one and one-half kilograms of *Leucaena* (Ipil-Ipil) seed, and 2 varieties of *Rhizobium* Inoculant. The plant materials are now in quarantine at the IAAS Horticulture Department.

Tour members are now preparing individual reports on the tour. When these reports are completed and slides developed and assembled, the group will present a seminar for the IAAS faculty.

In the course of the tour, we found several ideas and practices that could be relevant to IAAS in planning and developing, and organizing the Institute and its programs. Those listed here are but a small sample and are things we noted at every institution we visited.

1. Regular revision of academic programs to meet the country's manpower needs assessment of which is based on both direct government request and on research conducted by the institutions themselves.
2. Programs at all levels-- non-degree to graduate work-- offered by the same divisions and their staff, giving access to equal quality facilities to trainees at all levels.
3. Emphasis on student opportunities for practical work which provides service to the community as well as allowing students to gain first-hand experience with problems of development, especially in the rural areas. These programs are not just "tack-ons" but an integral part of the

student's academic program.

4. Staff promotion based on clear guidelines for evaluating teaching, research, and public service.
5. A strong emphasis on long-term Master Planning, both in academic programs and physical plant development, at all levels of the university down to the individual department.

Based on this experience, I suggest a future study tour to Indonesia that would involve visiting fewer institutions for somewhat longer stays, at least three to four days at each, and would include, rather than the major universities, at least three of the newer schools located in more isolated areas.

APPENDIX V

INDIA STUDY TOUR REPORT

Introduction

by B. P. Sinha: Dean IAAS
H. L. Whittier: MUCIA Advisor

An India Study Tour was conducted from June 17 through June 29, 1984. The tour was jointly led by Mr. B. P. Sinha, Dean of the Institute for Agricultural and Animal Sciences, Tribhuvan University, and Dr. H. L. Whittier MUCIA, Rural Development Advisor and Chief of Party. The group, in addition to the two above, included eight IAAS Faculty members. While the tour was originally planned as a Plant science tour, and most of the staff members were selected from plant science related disciplines, it became an integrated tour with staff members from the following disciplines represented: entomology (2); agronomy (1); botany (1); soil science (1); horticulture (1); animal science (1); and, rural development/extension (2).

The objectives of the tour were several, mainly focusing on agricultural education and the components of teaching, research and extension. We hoped to obtain, and did, ideas which we could bring back to the IAAS to help improve its institutional growth. Our approach at the institutions visited was generally to first have collective meetings with Institution officials and administrators and then to divide up as individuals and hold more detailed discussions with members of the faculties or departments in our specific interest areas. (A list of participants is attached).

The tour began with a briefing and orientation provided by USAID/India's Agriculture and Production unit (Delhi), and the additional institutions visited in order of visit) included: The Indian Council for Agricultural Research (ICAR); The Indian Agricultural Research Institute (IARI-Delhi);

The Institute for Cropping Research in the Semi-Arid Tropics (ICRISAT-Hyderabad); The Andhra Pradesh Agricultural University (APAU-Ragendranagar); The Rajasthan College of Agriculture (RCA-Udaipur); and, the G. B. Pant University of Agriculture and Technology (GBPAU- Pantnagar). (Sketch map of tour and schedule are attached).

The group was warmly received at each institution visited and a great deal of data and publications were provided. Each institution had worked out carefully planned schedules for the group which allowed the best use of the short period which we had available.

Each participant of the tour has put together his own report on what he learned and most of the group presented a seminar to the rest of the faculty members at IAAS on August 15, 1984. While copies of these reports follow this summary and each contains its own list of essential points learned, it might be worth while here to draw attention to several interesting general facts learned.

1. Agricultural education in India, in the mid 1950's developed an interest in higher education in agriculture following the system of U.S. Land Grant Universities with an emphasis on teaching, research and education. There are currently 23 recognized agricultural universities.
2. The Indian Council of Agricultural Research, in addition to functioning as a clearing house for research activities at the various agricultural universities contributes from 20 to 40 percent of the research budgets each of the agricultural faculties. It also acts as an advisory or policy making group towards both the Ministry of Education, the Ministry of Agriculture and the Universities themselves.

3. While at some schools Animal Husbandry was included in the College of Veterinary Medicine and in others Veterinary Medicine was included in the College of Animal Science along with Animal Husbandry, the overall advice was the same-- keep the units together in the same College.
4. In all cases faculty units contributed to the development of extension and training. The thrust generally though was to work on experimental models, try to solve problems of the Extension service of the Ministry and State level organizations, and to conduct various levels of training activities for farmers, other groups, in service training for state and ministry level officials as well as host international training sessions in extension and training. In no case did the universities or institutions see themselves as competing with the state and national level agencies. A spirit of cooperation was obvious.
5. Examination systems were generally external to the faculty (college) but internal to the university.
6. In most cases a land grant university philosophy of teaching, research and extension was clearly advocated with teaching being viewed as the primary goal (except at IARI which is by definition a research oriented institution).
7. Most universities followed a semester or trimester system of course work and had a four year curriculum after an I.Sc. level degree (10+2+4) for the B.Sc. Degree.
8. Elaborate evaluation and promotion systems had been developed and most systems used the ranking system of Instructor, Assistant Professor, Associate Professor and Professor (except again at IARI which used a parallel system of S1, S2, S3 (Scientist Step 1, etc.)).

9. Pay scales and housing were generally more lavish than those provided through Tribhuvan University.
10. Work Experience Programs, at least at APAU, involved 7th semester students in a one semester long working experience with farmers in selected areas. Monitoring and evaluation help were provided by the director/staff of local research and extension units as well as staff members from the students respective departments. A stipend was provided to the students and they bring problems and obtain advice and direction from the research station affiliated with their region. A final report is submitted for evaluation to the concerned department/faculty advisor.
11. The Universities visited in India had similar problems with students and disruption to those previously encountered by IAAS. One University, RAC, was in the process of switching from the semester system to the Annual system as did IAAS in an attempt to solve some of these problems. UPAT was in the process of switching from the trimester to the semester system for the same reasons.

INDIA TOUR: PARTICIPANT LIST

The participants for the India Study Tour were initially identified in February and reconfirmed in April in a joint session with the Dean of IAAS and the Plant Science Advisor (Chief of Party). In June the list was modified slightly with the aid of the Rural Development Advisor (new Chief of Party). The group was chosen to emphasize the Plant Sciences but members of each of the other major branches of IAAS were included so that the learning experience of the tour would be shared by all of the different departments at IAAS. It was decided that the tour would be jointly led by Mr. B.P. Sinha, Dean of IAAS and Dr. H. L. Whittier, Rural Development Advisor.

PARTICIPANT	RANK	SPECIALISATION
1. Mr. Bindeshwori Prasad Sinha	Dean: IAAS	
2. Dr. Herbert L. Whittier	Rural Development Advisor	
3. Dr. Tej Bahadur K. C.	Professor: Soil Science	
4. Dr. Fanindra Neupane	Professor: Entomology	
5. Mr. Satya Narayan Tiwari	Lecturer: Extension	
6. Mr. Teg Bahadur Nepali	Lecturer: Botany	
7. Mr. Rishi Adhikary	Lecturer: Horticulture	
8. Mr. Uma Shankar Gupta	Lecturer: Agronomy	
9. Mr. Ishwari Prasad Dhakal	Lecturer: Animal Science	
10. Mr. Mukbal Hussain Khan	Asst. Lecturer: Botany	

INDIA TOUR ITINERARY

Month Date Day	Location	Time	Purpose
June 17 Sunday	Kathmandu	Dept. 1605	IC/414 Y Begin Tour
	Delhi	Arr. 1730	IC/414 Y Travel
June 18 Monday	Delhi	All Day	USAID: Orientation and briefing ICAR : Orientation & bri
June 19 Tuesday	Delhi	All Day	IARI: Orientation & bri
June 20 Wednesday	Delhi		IARI - Department visits
	Delhi	Dep. 1550	IC/403 Y Travel
	Hyderabad	Arr. 1745	IC/403 Y
June 21 Thursday	Hyderabad	All Day	University visit
June 22 Friday	Hyderabad	All Day	ICRISA ¹ visit
June 23 Saturday	Hyderabad	Dep. 1350	IC/118 Y Travel
	Bombay	Arr. 1500	IC/118 Y

June 24 Sunday	Bombay	Dep. 0600	IC/492 Y Travel
	Udaipur	Arr. 0835	IC/492 Y
June 25 Monday	Udaipur	All Day	University Visit
June 26 Tuesday	Udaipur	Dep. 0905	IC/492 Y
	Delhi	Arr. 1155	IC/492 Y
	Delhi	Dep. 1200	By Vehicle
	Pantnagar	Arr. 1900	By Vehicle
June 27 Wednesday	Pantnagar	All Day	University visit
June 28 Thursday	Pantanagar	Dep. 0530	By Vehicle
	Delhi	Arr. 1155	By Vehicle
June 29 Friday	Delhi	Dep. 1000	IC/413 Y Travel
	Kathmandu	Arr. 1135	IC/413 Y
		END OF TOUR	

Indian Ag. Universities Tour Report

Extension Education Aspects

S. N. Tiwary
Campus Chief, Lamjung

IAAS/MUCIA Project sponsored a tour of agricultural universities and institutes in India. IAAS was represented by the Dean and faculty members from different disciplines. The objectives of this tour program were as follows:

- a) To learn the organization and operation of agricultural universities and research institutes located in north central and northwest regions of India.
- b) To gain an understanding of their developments and problems and constraints related with present growth and functions of these institutes.
- c) To gain an insight and in depth study of the interrelationships and pattern of coordination among of the various organizations from both administrative and operational point of views.
- d) To know the various program areas in teaching, research and extension activities through universities and institutes from national to local lands.
- e) To know specifically the various activities of the departments in details by the individual participants of the educational tour.
- f) To gather information on curriculum of these universities and use them for developing the B.S.Ag. curriculum of IAAS with the view that IAAS gets recognition and improves its standards of academic excellence at international level.

Organization of the Tour:

As stated earlier this tour was sponsored by IAAS/MUCIA Project. The tour was led by Mr. B. P. Sinha, IAAS Dean and the MUCIA Chief of Party, Dr. H. L. Whittier. Major program areas of this institute viz agronomy, soils, entomology, extension, livestock, administration were represented by 10 members (faculty) with their varied level of academic levels as well as experience. Once this program was postponed and term on completed successfully. Thanks to Dr. Whittier who deserves the credit of the success of this educational tour, although the schedule was too tight and hectic to allow sufficient time to achieve even more perfection in the fulfilment of the objectives stated above. Except for a few places visited, arrangements were excellent. As the representative of agri.extension program from IAAS will focus there are on extension education aspects only.

Places visited

July 18-20, 1984:- The tour began from Delhi with the visit of the national level organization of agriculture. The Indian Council of Agricultural Research (ICAR). The ICAR has its major function of coordination and development of agricultural research and education at the national level expanding to state and local levels through several universities and research institutes. At this point of time, there are 30 research institutes. And 60 coordinated research projects at all India level under the direct control of the ICAR. It is the main governing policy decision making and planning body, and source of funding for all agricultural institutes and universities in India. After this, the universities and institutes enjoy full autonomy for operational purposes at their own levels.

ICAR along with its other functions carries out its extension functions mainly for two purposes: (1) to provide exposures to ag. agricultural and (2) to develop models.

ICAR extension activities are carried out mainly through IARI (Indian Agricultural Research Institute, Pusa, N. Delhi) but also through national and state extension service. Main program area are identified as follows:

- a) Training programs for farmers, professionals and paraprofessionals
- b) Operational research projects (3 - stage)
- c) National demonstrations
- d) Publications, radio and T. V. Program
- e) Development of new extension approach and techniques of technology transfer
- f) Laboratory to land programs
- g) Krishi Bigyan Kendras

The above mentioned program activities have been assigned to the Dept. of extension. IARI which is turn execute these program by adapting villages as project sites. These activities are exclusively experimental in nature and never competes with national agricultural extension service which is the main delivery system of the extension programs for the rural India. Instead IARI and ICAR serve as linkage and guide to the government of India and state governments. As a result a new approach called the location specific technology development has become new strategy for the development of agriculture in India.

Through national demonstrations, lab to land programs, Krishi Bigyan Kendras. Farmers fair, new techniques of technology transfers, some new extension approaches like T and V systems etc. The governments undertaken extension services have been benifitted to appreciable extent.

June 21, 22, 1984 Hyderabad:

Andhra Pradesh Agricultural University, Rajendra Nagar and ICRISAT, Patnacheri Hyderabad.

APAU like many ag.univ. in India is also operating on the ideals of land grant patterns. First morning session started with meeting with the Deans, departmental heads and faculties and a over all views of academic programs, organization and operational aspects were presented followed by visits to the ext. education institute, All India coordinated research project economic orinithology (relatively new discipline), and agricultural information and communication center and university press.

Once again, the extension activities are mainly limited with teaching and research functions of the university system and their findings serve as the guidelines and suggests the st. government to use these newly developed and effective technology transfer techniques in the extension service. As the source of funding and extension programs come from ICAR, APAU also had undertaken the similar extension activities stated earlier through adopted village approach.

EEI offers 2-years post graduate courses in

a) monitoring and evaluation (b) extension management

and short term training in communication. There are 3 EEI's in India in 3 regions such as APAU, Hyderabad; Anand, Gujrat; and Heclocheri, Haryana.

International Crop Research Institute of Semi-Arid Tropics, Patancheri, Hyderabad(ICRISAT).

This institute is highly specialized in advanced research in only four crops such as pigeonpea, chick pea, ground nut and pearl millets. Cropping systems research is its main approach. Scientists and graduates from other universities from many countries come this institute for research with prior arrangements and agreements settled jointly by them.

Extension component of ICRISAT contends its functions with field testing of new technology developed publication, training of professionals and pre-professionals and holding a field day in Sept. every year.

Areas of training are as follows:

a) International intership (b) research fellows (c) inservice fellows (d) research cholars (e) inservice (f) apprenticeship

Before proceeding to our next destination- Rajesthan, we had to take our connecting flights from Bombay, a transitional journey which was a bit hectic and trouble-some, nevertheless, participants had a chance to have a quick glance of 'Bombay by Night'.

June 24-25, 1984 - University of Udaipur Rajasthan College of Agriculture
(Now Mohan Lal Sukhadia University)

The RCA of university of Udaipur also came into being along with other ag. universities in India aided by USAID whose development took the course of land grant pattern of US universities. ICAR once again played its vital roles for its development at present level.

Two types of extension organizations are operating:

- a) Directorate of extension (state govt.) (b) Department of extension of RCA

The directorate of extension carries out its functions in 3 ways

1. Training approach
2. Demonstration thru lab to land programs
3. Communication approach

Extension activities at state level are conducted by this directorate by using the following extension techniques and programs

1. Kisan Mela - special features are, Bichar Gosthi, Competitions by farmers, private companies and organizations' exhibits
2. Extension tour of farmers
3. Inservice training of the personnels from departments
4. Farmers' training

Department of ag. extension has main functions of teaching and research and extension functions are jointly carried out and coordinated by the directorate of extension. It is worthwhile to mention here once again that they do not compete with each other but coordinate and collaborate their activities in nice and conducive atmosphere of administrative climate.

Special extension programs for women folk in agriculture can be highlighted as recent and important extension activities, late though but duly recognized.

June 27-28, 1984:

G.B.Pant University of Agriculture and Technology, Pantnagar, U. P. This university developed on the pattern of land grant systems assisted by USAID and is one of most popular and larger agricultural universities in India.

Extension functions are in line with the similar functions of other universities and research institutes. Here also directorate of extension and department of Ag. extension and communication have joined hands together to discharge their extension functions.

But the dept. of extension and communication has dropped from its academic programs the post graduate studies in ag. extension suprising, is it not? Well! The reasons given were not satisfactory because they seem to miss the linkages between national extension programs and their major thrust on extension approach. They have dropped advanced studies in extension education, but still continuing their extension functions within the frame work of national policies.

Suggestions and Recommendations:

Based on the visits, discussion and interaction with extension experts and evening sessions with our participants, I would like to make the following suggestions to the IAAS authorities and to those who are involved with its future course of development.

1. Extension education should be a major constituent of IAAS properly staffed with adequately trained personnel
2. Extension functions should be limited to teaching and research activities
3. It should not interfere or compete with the activities of the department of extension, rather seek coordination and collaboration among them.
4. It should serve as a medium and linkage for govt. research centers, farms and the dept. of extension and utilize these resources for developing IAAS extension faculty and programs.

5. IAAS extension division should try to develop a line of coordination approach with the dept. of extension
6. "Village adoption" technique for experimental extension function would be a very helpful idea to undertake.
7. The faculty members of the rural development division should be provided more opportunities to visit some of the places in India where location specific technology development programs are going on.

Comments:

1. Because of limited time, this participants could not visit any "adopted village site" and had only one way information about the new extension approaches. We could not see the impact in the real field situation and get reactions from the prime beneficiary groups or population.
2. This tour program should have been represented^{T.S.} by one or two key persons from T.U. so that their outlook toward IAAS future development would have been broadened.

Finally, I express my sincere thanks to IAAS/MUCIA project who provided me with this opportunity and the Dean B. P. Sinha, IAAS, Rampur who nominated me as a participant of this educational tour in India.

S.N. Tiwary
Lanjung Campus
Sundar Bazar

APPENDIX VII

SOME AGRICULTURAL DEVELOPMENT PROGRAMS IN EASTERN NEPAL:

IAAS/MUCIA Horticulture Trip Report

December 11 - 15, 1984

Submitted by:

Dr. Herbert Whittier, MUCIA Rural Development Advisor
Mr. D. D. Dhakal, Chairman, IAAS Horticulture Dept.
Mr. D. R. Baral, Lecturer, IAAS Horticulture Dept.

Submitted on:

January 25, 1984

**SOME AGRICULTURAL DEVELOPMENT PROGRAMS IN EASTERN NEPAL:
IAAS/MUCIA Horticulture Trip Report**

December 11 - 15, 1983

Submitted by:

Dr. Herbert L. Whittier, Mr. D.D. Dhakal, and Mr. D.R. Baral

Submitted on: January 25, 1984

Trip Participants:

Mr. D.D. Dhakal, Chairman, IAAS Horticulture Department

Mr. D.R. Baral, Lecturer, IAAS Horticulture Department

Dr. Herbert L. Whittier, MUCIA Rural Development Advisor

TRIP SUMMARY

From December 11 through December 15, 1983, the trip participants toured the Eastern Zone of Nepal to visit government and private horticulture farms. One of the objectives of this tour was to see what kinds of research and extension activities are taking place at other agricultural units in the country. A second objective was to obtain samples of various types of germplasm from agricultural stations to be tested for possible use in the Rampur area. We obtained several varieties of citrus trees, vegetable seeds, and seeds for other types of trees including fodder trees. These seeds and seedlings have now been planted in experimental plots at the Department of Horticulture.

SCHEDULE

- Dec. 11 10:30 Depart Rampur via MUCIA vehicle
17:30 Arrive Biratnagar; stay at Hotel Holiday Home
- Dec. 12 8:00 Depart Biratnagar for Dhankuta; bridge not open so leave vehicle at river and proceed by foot and landrover.
14:00 Arrive Dhankuta and proceed to Dhankuta Agricultural Station at Paripatle.
17:30 Arrive Dhankuta Agricultural Station; overnight.
- Dec. 13 8:00 Official visit at Dhankuta Agricultural Station.
14:00 Depart DAS for Uttarpani Agricultural Technical School.
15:00 Arrive Uttarpani School; visit; proceed to Hile.
17:00 Arrive at town of Hile and continue to Pakhribas Agricultural Center.
18:00 Arrive at Pakhribas Agricultural Center; overnight.
- Dec. 14 8:00 Tour Pakhribas Agricultural Station.
14:00 Depart Pakhribas for Hile.
15:10 Arrive Hile and make arrangements to return to vehicle previously left at river.
19:00 Arrive at vehicle and proceed via Daran to Itahari for night.
- Dec. 15 8:00 Depart Itahari; proceed west to Janakpur Zone Agricultural Development Project (JADP), Naktajj.
11:00 Arrive JADP.
12:00 Depart JADP; proceed west to Sarlahi Horticultural Farm.
15:00 Arrive Sarlahi Horticultural Farm.
17:00 Depart Sarlahi Horticultural Farm for Rampur.
19:00 Arrive Rampur; conclusion of tour.

PLACES VISITED

DHANKUTA AGRICULTURAL STATION AT PARIPATLE

DAS is reached by a 15 minute bus ride and a 40 minute walk from Dhankuta Bazaar. We arrived there at 5:30 pm and were warmly received by Mr. T.N. Shrestha who is the acting chief officer and an IAAS graduate (I.Sc. and B.Sc.). We spent the evening talking with the staff about their programs. The next morning the entire group accompanied us on a tour of their experimental and production plots for citrus and garden crops. DAS produces vegetable seeds and citrus seedlings for distribution to local farmers.

DAS is 22 years old and was built with the assistance of foreign aid from India. It currently includes 20 hectares of land, most of which is steeply sloping and terraced; the slopes face east. Six of the 20 acres are devoted to citrus with additional areas for citrus nurseries where various types of grafting techniques are used to produce seedlings both for use as experimental plants and for distribution to farmers. There are 10 local farmers cooperating in vegetable seed production under the technical guidance of DAS specialists.

The Agriculture Station is involved in a number of research and extension activities among which are the following:

A. Research - - -

1. Management trial on mandarin oranges (c. reticulate Blanco). To evaluate the effects of different levels of chemical fertilizers and plant protection measures along with other cultural practices on the production of mandarin oranges.
2. Adaptability trial on mandarin oranges. Mandarins from different sections of the country are being tested under Dhankuta conditions.
3. Rootstock trial on mandarins. To evaluate the effect of rootstocks on production and quality of mandarin oranges.
4. Tip shoot grafting trial. To evaluate the effect of the season on the success of grafting of sweet oranges.
5. Farmers' field trial. To evaluate the performance of mandarin oranges under farmers' field conditions.
6. Nutritional trial on mandarin and sweet oranges.

Research is also being conducted in plant pathology and entomology.

B. Extension - - -

The farm multiplies planting materials and distributes them all over the country. It has a special packet program for citrus development in different districts of the country. The farm also helps farmers to establish private nurseries and provides technical services for them.

The farm is nicely laid out and appears well cared for. The staff consists of 12 technical specialists, 6 administrators, and 26 gardeners. Of the 12 technical specialists, 6 are IAAS graduates (3 with I.Sc. and 3 with B.Sc.) and one is a former IAAS lecturer. We asked about what problems they were encountering. They said that their biggest problem at present is irrigation. Sufficient water is available, but they lack the facilities to distribute it properly. Another problem is leadership; the official project chief has been absent for over a year (currently in Pakistan) and the second in command is always in Kathmandu. The project seems to be running very well, however, under the leadership being provided by Mr. Shrestha. The staff gave us copies of a number of their annual reports and some research proposals that they have submitted to the DOA Horticulture Office.

DAS staff includes:

1. Mr. M.B. Thapa - Assistant Citrus Development Officer
(I.Sc., B.Sc. IAAS, Rampur)
2. Mr. B. Mishra - Assistant Plant Pathologist (in charge)
(B.Sc. Punjab Ag. Univ.)
3. Mr. Purna Kumar Shrestha - Technical Assistant
4. Mr. Multilal Yadav - Assistant Citrus Development Officer
(I.Sc., B.Sc. IAAS, Rampur)

5. Mr. Multilal Bhatrai - Junior Technical Assistant (SLC)
 6. Mr. G.C. Dhakal - Assistant Citrus Development Officer (I.Sc., BSc. IAAS, Rampur)
 7. Mr. L.K. Yadav - Assistant Soil Scientist (I.Sc., B.Sc. IAAS, Rampur)
 8. Mr. T.N. Shrestha - Acting Chief Officer; Citrus Development Officer (B.Sc., M.Sc., India)
 9. Mr. R.P. Mehata - DAS Farm Manager (former IAAS Lecturer) (M.Sc. India)
 10. Mr. R.K. Shrestha - Assistant Citrus Development Officer (B.Sc. Pantanagar Ag. Univ.)
 11. Mr. B.D. Patha - Assistant Vegetable Development Officer (B.Sc. Pantanagar Ag. Univ.)
 12. Mr. Joshi (on vacation)
- 5 JT's - 2 from IAAS: Mr. Opendra Sahah & Mr. Raj Narayan Yadav
3 JTA's

UTTARPANI

Uttarpani is an agricultural secondary school located about one hour's walk uphill from the DAS at Paripatle. The school is being developed through the KHARDEP Project (Khosli Hill Area Rural Development Project) and will train secondary level students (grades 7-10) in agriculture. The degree granted will be a TSLC (Technical School Leaving Certificate) which will be regarded as a terminal degree. The graduates will work as apprentices for one year to gain experience. They will then be assigned to JTA level positions with various offices, primarily in their home areas. The curriculum is based in part on the IAAS JTA curriculum with modifications and is issued through the Technical and Vocational Education Directorate (Courses of Study for Technical Schools in Agriculture).

Upon approaching the school from downhill, one first passes vegetable plots to be used for demonstration and for students' practical work. In a small valley are the very attractive school buildings -- dormitories, classrooms, and staff quarters -- built at a cost of about US\$600,000. In the bottom of the valley below the buildings are three ponds for ducks, geese, and fish. These are spanned by a small bridge. The construction is almost complete, and the school hopes to begin its first classes in April 1984. Our tour of the school was primarily to see the physical plant since there were no administrative staff present at the site. Later that evening, at the Pakhribas Guest House, we met Mr. Peter Allister, Vice Principal of Uttarpani School and talked with him about the new school.

Mr. Allister explained that there are at least four schools that will offer parallel programs leading to the TSLC in Agriculture. These are:

1. Uttarpani - British funded through the KHARDEP Project
2. Jiri - funded through a Swiss project
3. Jumlah - funded through a United Missions Project
4. Lahan - funded through ADB and a German Project

Two similar schools are more oriented towards urban needs:

1. Balaju - funded through a Swiss project
2. Sanu Timi - funded through UCEP (Underprivileged Children's Education Project) - Dacca

The four-year course is designed to begin with 15 year olds. Students will be selected on the basis of tests and need. They will not be from the "best student" category as those students should probably go on to non-technical schools. Mr. Allister says that by taking the next level of students, and preferably those from rural areas, there is a better chance that the graduates will return to their home areas to serve.

In preparation for the opening of the school, some local teachers are undergoing up-grading courses; four have already completed this process. The school occupies 10 hectares and the major physical problem at

this point is assuring a constant water supply.

PAKHRIBAS AGRICULTURAL CENTER

From Uttarpani it is a one-hour walk to the hill town of Heli (can be reached by road from Dhankuta) and an additional one-hour walk to Pakhribas Agricultural Center. Our host at PAC was Mr. James Green, agronomist and acting chief-of-party. He told us that PAC was established in 1973 as a parallel to the already existing Lumle Agricultural Center near Pokhara. Both are British projects and were initially established to aid the reintegration into their communities of Ghurkha soldiers retired from the British army. Both centers have since expanded their activities to include the extension of new agricultural technologies to farmers in their immediate areas. In the case of PAC, this "command area" includes 7 surrounding panchayats. Thus, the activities of PAC encompass both training and extension. PAC also acts as a research and resource center for the Eastern Zone.

PAC has developed a five year plan to transfer control of the Center from the British to HMG, but HMG has not yet informed PAC about when it would like this transfer to take place.

Mr. Mohan Pandey is the PAC training officer. Training programs are given at both the ward level and the panchayat level. Leader farmer training is also conducted at PAC.

PAC is organized into five major sections: 1) Agronomy; 2) Livestock; 3) Forestry; 4) Seed Technology; and 5) Administration. All sections are seen as being support for extension activities. There is a great deal of emphasis on research, and PAC also provides support to KHARDEP programs.

One of our group asked about the setting of priorities for research. The PAC staff replies that their main interest is in producing higher yields of major food crops. They are interested in the least expensive ways of producing higher yields. They are not working with minor crops. Similar concerns motivate their livestock research. They are doing limited research in seed technology. All research is related to the needs of the farmer.

Another question was raised about the lack of emphasis on horticulture. The PAC staff explains that they had more emphasis on horticulture in the past and had a separate horticulture section. That section is now combined with agronomy and they have decreased their work in horticulture. They still have some fruit trees, strawberries, etc., at PAC but they feel that they have had little success in maintaining productivity. They concluded that such crops as citrus, apples, and other fruit crops required too many inputs, including large amounts of labor and mechanisms for disease control, to make them feasible investments for the small farmer.

Mr. Mahendra Bhattarai (seed technologist) and Mr. Geoffrey Cook (economist and planner at Lumle) joined our meeting at this point.

The PAC staff asked about the range of grades given at IAAS. They employ IAAS graduates but have found it difficult to evaluate the scholastic records without knowing the usual grading range (answer: from 60 to 80). We raised the question of what they think of IAAS graduates (I.Sc.s). They currently employ 5 IAAS graduates and find them to be very good especially in theory but lacking in practical experience. They said that after about a year at the Center to gain experience, the IAAS graduates perform very well indeed. Competition for positions at PAC is fairly heavy; for one of their positions, there were over 80 applicants so the staff had to devise a test to make the selection. One of the problems the PAC staff sees with agricultural training at present is that too many students are trained in terai or low hill conditions and do not learn enough about the diverse agricultural conditions in Nepal. The only HMG centers located at altitudes over 5000 feet are Jumla and Marpha and these are primarily production and research centers. And altitude alone is not the only significant variable. Marpha and Lumle are at about the same altitude (5500 feet), but Marpha gets about 12 inches of rain per year whereas Lumle gets about 220 inches.

There is currently no training for women at PAC. They have experimented with such training in the past and found it ineffective. Their current approach is to encourage JTs/JTAs to try to talk with male farmers at times when the women of the household are present. They relate that the Lumle Center had a strange experience when they attempted to provide agricultural training for women. Someone gave the local newspapers a story that the Lumle Center was to provide 20 free sewing machines to a group of women in training. This was never in fact, part of the plan but, based on the newspaper story, the women started to demand the sewing machines. Local and national groups then began to criticize Lumle for not providing the "promised" sewing machines.

We mentioned that we would like to visit Lumle. Mr. Cook suggested that April would be a good time for a visit for two reasons. Before April, it is very cold in Lumle, and this year they will be very busy working on an evaluation in January and February. They advised us to send a radio message to Mr. Graham Garrod,

manager of Lumle Agricultural Center, when we are ready to arrange our visit there.

We adjourned for tea and then began our tour of the Center with Mr. Bhattarai taking us first to the seed technology section. Mr. Bhattarai (a former classmate of Mr. P.P. Sharma of IAAS) has been at PAC for 10 years and is in charge of the seed testing laboratories. He explained that PAC began expanding its concern to include area farmers in addition to retired GurKhas in 1975. Official farmers' training sessions were begun in 1979 and programs in extension, livestock, and forestry were begun shortly thereafter. Major efforts in seed technology began in 1979-81. In 1981, they started a seed quality control institute at PAC. This quality control includes field visits to insure that seed producers are following standards set by the Ministry of Agriculture and the testing of samples of seeds using procedures established by Khumaltar. Rejected seeds are used either for livestock feed or sold in the market for human consumption. Among the kinds of seeds inspected are cereal grains, vegetable seeds, and seeds for grasses and fodder trees. Seed distribution is controlled by the extension section. The seed technology section is oriented more towards quality control than towards experimental research. It also works to aid seed production for AIC.

Mr. Bhattarai told us that a seed workshop will be held in Kathmandu soon which will establish work programs throughout the country. After the program is fixed, the information will go to AIC/Kathmandu which will send it on to AIC/Dhankuta. They in turn, will send requests for seed to the production units. This includes a relationship with SPIS in AIC. The seed program at PAC (including the lab equipment) will be transferred to SPIS control. This is to minimize problems for local farmers when PAC is transferred to HMG. In January of 1984, there will be a meeting to explore ways of better linking the local seed laboratories with the central laboratories in Kathmandu. The future of the program, including research, will also be discussed.

The seed technology unit is working with KHARDEP to set up small scale seed programs with the local sadas (cooperatives). Technical support is being provided by PAC and funding by KHARDEP. They are also working with FAO in vegetable seed production and especially in supplying technical expertise for such issues as vegetable seed standards, price controls, and trying to get seed prices increased.

The seed unit has three staff members with coordination from Mr. Ian Hunter (Edinburgh). In addition to Mr. Bhattarai, the staff includes a technical education advisor, and another member who is currently out for training. The research they do is strictly applied oriented; how to help the farmer increase his production.

Mr. Bhattarai provided us with a complete tour of the laboratories and explained each piece of equipment, its functions and operation and its good and bad points. The laboratory itself is small but well-equipped and very neat. The equipment includes seed drying units, seed separators and sorters, and germination units. The most expensive pieces of equipment are the germinators which have automatic temperature and moisture control. The horticulture specialists in our group (Mr. Dhakal and Mr. Baral) made detailed notes on the equipment.

We next visited the livestock section of PAC with Dr. R.P. Thakur. The laboratories are equipped to do blood, urine, and fecal analysis as well as some other tests. The labs show evidence of a great deal of use but are spotlessly clean and well-maintained. There is also a small museum showing various types of parasites and growths that have been removed from animals in the autopsy room.

The livestock farm itself is a little to the east of the livestock laboratories. To the south is a sheep-dipping unit made of concrete. The nearby goat unit has a herd of about 50 goats, mostly Jamunapari goats. They provide a free breeding service for goats belonging to local farmers. Before their animals can be bred, the farmers must fill out a standard questionnaire about the animal's health, reproductive history, etc. The livestock unit has devised several types of goat houses, constructed of local materials, that are demonstrated on the farm.

The pig unit is working with three exotic breeds and experimenting with different crosses to find out which are most suitable for local farmers. Reproduction records are displayed and show a very high survival rate for piglets. According to these records, most litters have 100% of piglets surviving to weaning. Charts are also displayed showing the different types of feed that are used. Breeding service is provided for the pigs of local farmers at no cost; health records are obtained for each animal before breeding. Three types of pig houses, made as with the goat houses of local materials, are demonstrated for local farmers to examine.

Adjacent to the pig unit is the chicken unit, again with different types of housing made with local materials modeled. Cross-breeding experiments are going on with New Hampshire, Sussex, Australop, and local chickens. These pens are carefully labelled in Nepali, English, and Latin. The chicken unit also operates a hatchery with incubators, a layer unit (with eggs used by PAC and sold in Heli and Dhankuta markets), and a broiler production unit. These latter three activities are housed in stone and concrete buildings and employ expensive, imported equipment.

Near the chicken unit is a rabbitry which have produced over 250 rabbits in the past 6 months. Model rabbit cages constructed of local bamboo are demonstrated, but the unit's rabbits are kept in wire cages inside a concrete building. PAC is finding the rabbit program fairly successful. They point out, however, that the local people refuse to kill or eat white rabbits because they are "too pretty." Other colors of rabbits are considered ugly and people will kill and eat them readily.

The large ruminant section is still being developed. It now houses the buffalo that they purchased from IAAS as well as two large breeders imported from the U.S.

PAC provides veterinary services, both at its site and in the field, for the livestock of local farmers at no cost.

After visiting the livestock section, we broke for lunch and then visited the education/extension section with its manager, Mr. Mohan Prasad Panday. The physical structure is an "L" shaped building which Mr. Panday himself designed. It includes 3 rooms for housing farmers in "bunkhouse" style, 3 classrooms for group training, a complex of 3 offices, and several supply/storerooms. A cooking facility is housed in a small, separate building at the rear. Mr. Panday showed us some of the visual aids he has developed and display boards showing such things as types of farm inputs, varieties of fertilizers, and kinds of harmful insects. He has also developed a textbook with information on various aspects of farming for extension purposes. We purchased 8 copies, one for each department at IAAS. Mr. Panday also provided us with a report on the farmer training sessions PAC has conducted this year and the sessions that are planned for the near future. They average about one training session a week. The sessions last from 1 to 10 days; 7 is the average. In addition to providing training for leader farmers from the 7 panchayat area, PAC also provides upgrading for JTs and JTAs and for other HMG personnel. A copy of a sample training schedule is appended to this report.

The head of the forestry section was away on the day of our visit so Mr. Panday took us to visit that section. One building has separate rooms for storing seed and for keeping tools. In front of this building are 30 seedling beds with various species of trees planted in them; most of these are fodder trees. We were given a number of seeds of different varieties to be planted in the horticulture experimental plots at IAAS. Seeds and seedlings are provided at nominal cost to farmers in the 7 panchayat area along with information about their planting and care.

At 2pm we said good-bye to our hosts and walked one hour to Hile from which we then proceeded by truck to where we had left our vehicle two days previously.

JANAKPUR AGRICULTURAL DEVELOPMENT PROJECTS

To reach the Janakpur Agricultural Development Projects (JADP) offices, we left the main highway and proceeded south for about 10 minutes. We first talked informally with Mr. Neupani, an IAAS B.Sc. graduate who is working as an extension specialist at JADP. He introduced us to Mr. Ram Badal Saha, a horticulturalist who is in charge of the JADP operation. Mr. Saha explained that the office coordinates all of the agricultural development projects in 5 of the 6 districts of this development zone. They focus on extension and help coordinate the work of the farms and research stations in the area. One of their projects is demonstration irrigation plots using various techniques (shallow tube wells, small dams, etc.). Two sites in the hills focus on citrus production. They also provide upgrading courses for JTs and JTAs (3 to 7 day sessions) as well as training for leader farmers. Their facilities are also available for other agencies to use for training sessions; AIC, for example, has used their facilities for this purpose.

Mr. Saha said that JADP's major areas of concern at present are plant protection, propagation of planting materials, model farm development, and training leader farmers. He took us on a tour of the facilities and showed us the citrus grafting techniques they are working with. They also have experiments in progress with grape vines and pineapple cultivation.

Mr. Neupani provided us with two sets of the JADP annual reports, one copy for the IAAS Horticulture Department and one for the Library.

SARLAHI GOVERNMENT HORTICULTURE FARM

We continued our trip east towards Hetauda and, about 75 kilometers east of Hetauda, stopped to visit the Government Horticulture Farm at Sarlahi. This is the largest horticulture farm in Nepal. The Farm Manager, Dr. B.B. Shah, hosted our visit. He first discussed the farm and its activities with us and accepted our order for various samples of germplasm and then provided a guide to show us the 266 hectare farm. Dr. Shah

started the government farm at Damon 19 years ago and then went to Sarlahi in 1972 to begin the farm there. He said that the climate at Sarlahi with its 60 to 70 inches of annual rainfall allows them to work with temperate, tropical and subtropical species. One of their major objectives is to multiply stock and distribute throughout the country. The Sarlahi Farm is a major producer of vegetable seeds; Dr. Shah estimates that they supply 40-50% of Nepal's needs in the production of non-cereal germplasm and seeds. Last year they produced seeds for almost every vegetable grown in Nepal with the exceptions of Swiss chard and celery. The farm also runs a ketchup factory that uses the pulp of the tomatoes grown for seed.

The Sarlahi Farm also works with farmers' training and, with the help of FAO, farmer seed production. Dr. Shah estimates that 60% of the Farm's activities go on within its fences with the rest going outside in farmer training, extension, and services to farmers (spraying and dusting crops, for example). This year the Farm is providing the facilities for the annual national horticulture conference to be held later this month. We remarked that the IAAS Horticulture Department had yet received an invitation to the conference. Dr. Shah immediately issued an invitation to all IAAS horticulturalists and agreed to provide housing if necessary.

We asked Dr. Shah whether there were any IAAS graduates on his staff. One of our B.Sc. graduates, Mr. Krishna Adhikari, is Assistant Horticulturalist at the Horticulture Station of Sarlahi (Nawalpur, Sarlahi). Dr. Shah reported that Mr. Adhikari scored number 1 in horticulture on the public service exam and said that he was very pleased with Mr. Adhikari's work. According to Dr. Shah, the several Indian-trained horticulturalists on his staff are in no way better prepared and trained than Mr. Adhikari; he is quite pleased with IAAS's training.

We then toured the farm and saw large orchards of mango and other fruits. They are experimenting with a hybrid coconut. In tree crops, they have 9 varieties of lychee, 4 varieties of guavas, 17 varieties of mangos, 4 varieties of bananas, 3 varieties of coconut, and 1 variety each of avocado, lemon, plum, jujub, and pomelo. Huge seed production plots contain an enormous variety of vegetables including tomatoes, eggplant and peas. One area is devoted to the grafting of several varieties of oranges and tangerines. Sarlahi Farm has the largest rose production plots in Nepal. Our guide commented that there must be many new buildings being landscaped in Nepal as the Farm is currently out of rose stock; more will be available in 2 to 3 weeks.

At 5:00 pm we collected our germplasm and began the return trip to Rampur.

SUMMARY OF MAJOR CONSIDERATIONS

1. Four technical secondary schools (7th through 10th grade) are being developed to train JTAs in agriculture using a modified form of the IAAS curriculum. These schools will grant a TSLC and, after a year's apprenticeship, the graduates will be assigned as JTAs in their home districts. Is there a possible conflict with the JTA programs IAAS is working on?
2. Government pay scales; information collected by Uttarpani personnel. Includes data on "project allowance" which is added to the base salary for projects funded by donor agencies. See salary scale attached.
3. Horticulture development in the hill areas. Mr. Bhattarai and other PAC staff said that, because PAC funds are limited, they concentrate their efforts in certain areas. Putting all their efforts into cereals and livestock will allow them to show a greater impact over a short time span than would spreading their resources over a wider range of activities. Mr. Green, the agronomist, and Mr. Cook, the economic planner at PAC, added that they believe that allocating resources to the development of fruit production in the hills is not the most efficient use of funds because: 1) the level of inputs necessary is too high; 2) the chances of destruction from weather, blights, and insects are too high; and 3) the necessary marketing structure is too expensive to develop. It should be pointed out that Mr. Dhakal and Mr. Baral, the IAAS horticulturalists on this trip, did not agree with this viewpoint.
4. IAAS B.Sc. graduates. Several of the units visited employed IAAS graduates - a total of approximately 15 at all units. In all cases, their superiors found the IAAS graduates to be generally well-trained and were quite pleased with their job performance. Many of these graduates were on "temporary" five-year appointments and so might list themselves on a questionnaire as "not satisfactorily employed" but most of them felt that their employment would continue. The graduates themselves also thought that their training at IAAS had been good and that they were well-prepared for their jobs.
5. During the course of travel, the subject of IAAS (government) per diem arose. The amount provided is really inadequate and hampers travel by the IAAS staff. Per diem rates range from 25 rupiah for an assistant lecturer to 50 rupiah for a dean plus direct transportation costs. It is not possible to obtain both food and lodging on this amount. On this trip, very modest lodging ranged from 25 to 60 rupiah per night, and two meals (dhal-bhaat) plus early morning tea and snack cost 35 to 40 rupiah.
6. (Comment of RD Advisor) Prior to this trip, I had heard comments by IAAS staff to the effect that the DOA tends to ignore IAAS. This trip introduced me to some of the reasons that IAAS staff feel this way. At JADP for example, we mentioned that we were collecting germplasm for research at IAAS to see what would do well in the terai. The best adapted varieties could then be distributed to local farmers. The Asst. Project Manager of JADP said that IAAS had no business doing research because research is the province of the 4 research centers and the DOA. Likewise, when we mentioned the IAAS pilot extension project, we were told that extension is the realm of the DADO and the DOA and not IAAS. IAAS, said our critic, should be confined to teaching only. The neglect of IAAS was also underscored by our chance discovery that there was to be a national horticulture conference at Sarlahi the following week for which IAAS horticulturalists had never received invitations. Upon hearing this, the Farm Manager of the Sarlahi Farm issued his personal invitation to all IAAS horticulturalists and said that he would also try to have official invitations sent from the DOA/Horticulture Section in Kathmandu. These were never received.

HMG SALARY STRUCTURE*

TEACHING STAFF

Designation	Salary	Technical Allowance	Project Allowance	Remote Area Allowance	Rice Allowance	Gazetted Allowance	Daily (perdiem) Allowance
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G2	1095x25 (15 yr)	25%	25%	25%	--	Rs.60	Rs.30
G3	850x15 (15 yr)	25%	25%	25%	--	Rs.60	Rs.25
NG 1	535x12 (10 yr)	25%	25%	25%	Rs.78	--	Rs.18
NG 2	390x7 (10 yr)	25%	25%	25%	Rs.78	--	Rs.12**
NG 3	330x6 (10 yr)	25%	25%	25%	Rs.78	--	Rs.12**

**drivers Rs.18

ADMINISTRATIVE STAFF

G3	750x20 (10 yr)	--	25%	25%	--	Rs.60	
NG 1	470x10 (10 yr)	--	25%	25%	Rs.78	--	
NG 2	355x6 (10 yr)	--	25%	25%	Rs.78	--	
NG 3	285x4 (10 yr)	--	25%	25%	Rs.78	--	

PEONS AND OTHERS

	250X1.5 (yr)	--	25%	25%			
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Note: The salary figures above are interpreted as follows: a member of the teaching staff at the G2 designation, for example, receives a beginning base salary of 1095 rupiah per month and this may be increased at the rate of 25 rupiah per month each year for 15 years.

* Data provided by Mr. Allister of Uttarpani Technical Agricultural School; he obtained the data from HMG officials in Kathmandu.

DOCUMENTS AND REPORTS COLLECTED

1. Dhankuta Agricultural Station, Paripatle

National Citrus Development Programme Report 1978-79;
HMG Ministry of Food, Agriculture, and Irrigation; DOA.

Citrus spp. of Nepal; illustrated handbook.

Collection of Research Proposals submitted by DAS staff to DOA.

2. Uttarpani Agricultural School

Uttarpani Agricultural Technical School Report for One Year,
16th July, 1982 to 15th July, 1983.

3. Pakhribas Agricultural Center

Pakhribas Agricultural Centre. Annual Report, 1st April, 1981
through 31st March, 1982. (R.6).

Pakhribas Agricultural Centre - Training Section: Annual Work
Programme. 15th July, 1983 to 14th July, 1984.
By Mr. M.P. Panday, M.Sc. Ag. - Training Officer.

4. Janakpur Zone Agriculture Development Project

Janakpur Zone Agriculture Development Project Information
Booklet. November 1977. HMG. Naktahij, Dhanusa.

Janakpur Zone Agriculture Development Project Progress Reports
on Activities and Performances of JADP.

Progress Report #1, 1972 - 1976. Nov. 1977

Progress Report #2, Inauguration. Nov. 25-29, 1977.

Progress Report #4, 1978/79 (2035/36). Sept. 1979.

Progress Report #5, 1979/80 (2036/37). Sept. 1980.

Progress Report #6, 1980/81 (2037/38). Sept. 1982.

Progress Report #7, 1981/82 (2038/39). March 1983.

GERMPLASM COLLECTED

I. From Dhankuta Agricultural Station, Paripatle

Sweet orange cv. Jafa Budding	2
cv. Washington Navel	10
cv. Venila Navel	2
cv. Hamlin Navel	2
cv. Pineapple Navel	10
cv. Tardif Navel	1
cv. Hilekar Navel	10
cv. Kinsu Navel	10
cv. Kinnow Navel	10
cv. Sathguthi Navel	3
cv. Dhankuta Navel	10

II. From Sarlahi Horticulture Farm

Lemon cv. seedless	2
Banana cv. Harichhal	2

III. From Pakribas Agricultural Center

Several species of fodder and timber trees

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APPENDIX VIII

Department of Rural Sociology and Agricultural Extension

Course Code: Ag. Ext. 3130

Course Title: Extension Education

General Course Objective:

Students develop understanding of the concepts, principles and procedures of extension education for helping farmers as well as out of school youths learn relevant agricultural techniques.

More specifically, upon the successful completion of the course, the student will be able to:

1. Explain the concept of non-formal education and its role in rural development,
2. Explain the concept and principle of extension education,
3. Analyze the contemporary agriculture extension delivery systems in Nepal,
4. Describe the role of ADB and AIC in providing support services in agricultural extension in Nepal,
5. Explain the duties and responsibilities of extension workers (AS's, JTA's, JT's, ADO's),
6. Comprehend the basic principles and concepts involved in planning, execution and evaluation of agricultural extension programs,
7. Understand the principles and procedures of the various teaching methods used in extension education,
8. Understand the basic principles behind different kinds of audio-visual aids used in extension teaching and their appropriate use,
9. Understand the processes of adoption and diffusion of innovations in rural society,
10. Explain the role of local leaders in planning and execution of extension programs,
11. Explain the basic concept, principles and procedures of teaching and learning applicable to adult education,
12. Know the principles and procedures of conducting farmers' training programs.

Theory

<u>Topical breakdown:</u>	<u>Estimated no. of Lectures</u>
1. Education:	6
(a) Types of education	
(b) Comparison between formal and non-formal education	
(c) Role of non formal education in rural development	
(d) Sources of weakness in the schooling approach to education	
2. Concepts, principles and philosophy of agricultural extension	3
3. Agricultural extension in Nepal	13
(a) Historical background and present organization	
(b) Types of extension delivery system, i.e. T & V system, conventional extension, farmers' training, Taki and leader farmers	
(c) Linkage of extension with ADE, AIC, and Sajha	
(d) Strengths and weaknesses	

<u>Topical Breakdown</u>	Continued.	<u>Estimated no. of Lectures</u>
4. Extension workers:		4
(a) Characteristics of a good extension worker		
(b) Knowledge and competencies		
(c) Duties and responsibilities of AA's, JTA's, JT's, SMS's, and ADO		
5. Extension as the third function of agricultural colleges and university in general and IAAS in particular.		2
6. Program planning in extension:		15
(a) Meaning of program planning		
(b) Why have a program		
(c) Principles of program planning		
(d) Kinds of extension program planning based on client's participation		
(e) Steps in program planning		
(f) Factors to be considered in carrying out the program		
(g) What is evaluation and why to evaluate an extension program		
(h) Areas in extension that may be considered for evaluation		
(i) Planning and conducting an evaluation study		
(j) Role of local leaders in planning, implementing and evaluating extension program.		
7. Extension Teaching Methods:		12
(a) Individual approach - Farm and home visits, office call, telephone call, personal letters		
(b) Group approach - Method and result demonstration, extension classes, field meetings, group discussions, seminar workshops, panel discussion, educational tours, film forum, role playing		
(c) Mass media approach - Publications, (bulletins, pamphlets, circulars, posters, leaflets, news stories, booklets) exhibits, radio, films, exhibitions and field days.		
8. Audio-visual aids:		1
(a) Importance of audio-visual aid in extension teaching		
9. Rural leadership development:		8
(a) Meaning, types and characteristics of leadership		
(b) Quality of a good leader		
(c) Steps in discovering leaders		
(d) Selection training and use of local leaders in extension		
(e) Rural youth program and 4-H club		
10. Innovation decision process:		11
(a) Adoption and diffusions process		
(b) Adoptor categories and communication by adoptor categories		
(c) Characteristic affecting adoption rate		
(d) Generalization about diffusion of innovations in rural society		

<u>Topical Breakdown</u>	<u>Estimated no. of Lectures</u>
11. Psychology of Learning:	10
(a) Concept and laws of learning	
(b) The learning process	
(c) Elements of effective teaching	
(d) Factors affecting learning	
(e) Implications of the principles of teaching and learning	
12. Farmers' Training	4
(a) Need for farmers' training	
(b) Developing course content for farmers' training	
(c) Making lesson plans and calender of activities	
(d) Implementing the training program	
(e) Evaluating the effectiveness of teaching and learning	

Course Code: RS 5111E

Course Title: Survey Research Methodology

General Objective:

The students will be able to understand and develop skills in conducting surveys research and writing the research report

Specific Objectives:

Upon the completion of the course, the student will be able to:

1. Plan for survey research,
2. Understand the procedures of sampling,
3. Develop skills in designing the survey research,
4. Develop skills in constructing the questionnaire,
5. Acquire skills in interviewing rechniques,
6. Understand and develop skills in coding the data,
7. Understand, analyze and interpret data using appropriate statistical tools,
8. Write the research report.

Theory and Practicals

<u>Topical Breakdown</u>	-	
	<u>Estimated no. of Lectures</u>	<u>Practicals</u>
I. The planning of social survey	3	-
(a) What is survey research		
(b) Types of surveys		
(c) The stages of survey research		
(d) Planning problems		
II. Research Designs and sampling	4	2
(a) Some basic definition and concept		
1. Population		
2. Stratum		
3. Population element		

<u>Topical Breakdown</u>	<u>Estimated no. of Lectures</u>	<u>Practicals</u>
4. Census		
5. Sample		
6. Sampling plan		
(b) Probability sampling		
1. Simple random sampling		
2. Stratified random sampling		
3. Cluster sampling		
4. Multi-stage sampling		
(c) Non probability sampling		
1. Haphazard sampling		
2. Quote sampling		
3. Purposive sampling		
(d) Exploratory, descriptive and analytical research design at:		
1. A brief introduction		
III. Data Collection questionnaire design	4	5
(a) General principle of design		
(b) The wording of questions		
(c) The forms of the questions and answers		
1. Question order		
2. Pre testing the questionnaire		
IV. Data collection; Interviewing Techniques	2	2
(a) Types of interviewing		
(b) Interviewing guidelines		
(c) Training and supervising interviewers		
V. Data analysis	11	12
(a) Variables and thier values		
1. Nominal level variable		
2. Internal level variable		
3. Ordinal level variable		
(b) Significance test and test of relationship		
1. Chi-square t test and f test		
2. Rank correlation		
3. Sample regression analys		
VI. Research Reports	7	9
(a) Preliminaries		
(b) The text		
(c) The reference materials		
(d) The abstract		
(e) The final product		

The recommended books

1. Babie Earl R; Survey Research Methods, Wadsworth Publishing Company, Inc. Belmont, California, 1973
2. Bunker, Pearlson and Schus; 1975 - A Student's guide to conducting social science research, Homan Science Press: New York.
3. Kmenta; Jan, Iverson Gudmund R; Statistics for Sociology, Wm. C. Brown Com. Publishers, Dubuque, Iowa, 1979.
4. Kmenta, Jan, Elements of Econometrics, MacMillan Publishing Co. Inc. New York.
5. Panel, Christina P. et. al 1979. Social survey research design Phillipine Social Science Council, Inc. Quezon City.
6. Parel, Christina P. et. al 1978. Social survey research design Phillipine Social Science Council, Inc. Quezon City.
7. Selltitz C. and et. al; Research Methods in Social Relations, Holt, Rinehart and Weston, New York.
8. Weisberg, Herbert F. and Bruce D. Bown, 1977. An introduction to survey research and data analysis, W. H. Treeman and Co. San Francisco.
9. Wilkinson T. S. and Bhandarkar P. O., Methodology and techniques of social research. Himalaya publishing house, Bombay 400004, 1982.

Recommended Reading

1. Benor, D. and J. Harrison, Agricultural Extension. The training and visit system, the world bank, 1977.
2. Bradfield, D. J., Guide to Extension training, FAO, Rome 1966,
3. Coombs, Philip H; Attaching Rural Poverty: How non formal education can help. John Hopkins University Press, Baltimore, 1974.
4. Dhama, O. P., Extension and Rural Welfare, Ran Prasad and Sons; Agra 3,6th edition. 1973.
5. Guide to village workers, Gov't. of India; Ministry of Food and Agriculture
6. Hammonds, C. and C.F. Lamar, Teaching vacations, the interstate Printers and publisher, Inc. Danville, Illinois, 1968.
7. Joshi Tek Raj: Krisni Prasar Shikshya, Curriculum Development Center, Tribhuvan University.
8. Kelsey, L. D. and C.C. Hearne: Cooperative Extension Work, Cornell University Press, Ithaca, New York, Third Edition. 1967.
9. Media, Amedea E. and Rufina R. Ancheta, Agriculture and Home extension in Phillipine Setting; Social Communications Centre, The. R. M. Blvd. Sta Mesa, Metro, Manila 1978.
10. Mosher, A.T., An introduction to agricultural extension, Agricultural Development Council, 1290 Avenke of the America's, New York, 1978.
11. Regmi Krishna Raj; Krishi Prasar, Sajha Prakashan.
12. Roger, E. M. and F. Shoemaker, Communication of innovations, Free Press, N.Y. 1971.
13. Sanders, H. C. (ed) The cooperative extension service, Prentice Hall, Inc. Englewood Cliffs, N. T. 1966.
14. Satisv, Benedict, Agricultural extension for small farmers; MSU Rural Development Series, Working paper #3, 1979.

Course Code: Ag. Ext. 5120E

Course Title: Communication and Social Change

Course Description

The course will cover the meaning of communication and change or more specifically; The flow of information; and one two way media, processes and strategies; the innovative decision process; social, cultural, personal and situational factors that account for adoption of new ideas and practices; phases in natural and planned change process; approaches change agents toward a planned change.

Course Objective:

General

The students will be able to develop understandings of the processes of communication and the relationship of communication to social change.

Specific Objectives

Upon the completion of the course, the students will be able to:

1. Understand the major variables involved in the concept of communication and social change.
2. Analyze the nature of information flow that may ultimately affect change
3. Understand phases in natural and planned change process.
4. Identify factors that accelerate or retard acceptance of new ideas
5. Understand how innovation decision takes place

Course Content

<u>Course Content</u>	<u>Established time allocation lectures</u>
1. Meaning of communication and change	
(a) Defining communication	10
(b) What is society and what is social change?	
(c) Types of change	
(d) Sources of change	
(e) How much change in receiver	
(f) Kind of change in receiver	
(g) Selected factors and the acceptance of change	
2. Flow of information	
(a) One way diffusion transmission processes	9
(b) One way feedback transmission processes	
(c) Two way transmission processes	
(d) Dissemination and utilization strategies	
3. The innovation - decision process	10
(a) The adoption process	
(b) Paradigm of the innovation - decision process	
(c) Adoption curves	
(d) Diffusion curves	
(e) Factors which shape the diffusion curves	
(f) Resistance	
(g) Attributes of innovation and their rate of adoption	

4. Adopter categories
 - (a) Adopter categories as ideal type
 - (b) Characteristics of adopter categories
 - (c) Special functionaries in diffusion
5. Factors that account for adoption of new ideas and practices
 - (a) Social factors
 - (b) Cultural factors
 - (c) Personal factors
 - (d) Situational factors
6. Phases in natural and planned change process 14
 - (a) The social interaction perspectives
 - (b) The research, development and diffusion perspective
 - (c) The problem solver perspectives
7. Approaches of the change agents towards planned change
 - (a) What is a change agent?
 - (b) What should a change agent require to understand?
 - (c) The sequence of the change agent roles
 - (d) Change agent credibility

Evaluation Methods:

Evaluation will be based upon the written examination.

Test books

1. Havelock, Ronald G. 1979. Planning for innovation. The University of Michigan, Ann Arbor, Michigan.
2. Lionberger, Herbert F. 1968, Adoption of new ideas and practices. The Iowa State University Press, Ames, Iowa
3. Rogers, E. M. and F. Floyd Shoemaker 1971. Communications of innovations A cross cultural approach. The free press, N. Y.

Reference books

1. Hedabro, Goran 1982. Communication and social change in developing nations: A critical view. The Iowa State University Press. Ames, Iowa.
2. Schaller, Lyle E. 1970. The change agent: The strategy of innovative leadership. Parthenon Press, Nashville, Tennessee.

Course Code: Ag. Ext. 3220E

Course Title: Leadership Development

Course Outline:

Meaning, types and characteristic of leadership, importance of local leaders in extension programs, methods of selection training and use of leaders, types of leaders training under extension programs, motivation and evaluation of leadership.

General Objective:

Students will learn to know the importance and roles of leaders in various extension progress.

Specific Objectives

Upon the completion of the course successfully, the students will be able to:

1. Explain the importance of leadership in extension programs.
2. Explain the objectives and characteristics of leadership in rural farm community.
3. Understand the various approaches, types and nature of leadership
4. Identify the local leadership through various techniques, select them for training in agricultural extension program.
5. Learn how to motivate the local leaders and their efficient role in extension program.
6. Understand the importance of 4H programs, and their contribution to the total extension work.

Course Content

	<u>Estimated no. of</u> <u>Lecturers</u>	<u>no. of</u> <u>Practicals</u>
1. Definition of leadership, scope, objectives, types and characteristics of leadership, leaders and followers, leaders and advisors	6	-
2. Theories of leadership, leadership as traits within individual, leadership as function of the group, leadership as function of the situation, qualities of good and bad leadership.	1 9	-
3. Identification of leaders, various approaches, their merits and demerits, their implication in extension programs	7	-
4. Kinds of lay leaders in extension programs various methods of selection, training to different kinds of leaders, role of local leaders in extension programs.	6	-
5. Motivation of local leaders, techniques of local and professional leadership development, evaluation of local leaders in extension programs	7	-
6. Rural youth and 4H program, scope, objectives and educational contributions, essential features, education tools, supporting organizations, non club programs	10	-
7. Other agencies and organizations providing leadership and action, cooperative organizations, farmers organizations, business organizations, Schools, churches and Institutes	8	-
8. Role of panchayat leaders under new decentralization act of HMG in planning and execution of extension programs at local and panchayat level.	7	-
Total =	<u>7</u> 60	

Test Book

1. Cortwright, Dorwin., and Alvin Zender, 1953: Group dynamics, research and theory. Row, Peterson and Company, Illinois, U.S.A.
2. Krietlow, B.W., E.V. Aiton., and A.P. Torrence. 1960: Leadership for action in Rural Communities. The Interstate Printers and Publishers, Incorporated. Dawille, Illinois, U.S.A.

Test book Cont.

3. Hoeman, F.S. 1950: Group leadership and democratic action. Houghton Mifflin Company, Boston, U.S.A.
4. Tead, Ordway. 1935. The art of leadership. McGraw Hill Books Co. N.Y., U.S.A.
5. Welledon, A.F. 1970: Community Development. The Bedwinister Press, N.Y.

References:

1. Barverd, C.I. 1942. Organization and management Harvard University Press, Cambridge, Massachusetts, U.S.A.
2. Hunter, Floyd 1953. Community power structure, Chapel Hill, University of North Carolina Press, N.Y. U.S.A.
3. Pigors, P.J.W. 1935. Leadership or domination. Houghton Mifflin Company, U.S.A.
4. Ross, M.C. and C.E. Hendry. 1957. New understanding of leadership. Association Press, New York, U.S.A.

Program Planning in Agricultural Extension

Course Code: Ag. Ext.

Course Title: Program Planning in Agricultural Extension

Course Outline:

Meaning and importance of program planning, objectives and philosophy, Principles of planning, types of programs, program development cycle, various models of programs planning, program planning in various extension approaches, building extension programs with different organizations and participations, procedures and approaches in program building at village, district, regional and national level.

General objective:

After completion of the course students will be in a position to understand the meaning and importance of program planning in agricultural extension and its use at various levels.

Specific objective:

Upon the completion of the course successfully- the student will be able to:

1. Explain the objectives and philosophy of extension program.
2. Explain the meaning and principles of program planning
3. Develop annual calendar of various extension activities, unit plans, plan of words and methods to operate
4. Develop techniques to plan the various programs of a farmer, change agent, subcentre, district, region and nation.
5. Understand various projects launched by HMG throughout the kingdom
6. Develop and understanding of the relation of the farm unit to the whole of agriculture and of the place of agriculture in the total economy.

<u>Course content and course schedule</u>		<u>Course schedule</u>	
<u>Course content</u>		<u>Theory</u>	<u>Practical</u>
1. History of program planning in extension		4	
2. 1.1 Program planning, its meaning and importance		2	
1.2 Program planning its scope, objectives, philosophy and history		2	
2. Program Development		4	
2.1 Nature and importance of building extension programs		1	
2.2 Various approaches in program building		1	
2.3 Foundations of sound extension program		2	
3. Principles of planning		10	
3.1 Planning processes		2	
3.2 Extension program planning with participation of clientele		4	
3.3 Need analysis and talk analysis		2	
3.4 Scope of various program procedures in program planning		2	
4. Network Development and activities		5	
4.1 Time estimated and project review techniques (PERT)		2	
4.2 Critical Path Movement (CPM)		2	
5. Evaluation of program planning		12	
5.1 Criteria for evaluation of program planning		4	
5.1.2 Methods of program evaluation		4	
5.1.3 Types of program evaluation		4	
6. Strategy of program development in different agencies and institutions in Nepal.		12	
6.1 ADB		1	
6.2 AIC		2	
6.3 SFDP		2	
6.4 HADP		2	
6.5 HFPP		2	
6.6 IDPS		2	
7. Agriculture production plans		8	
7.1 Farm and village plans		2	
7.2 Role of extension workers in planning and evaluation		2	
7.2.1 Role of J.T./JTA		1	
7.2.2 Role of AA and PLAA		1	
7.3 Program planning in different projects and extension systems		2	
8. The training and visit system		7	
8.1 Importance and objectives of the T and V system		2	
8.2 Impact of T and V on different projects in Nepal		2	
8.3 Program planning in T and V system with special reference to farm community and professional leadership		3	
		<u>62</u>	
		Total	62

Test books

1. Boyle, P. G; 1965, The planning process with emphasis on extension, National Agriculture Centre for advanced study, University of Wisconsin, Madison Wisconsin, U.S.A.
2. Kelsey, L.D., and C.C. Hearne; 1949. Cooperative Extension work, Cornell University Press, New York, U.S.A.
3. Lippit, Ronald; Jeanne Watson; and Bruce Westley, 1958. Dynamics of planned change, New York, Harcourt, Brace and World, Inc. U.S.A.
4. The cooperative extension service. H.D. Sanders, Editor. 1966. Prentice Hall Incorporated, Englewood Cliffs, N.J., U.S.A.

Reference books

1. Leogans, J.P., Criteria for procedure and practices in country extension program planning, Cornell University Press, Ithaca, U.S.A., 1950
2. Pander, JMA., Methods of Program Planning in rural extension. Veenman and Zoren and Nogenington; 1956
3. Bliss, Ralpr K1; 1960: History of cooperative extension service in Iowa, Iowa State University of Science and Technology, Iowa, U.S.A.
4. Dahama, O.Pl; 1979. Extension and Rural Welfare, Ram Prasad and Sons, Agra, India

Course Code: Ag. Ext. 5211

Course Title: Agricultural Communication

Course Objective:

General: - The student will be able to develop knowledge of the agricultural information system of Nepal and develop skills in planning and sending various agricultural messages on the available channels.

Specific Objectives:

Upon the completion of the course, the student will be able to:

1. Understand the communication process in a social system,
2. Understand the forms of communication and identify the barriers to communication and talk with such barriers,
3. Develop skills in processing messages to the farmers,
4. Understand the system of flow of agricultural information to the farmer in Nepal,
5. Identify various types of available sources of information and channels and use them in extension communication,
6. Develop skills in preparation and use some small media and use of audio-visual aids,
7. Develop skill for public speaking, conducting tours, meeting field days exhibition and agricultural radio programs,

Theory and Practicals

<u>Topical breakdown</u>	<u>Estimated no. of</u>	
	<u>Lecturers</u>	<u>Practicals</u>
1. Communication	4	4
(a) Defination		
(b) Process		
i) elements		
ii) models		
(c) Communication in various levels		
(d) Using motivation in communication		
2. Communication in small groups	3	
(a) Individuals in a group		
(b) The role of group members		
(c) Group building and maintenance role		
3. Forms of communication	2	
(a) Verbal		
(b) Non-verbal		
4. Barriers to communication	2	
(a) Physical		
(b) Psychological		
5. Communication media and their advantages and limitation	8	4
(a) Interpersonal and mass media		
(b) Models of mass communication flows		
(c) Opinion leadership in the mass communication process		
(d) Factors infouencing interpersonal relays		
(e) Combining mass media and interpersonal channels		
(f) Advantages and limitations of interpersonal and mass media		
6. Functions of information sources and media in adoption process	3	
(a) Mass media		
(b) Other farmers		
(c) Agricultural agencies		
(d) Commercial sources		
7. Message types	4	
(a) Basic knowledge		
(b) Applied research and development knowledge		
(c) Practice knowledge		
(d) Feed back		

	Estimated no. of	
	Lecturers	Practicals
8. Flow of agricultural informational to the farmers	2	3
(a) Information need and supply		
(b) Use of information sources		
(c) Availability of communication facilities		
(d) Inhibitors of information flow		
(e) Facilitators of information flow		
9. Planning for effective communication	3	2
(a) Analysis: audience, problem solutions and change agency		
(b) Plan development		
(c) Implementation		
(d) Evaluation		
10. Production and use of audio-visual aids	20	
(a) Production and use of small media, i) audio aid ii) visual aid (iii) audio-visual aids		
(b) Conducting tours, meeting, field days and exhibition		
(c) Writing for agricultural radio program		
	31	31

Evaluation Methods:

Evaluation will be based upon the following:

1. Skills production and use of small media
2. Skill in using some audio-visual aids
3. Participation and performance in public speaking, conducting tours, meetings, field days and exhibitions
4. Radio script for agricultural program
5. Written examination

Reference books:

1. ACE, Communication handbook. The interstate printers and publishers Inc. Danville, Illinois, U.S.A.
2. Daham, O.P. Extension and rural welfare
3. Havelock, Ronald G. 1979. Planning for innovation. The University of Michigan, Ann Arbor, MI.
4. Lionberger, Herbert F. 1968. Adoption of New Ideas and Practices. The Iowa University Press. Ames. Iowa.
5. Lionberger, Herbert F. and H.C. Change 1970. Farm information for modernizing agriculture: The Taiwan System, Praeger Publishers, New York.
6. Rogers, E. M. and F. Floyd Shoemaker. 1971. Communication of innovations: A cross cultural approach. The Free Press: New York.

Course Code: RS 4120

Course Title: Rural Sociology

Course Objective:

General: The students will acquaint with basic concepts in rural sociology and will be able to use this knowledge in understanding life styles of various social groupings in Nepal.

Specific Objective:

Upon the completion of the course the students will be able to:

1. Know what rural sociology is and delineate its scope
2. Familiarize with Nepalese social systems and understand important sociological concepts, and
3. Have a fair idea on the concept of ethnicity and few ethnic groups such as the Tharus and the Chepangs of Nepal.

Theory

<u>Topical breakdown:</u>	<u>Estimated no. Of Lectures</u>
1. <u>Introduction</u>	5
1.1 Introduction	
1.2 Concept and scope	
1.3 Rural and urban differences	
2. <u>Social institutions</u>	15
2.1 Family	
2.2 Governance	
2.3 Religion	
2.4 Education	
2.5 Economy	
3. <u>Some sociological concepts</u>	15
3.1 Culture	
3.2 Custom	
3.3 Value, norms and beliefs	
3.4 Socialization	
4. <u>Group relations</u>	10
4.1 Accommodation	
4.2 Adjustment	
4.3 Assimilation	
4.4 Analgamation	
4.5 Conflict and competition	

<u>Topical breakdown (cont)</u>	<u>Estimated no. of Lectures</u>
5. Social stratification	3
6. Ethnic groupings in Nepal	$\frac{10}{58}$
Total	

Recommended readings

1. Bertrand, Alvin. Basic Sociology, Appleton, Century Crofft, NY. 1973.
2. Chittambar, J.B. Rural Sociology, Weley Eastern Ltd., New Delhi. 1977.
3. Rogers, Everett M. Social Change in Rural Society, Appleton-Century, Gofts, Inc., N.Y.
4. Smelser, Neil J. Sociology, Prentice-Hall, Inc., Englewood Cliffs, NJ. 1981.

Course Code: RS 5220

Course Title: Sociology of Rural Development

Course Objectives:

General: The students will learn to analyze the issue of rural development in Nepal.

Specific Objectives:

Upon the completion of the course the students will be able to:

1. Explain the concept of development, underdevelopment and rural development.
2. Acquaint with the explain planning and planning process in Nepal, and
3. Have an insight on the rural development programs in Nepal from a socio-historical perspective and critique on it.

Theory

<u>Topical breakdown:</u>	<u>Estimated no. of lectures</u>
1. <u>Introduction</u>	10
1.1 Concepts of:	
1.1 Development	
1.2 Underdevelopment	
1.3 Rural development	
2. <u>Planning</u>	20
2.1 Planning processes	
2.2 Planning in Nepal	
2.3 Modernization and social change	

<u>Topical breakdown (cont)</u>	<u>Estimated no. of lectures</u>
3. <u>Rural Development</u>	20
3.1 Rural Development in the Third World	
3.1.1 Historical perspective	
3.1.2 Contemporary movement	
3.2 Rural development in Nepal	
3.2.1 History	
3.2.2 Status	
3.2.3 Problems and prospects	
3.3 People's participation in Rural Development	
4. <u>Critique on Rural Development Programs in Nepal</u>	10

Recommended readings

1. Chodak, Szymon. Societal Development, Oxford University Press, NY. 1973.
2. Eisenstadt, S. N. Comparative Perspectives on Social Change, Little, Brown and Company, Boston. 1968
3. Goldthorpe, J. E. The Sociology of Third World: Disparity and Involvement, Lyndics of Cambridge Univ. Press, Cambridge. 1975.
4. Lohani, Prakash C. People's Participation in Development, CEDA, Kathmandu, 1978.
5. Myrdal, Gunnar. Asian Drama (Abridged), Penguin Press, London, 1972.
6. Pradhan, Prachand (ed). A New Dimension in Nepal's Development. CEDA, Kathmandu, 1973.
7. Stiller, S.J. and R. P. Yadav. Planning For People, Sahayogi Prakashan, Kathmandu, 1979.

Articles

1. Andre, Gunder Frank. "The Development of Underdevelopment." Monthly Review, 1964-66.
2. Bealer, Robert C. "Rural Development: Another Go Around for Inter-disciplinary Blenders." 1971.
3. Bertrand, Alvin L. "Definitions and Strategies of Rural Development: A Search for Coherence and Congruity." Sociological Ruralis
4. Blaike Piers, Cameron J., and Seddon D. "Nepal in Gissis." Oxford University Press, Bombay 1980.
5. Brown, Lester R. "Seeds of Change." Praeger Publishers, NY. 1970.
6. Copp, James H. "Rural Sociology and Rural Development." 1972.
7. Galiski, Bogualaw. "Conflict and Change as an Aspect of Development."

Course Code: AG EXT 5211E

Course Title: Audio-visual communication

Course Objectives:

General: The student will be able to develop skill in production and presentation of some a-v materials and handle a-v equipment.

Specific Objectives

Upon completion of the course, the students will be able to:

1. Plan for instructional materials for using them in classrooms and in public
2. Understand basic production techniques of visual aids.
3. Acquire such skills as planing art work, drawing illustrations, lettering, coloring and designing.
4. Understand and develop skills in presentation at a-v materials for various purposes.
5. Handle and project some a-v equipment
6. Understand the basic photographic techniques.

Theory

<u>Topical breakdown</u>	Estimated no.	
	<u>of Lectures</u>	<u>Practicals</u>
1. Planning Instructional Materials	5	
a. Statement of objectives		
b. Presentation strategy		
c. Selection of information		
d. Organization of information		
e. Evaluation		
2. Using Media	2	
a. In the classroom		
b. In the community		
3. Presentation methods and materials	1	1
a. Demonstration		
1. Planning a demonstration		
2. Organizing a presentation		
3. Choosing and using visuals		
b. Field trips		
1. Planning and conducting		
2. Follow-up		
c. Exhibits	1	2
1. Suggested applications		
2. Planning		
3. Designing and building		
4. Manning		
5. Judging education exhibits		
d. Presentation boards and media	1	1
1. Bulletin boards		
a) Suggested application		
b) Designing		
2. Chalkboards	1	1
a) Suggested applications		
b) Planning		
c) Drawing techniques		
d) Presentation		

3.	Flannel boards	1	2
	a) Suggested applications		
	b) Major categories		
	c) Designing		
	d) Choosing the right color		
4.	Posters		1
	a) Suggested applications		
	b) Elements of the poster		
	c) Lettering principles		
	d) Layout		
5.	Flash cards	1	2
	a) Suggested applications		
	b) Planning and designing		
	c) Presentation		
6.	Leaflets and pamphlets	1	2
	a) Suggested applications		
	b) Planning and designing		
	c) Production possibilities		
7.	Wall newspapers		1
	a) Suggested applications		
	b) Designing and production		
8.	Pictures		
	a) Suggested applications		
	b) Types of pictures		
e.	Models	1	1
	1. Suggested applications		
	2. Making and using		
f.	Projected materials	1	1
	1. Slides		
	a) Suggested applications		
	b) Slide tray loading		
	c) Production and projection techniques		
	2. Filmstrips	1	
	a) Suggested applications		
	b) Production and Projection techniques		
	3. Motion pictures	1	2
	a) Suggested applications		
	b) Presentation planning		
	c) Projection techniques		

4.	Opaque projection		1
	a) Suggested applications		
	b) Projection techniques		
5.	Overhead projection	2	2
	a) Suggested applications		
	b) Utilization techniques		
	c) Designing a good overhead transparency		
g.	Recording	1	1
	1. Suggested applications		
	2. Microphone use		
	3. Acoustic treatment		
	4. Tape editing		
4.	Basic Production techniques	1	
a.	Planning art work		
b.	Illustrations	1	2
	1. Squaring		
	2. Pantograph		
	3. Projection tracing		
	4. Simple drawing		
c.	Lettering	1	1
	1. Hand lettering		
	2. Cutout letters		
	3. Stencil lettering		
	4. Lettering legibility		
d.	Coloring		
	1. Color choice		
	2. Coloring techniques		
e.	Design: Factors to be considered	1	1
5.	Basic Photography	1	3
a.	Holding and steadying the camera		
b.	The lens and focusing		
c.	Capturing motion		
d.	Sutter speed		
e.	Aperture control		
f.	Inside the camera		
g.	Exposure		
h.	Depth of field		
i.	Using a light meter		
j.	Using flash		
k.	Selecting the right film		
	Total	29	34

Evaluation methods

Evaluation will be based upon the following:

1. Total number of production of a-v aids
2. Presentation techniques
3. Each visual aid will be evaluated in terms of drawing illustrations, lettering, coloring and designing.
4. Written examination.

Text books

1. Pett, Dennis W. (ed). Audio-visual communication handbook. World Neighbors, Oklahoma City, OK, U.S.A.
2. Kemp, Jerrold E. 1980. Planning and producing audio-visual materials, NY.

Reference books

1. ACE. Communication handbook. The Interstate Printers and Publishers, Vanville, IL, U.S.A.
2. Daham, O.P., Extension and Rural Welfare.....India.

Course Code: RS 5220E

Course Title: Sociology of Migration

Course Objectives:

General: The students will develop an understanding of migration as a sociological phenomenon.

Specific Objectives:

1. Familiarize with some theories of migration
2. Acquaint and explain various types of migration
3. Describe limited case studies with a sound theoretical framework, and
4. Develop skill to measure migration with at least one method.

Theory

<u>Topical breakdown</u>	<u>Estimated no. of lectures</u>
I. Sociology of Migration	25
Migration	
Characteristics of migration	
Theories of migration	
Ravenstein's laws of migration	
Some theoretical guidelines towards	
Sociology of migration	
General theory in the study of migration	
Current needs and difficulties	

II. Typology of Migration	20
Rural-urban migration	
Hill-Tarai migration	
South-North migration	
Turn-about migration	
International migration	
III. Case Studies	5
Western Nepal	
Beech Creek US	
American immigration Australia	
IV. Perspectives and Models	10
Migration - system approach perspectives	
Rural-urban migration - system approach perspectives	
Behavioral aspects of decision to migration	
Migration as a component to population change	
Decision to move	
Migration methods and models - A demographic perspective	
	60
/ Total	

Recommended readings

1. Brian M. Dutoit (ed), Readings in the Sociology of Migration.
2. Curung, Harka B., Migration in Nepal. Population Commission, Kathmandu. 1983.
3. Hamilton, W.L. and et. al., The Causes of Rural to Urban Migration Among the Poor in Massachusetts, Abt. Associates Inc. 1970.
4. Jansen, Clifford J. (ed). Readings in the Sociology of Migration.
5. Roseman, Curtis C. Changing Migration Patterns. Association of American Geographers, Washington, DC. 1977.
6. Shaw, R. Paul. Migration Theory and Fact. Regional Science Research Institute, Pennsylvania. 1975.
7. Sjollem, B. H. (ed). Internal Migration in Latin America. Geneva Secretariat for Migration, World Council of Churches. 1969.

Articles

1. Adepoju Aderanti. Migration and Development in Tropical Africa: Seno Research Priorities.
2. Finifter, Ada W. "American Immigration." 1976.
3. Goldstein, Sidney. Facets of Redistribution: Research Challenges and Opportunities. Demography Volume 13, Number 4: 1976.
4. Lee, Everett S. "A Theory of Migration." Demography 1966: Vol. 3, No. 1.
5. Mabogunje, Akin L. "Systems Approach to a Theory of Rural-Urban Migration." Geographical Analysis, Vol. 2: 1970.
6. Poister, T.H. "The Systems Approach."
7. Schwarzweller, H. K.; Maggalam, J.J. "Some Theoretical Guidelines Towards a Sociology of Migration." International Migration Review. Vol. 4, Spring 1970.
8. Schwarzweller, H. K. "The Beech Creek Project: A Case Study of Appalachian Migration.
9. Wolpert, Julian. "Behavioral Aspects of the Decision to Migrate."
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APPENDIX IX.

An Outline of a Brief Report of the Pilot Extension Program of IAAS, 1983. (This is a draft to provide a basis for discussion in the Extension Committee meeting scheduled for Mangsir 16, 2040 (Dec. 2, 1983).

The following activities have been carried out by the Pilot Extension Program in cooperation with the various divisions of the IAAS for the year 1983.

- I. Display at Devghat Mela:
 - A. Distribution of Cassava Cuttings to Farmers
 - B. Display of different varieties of soyabean seeds grown at IAAS
 - C. Display of other vegetables grown at IAAS Horticulture Farm
 - D. Distribution of copies of answers to questions asked by the farmers at the Farmers Field day of 1982
 - E. Distribution of pamphlets and Brochures from other Agricultural Agencies
- II. Farmers Field Day at IAAS for 1983:
 - A. Tour of the IAAS Farms and explanation of various research trials
 - B. Visits to laboratories and Library
 - C. Distribution of Soyabean, Tegosente Grass Seeds, Napier grass cuttings and Cassava cuttings
- III. Sale of Shanker hybrid maize seeds
- IV. Field Trial of Shanker hybrid maize
- V. Field trials of cauliflower and broccoli in two places in Farmers Fields
- VI. Six new sprayers and dusters purchased and placed at the extension booth for farmers use.
- VII. Training:
 - A. Horticulture: A one day training session in Kitchen Gardens and Food Preservation was provided by the faculty of Horticulture for the farming wives and daughters in Sharadanagar Panchayat.
 - B. Livestock: A one day training session in Livestock care was provided by the faculty of Animal Science, for dairy farmers of Lungu and Sharadanagar Panchayat.
 - C. Motorbike Training: Training was provided to facilitate the provision of prompt service to farmers by teachers or subject matter specialists at IAAS.

A channel is already in operation so that the farmer with a problem can get help. The farmer fills out a form at the IAAS Extension Office in Rampur and the assistant there takes the form to the farmer or writes his recommendations on the slip which is returned to the farmer. The farmer may then purchase the necessary materials from the IAAS Extension Office to treat his/her livestock or crops.

VIII. The extension office is collecting weekly prices of food grains in Narayanghat Bazaar for the information of the farmers in the adjoining Panchayats of IAAS.

IX. The Extension Office is also selling vegetable seed to farmers.

Although, this program was initially started with an objective of providing technical assistance and other services to one Panchayat (i.e., Sharadanagar Panchayat), its activities could not be limited to this one Panchayat only because of the shared needs of the farmers of the adjoining Panchayats. According to the records of the extension program office, the farmers of the following Panchayats have sought help from the office for their livestock and crops:

- | | | |
|-----------------|----------------|----------------|
| 1. Sharadanagar | 2. Narayanpur | 3. Meghouli |
| 4. Shivanagar | 5. Patiyani | 6. Parabatipur |
| 7. Dibanagar | 8. Gunjanagar | 9. Mangalpur |
| 10. Jagatpur | 11. Sukranagar | 12. Geetanagar |

The IAAS has a threefold function--teaching, research and extension. Currently the first two seem to receive priority with extension being seen by many staff members as an extra burden. Full time extension personnel are one assistant (Jt level training) and one other assistant (secondary school training). IAAS teaching staff provides technical services to the extension program only on a voluntary basis.

With the growing demand for technical services from farmers in Chitwan, there is a need to strengthen the IAAS extension program. There are, of course, financial constraints, but there is also the problem of the efficient use of manpower. The IAAS staff is a major resource to technical services and expertise for the farmers of Chitwan. The question before us is how to best and most effectively use the resource.

We need to better define the directions of the IAAS extension program, and to do this we need the full participation of the IAAS staff. Through interaction and the sharing of our ideas and experiences, we can plan an extension program that will make the best use of a valuable resource--the expertise of our entire staff.

Some of the immediate needs of the Extension Program as perceived by the Coordinator include:

1. An IAAS staff member assigned as a full time coordinator for the program.
2. A motorcycle is needed to be assigned to the program to efficiently mobilize the teachers as SMS (subject matter specialists) to provide technical services to the farmers.
3. Two bicycles are needed for two of the assistants in the extension office. They have to go to the farmers most often. They are also the liasons between the farmers and the SMS. They have to go frequently from the Rampur Extension Office to the Campus. Also, every week one assistant has to go to Narayanghat Bazaar to obtain the price data of food grains. They have been using their own bicycles although they have made several requests for the program to provide bicycles.
4. Two display boards for price data, pamphlets and new information.
5. Racks for keeping equipment orderly are needed in the extension office.
6. Measuring tapes and a weighing device (balance).

If IAAS is financially constrained perhaps MUCIA funding can be obtained to supply the above items.

Finally we are all concerned about strengthening the Extension Program. Your criticisms and suggestions are not only welcome but necessary. This is your program. We would appreciate it if each department would submit a written list of suggestions to the Extension Coordinator by Sunday. The suggestions and plans will be put together into a working plan for the IAAS Extension Program for 1984. A draft of this new document will then be circulated to the members of the extension committee with representatives from each department.

Some of the questions we consider important to be answered are the following:

1. Does your department have any technology developed or any known technology that can be suitably transferred to the farmers in Chitwan?
2. What does your department want to contribute to the IAAS Extension Project? Be specific.
3. In what ways does your department think the over-all Extension Program can be improved. How can this best be accomplished? Should there be a shift in policy? In what direction? Why?
4. How should the "work load" for extension activities be divided among among your department members? Who will be responsible and what will their duties be?

5. How can students best be involved in the Extension Project so that it will be a part of their education at IAAS?
6. How can we most efficiently deliver our technical expertise to the farmers?
7. How can we diffuse our technology more efficiently?
8. Are there any other question in your mind to be answered, please feel free to do so.

Submitted by: P. Tulachan, Extension Program Coordinator
H. Whittier, R.D. Advisor

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Budget Proposed for IAAS Extension Programme for 041/42

It is known that IAAS Central Campus, Rampur has running a Pilot Extension Program in Shardanagar Panchayat of Chitwan District. The objectives of this program is to make farmers directly benefited from our service without any fee for any time that we can give them. Besides, we are providing different chemicals, & equipment required for agriculture field in a cheap rate of market price and in rent too. We have certain staffs number and a voluntary IAAS Extension committee that provides service directly to the farmers in their doors and fields. There are different activities governed by this program, and the goals of all of these activities is to develop the agriculture status of farmers directly in indirectly. Since the program has been running since the year 037 B.S. now, it has already got experienced with three years activities and services. In the year 2040, it is performing its fourth year's programs. We know that development curve never goes vertical, so with the collection of last years experiences, we have realized that, we should further strength the program, should add other activities than the last years in the program. So, in comparison of the last four years, the programs for the fiscal year of 2041/42 is made still more useful. To achieve these goals, under this program, the following budgets are proposed for the following activities:

A.	<u>S.N.</u>	<u>Activities</u>	<u>Brake Downs</u>	<u>Total Budget (Rs.)</u>
	1.	House Rent	Rs 200/month	Rs. 2,400/-
	2.	Allowances	-Extension Incharge-1 ~ -Asst. Lect.)	Rs.16,230/-
			-Sub. Instructor-1	Rs.13,650/-
			-Asst. Instructor-1	Rs.11,180/-
			-Clerk-1	Rs. 7,800/-
			-Peon-1	Rs. 3,900/-
			Total	<u>Rs. 52,760/-</u>
	3.	Furnitures (to be added)	-Table-2 -Chair (office)-2 -Daraj-2	Rs. 10,000/-
	4.	Field Instruments	-Spareparts of Sprayers, dusters	Rs. 2,000/-
			-Spades, rakes, ropes, measuring tapes, scales, etc.	Rs. 15,000/-
			Total	<u>Rs. 17,000/-</u>

Continued....

<u>S.N.</u>	<u>Activities</u>	<u>Break downs</u>	<u>Total Budget (Rs.)</u>
5.	Official materials	-Typewriter-2 (Eng.+ Nepal). -Files, Registers, Pens, holders, Sign pens, Papers, Stamps, colours, etc.	Rs. 12,000/- Rs. 2,000/-
		Total	Rs.14,000/-
6.	Materials from revolving fund	-Insecticides -Veterinary Medicines -Herbicides -Fungicides -Vegetable seeds -Agronomical seeds -Fruit Propagating units -TA/DA for marketing	Rs. 5,000/- Rs.10,000/- Rs. 1,000/- Rs. 3,000/- Rs. 2,000/- Rs. 1,000/- Rs. 2,000/- Rs. 3,000/-
		Total	Rs.27.000/-
7.	Printing/Publications	-Materials of farm day, Farmers training, etc. Bulletins, Tablets, Pamphlets, posters, farmers, name lists, and vertiuments of each activities to be arranged, etc.	Rs. 1,000/-
8.	Vehicles	-Two cycles @ Rs. 1400 each -Post magnt. of cycles -Fuel for Vehicles	Rs. 2,800/- Rs. 700/- Rs.12,000/-
		Total	Rs. 15,000/-
9.	Incidental Budgets	-Atithi Satkar -Meetings of Ext. Comm. -Lunches for SMS while in field working	Rs. 1,000/- Rs. 1,000/- Rs. 1,000/-
		Total	Rs. 3,000/-
10.	Awards -or farm competition for farmers	-Rice Prod 2) @ Rs. 200/one -Wheat Prod 2) @ Farmer/yr -Maize Prod 2) for one -Kitchen Garden) competition -Livestock Magnt.	Rs. 1,000/-

Continued.....

<u>S.N.</u>	<u>Activities</u>	<u>Break downs</u>	<u>Total Budget (Rs.)</u>
11.	Farmers tours (inside IAAS)	-Hort. + Agron. + Liv. Refreshment @ 3 (25 farmers/gr & 5 staffs/gr)	Rs. 5/pers Rs. 450/-
12.	Result Demonstrations Rice - 3) Wheat - 3) Maize - 3) Kitchen garden -1	-Seeds Fertilizers Labouram	Rs. 1,000/- Rs. 5,000/- Rs. 8,000/-
			<hr/> Total Rs. 14,000/-
13.	Exhibition (Devghat) (3 Days)	-Installation -Overtime -Labourers	Rs. 1,000/- Rs. 400/- Rs. 200/-
			<hr/> Total Rs. 1,6000/-
14.	Farmers fair (Inside IAAS) (3 days)	-Installation -Inaguration -Feeds for Ans. -Overtime -Prizes	Rs. 6,000/- Rs. 5,000/- Rs. 3,000/- Rs. 500/- Rs. 3,000/-
			<hr/> Total Rs. 17,000/-
15.	Farmers Day	# of farmers 25 Files 200 @ each from Shardanagar, Rs. 2/- Mangalpur, Shivanagar Rs. 400/- & Gunjanagar = 100 Bool Pen 200 @ 2/- Rs. 400/- Foolscape 100 Justa @ Rs. 5.50 Rs. 350/- Refreshments @ Rs. 5 per person Rs. 1500/-	
			(Approx. # = 300)
			<hr/> Total Rs. 2650/-
16.	Farmers Training	No. of training - 7 Files 250 Rs. 500/- farmers /1 gr - 25 Bool pens 150 # experts & students - 10/gr. Rs. 360/- Total # of attended - 245 Paper 100 Justa Rs. 250/-	
			<hr/> Total Rs. 2460

Continued.....

17. <u>Photographies</u>	In different Activities	Rs 4000/=
	Grand Total	182920/-
	Miscellaneous (10%)	18292/-
	Total Needed Rs	<u>2011212/-</u>

B. Justification of the budget headings:-

1. House Rent:

In order to the conveniency to farms, the offices of the IAAS Extension Program is situated in Kiranganj square where there come a large number farmers from different villages for different purposes, it will be easy to see us by them and vice versa. So until and unless, we will not be able to erect our own building or to have the second alternative, we should pay a house rent of Rs 200/- month each year.

2. Allowances:

In the last years, when we started the program, they were only one clerk and a peon, the program and their jobs used to be made by an Extension Co-ordinator who was among the IAAS teachers, but now, in order to strengthen the programs and provide still more services for the farmers, we have added one sub-instructor and one Assistant Instructor. For the sake of Ext. Coordinator, now an Incharge of an Assistant Lecturer level is appointed, and he/she uses his most of the time for extension activities.

An assistant lecturer, since he is a teacher too, he may need to adjoin to different other activities of the institutes like teaching, research or collaboration in research activities, consurt of libraries and tours to different zones, he may not give his full time for extension solely, so he should be provided with an extra remuneration @ Rs 150 per month like other responsibilities as hostel wardens, farm managers, etc.

3. Furniture:

Since, there are different activities and 5 staffs working in the offices, now we have only two racks, two office tables and two office chairs, so we have burning problems of two each of tables, racks and chairs.

4. Field Instruments:

The spare parts of these instruments should be bought in time to time. Whatever the field equipments we have, we use to give them to the farmers in a very low rent rates.

Other instruments listed above are needed for field demonstration, yield estimation and area measurements.

5. Official Instruments:

Now we have one English typewriter but it is not functional and it will not be useful after repair too. So we need to have at least one typewriter each of English and Nepali. Other instruments are needed for official marks and to make posters, leaflets, etc.

6. Materials from revolving fund:

In order to improve the agriculture status of the farmers, we use to buy the listed chemicals and propagating units from Kathmandu, Birgunj, India or wherever they are found and they are sold to the farmers at the same rate at what it was bought. This rate will be very cheap for the farmers in comparison to market prices. The funds left after selling is deposited in the bank account and here, in Rampur and need to buy for the next times. Either of the staffs of Extension Office go to market their materials, so they are given the appropriate TA & DA rates according to the official rules.

7. Printing and Publications:

There are various activities like Farmers Day, farmers fair, farmers training, farmers competition in field basis are run. So, the required advertisements, preparation of bulletins, or any other technical bulletins, publications of farmers name lists participated, owners of the competitions, etc.

8. Vehicles:

Since we have 5 staffs and more than 75% works of the staffs in the farmers, field and dars. We also use to take market prices of different agricultural production in Narayangadh Bazaar. So it is very necessary to have at least two bicycles, one motorcycle and occasional services of jeeps and cars. Since the buying of motorcycle and cars is expensive, their arrangements should be requested to MUCIA for Extension works, but the required amounts of fuels for motorcycle and cars is submitted in this budget.

9. Incidental Budgets:

Since, our Extension Program matches to some extent to those of other concerning agencies like ADO office, AIC, Sajha, etc. Sometimes, they may come to see us and to study our programs. We should welcome and keep an honour for such visitors. Not only the five staffs of this office are responsible, but we have an Extension Committee representing from all Departments and units of IAAS. Its meetings are held as and when needed. We have more than eight or nine experts in each agriculture fields; they use to provide their labours to farmers without fees. So when they work in the field, they should be honoured with some refreshments.

10. Awards for farm competition:

Above mentioned items are included in farm competition inside Shardanagar V.P. An overall farm observation based on the periodic visits of the extension workers will select the farmers stand on the first position will be awarded a prize of Rs 200/- or equivalent once a year. This ceremony will be held by the president of the farmers field day held at IAAS each year.

11. Farmers Tours:

An overall farm tour of 25 farmers from Shardanagar V.P. will be held for each farm of IAAS mentioned as Horticulture, Agronomy and Livestock. So, there will be a total 3 tours and at least 5 staffs should be involved in one tour. Not necessarily all the time, same farmers should be selected for tours. When the question of selection of farmers comes, always the extension workers should be involved. They should be provided with refreshment dictis in each tour.

12. Result Demonstrations:

At least 3 demonstrations in the productions of each of rice, maize and wheat are arranged inside Shardanagar V.P. The types of demonstration are not the same in all 3 cases. There will be one model all year round vegetable production demonstration in the upland of a single farmer. The farmers are changed in each year. All the necessary inputs and transportation facilities are provided with Extension Office. Only the farmers should be the interested one, active and should be living on a roadside, he should have the source of water either in the form of tube wells, or just wellstool. Whatever the production comes from the field, the farmer will have his/her full authority of its ownership.

13. Exhibition:

In each year, we consult with ADO office, Chitwan and arrange an exhibition in Devghat Mela when there are about 100 thousand visitors each year. Here we want just to show the technology, improved agricultural equipments, some visual aids or some information. It needs one day for preparation (arrangements) and two days for demonstration for the last day of Paush and 1st Magha. So, here we need staff attained for about 36 hours in turn and some labourers in collection and transportation of materials.

14. Although it is not still be arranged inside IAAS, we want to strengthen different activities and to make over the program more effectively. So, any of the farmers of Sharadanagar V.P. can participate in the fair and there will be competition among themselves on crops, animals or any technologies differently and they are awarded the prizes to those who stand 1st, 2nd, and 3rd in each item. The prizes costs will not be very expensive, they are just for giving incentives or for generating interests. So, there will be animals, they should be fed, crop products or other equipment to be kept in a safe install. Many of the staffs besides the extension office too should be involved and given over time to them.

15. Farmers Day:

Once a year, the Extension Program arranges a Farmers Day Inside IAAS. On this occasion, we use to make farmers familiar to different activities held inside IAAS solely based on agriculture only. A forum is arranged, the farmers are facilitated to propose their problems in front of various experts and offices who have the authority of various agencies related to agriculture. In this occasion, we invite local political leader having in their present posts, office heads of every agriculture related agencies in Bharatpur, Ag. farms of Chitwan Valley and all the teachers and about 100 students from IAAS. Many other staffs from IAAS are involved to arrange and manage the function. To submit the question and to write down the answers they got should be facilitated to the participants. The questionnaires are collected and printed with their appropriate answers. The program starts as early as 9 AM and go up to 5 pm, so necessary arrangements for refreshment should be made available.

16. Farmers Training:

The training on the production of rice, wheat and maize are given for the male farmer once for one crop in their appropriate seasons. They are also trained in livestock management and animal health once a year. The female farmers are trained in vegetable production and for fruits and vegetable production once a year. So, number of trainings arranged in a year will be 7, and number of farmers for one group is 25. The numbers of experts or students is at least 10 per one group of students. All of the participants should be provided with necessary facilities to write down the subject matters and they are provided with a lunch. The duration of training in each times is 1 day, and the day is fixed according to the convenience of the experts. All of the farmers for each times are from Shardanagar V.P.

17. Photographies:

Photographs of each activity done by Extension Program are taken, and recorded in the offices and sometimes, they are distributed to the farmers too.

Submitted to: The Dean, IAAS.

Submitted by: Rabi Poudel.

Strengthening the IAAS Extension Programs

One of the major learning locations for both the IAAS teachers and students is the farmer's field. Unless we work closely with the farmers, we do not learn from them and are less effective in addressing their needs and orienting applied research towards these needs. IAAS has conducted pilot extension programs in Sharadanagar Panchayat for nearly three years to work closely with the farmers. The Department of Rural Sociology and Agricultural Extension Coordinates the extension services in the pilot area through a separate extension office.

IAAS extension programs benefit not only the farmers in the pilot area but also farmers from other parts of Chitwan district who have approached us for our services and advice.

Why IAAS should do extension:

The primary function of the IAAS is to provide higher education in agriculture to young men and women after they complete high school. In addition to this formal education in agriculture, the IAAS should also provide non-formal education programs for adult farm men and women through extension. The rationale for the IAAS's active involvement in extension and, thus, pilot programs is:

1. That IAAS be involved in the development of more appropriate and effective techniques for the country;
2. That IAAS needs to disseminate and apply technical knowledge generated by its faculty members in various disciplines;
3. That IAAS needs to monitor the special needs and problems of the farming communities so that the researchers in various disciplines of IAAS can be aware of such problems and needs;
4. That IAAS should share views and information and endeavor to develop close coordination and cooperation of its activities with DOA, ADB, AIC, Co-operatives, etc;
5. That IAAS needs to train students in extension education which involves the students studying the various aspects of rural life;
6. That IAAS is surrounded by farming communities and is therefore a convenient source of agricultural information for farmers;
7. That experiences obtained through extension activities complement both teaching and research.

What should the Extension Program Be

IAAS Extension has been giving information and advice in addition to some services to the farmers particularly of pilot area. To strengthen extension activities, IAAS should focus its extension programs in following areas;

1. Woman's programs
2. Livestock improvement programs

3. Crop improvement programs
4. Appropriate farm mechanization programs
5. Plantation programs
6. Soil conservation programs.

Women's Programs:

The rural women are responsible not only for raising their children and managing their houses but also for farming activities to an extent equal to or greater than men. Nevertheless, rural women have some spare time especially in crop off-season. Their time could be utilized for extra income generating activities such as hand crafting hand looming; making jam, jellies and pickles and raising chickens. Extension programs should also be directed towards helping the mothers to improve their own health and that of their children through nutrition education and health education helping them develop better home and farm management, and improving their farming techniques.

Livestock Improvement Programs:

Every Nepalese farmer keeps livestock including cattle, buffaloes, goats, and poultry. Most of these livestock are local breeds which need to be either replaced by improved breeds or improve themselves by breeding programs to make them more productive. Diseases of farm animals have been one of the major problems of the farmers not only in Sharadanagar Panchayat but everywhere in Chitwan district. Therefore, under the livestock improvement programs, the IAAS should continue and reinforce the veterinary services, initiate a breeding program, and encourage farmers to grow fodder crops and trees.

Crop Improvement Programs:

Under the crop improvement programs the IAAS Extension should introduce improved varieties, advise farmers in modern farming methods, coordinate with other agencies in making the farm inputs and credit available in time and provide advice and services to control insect and diseases. It should also provide marketing information so that farmers can receive better prices for farm products.

Farm Mechanization Programs:

Because of the shortage of farm labor and intensive cultivation practices, farmers need to mechanize their farms to some extent. Most farmers owning small farms, and cannot buy tractors and tractor-drawn farm implements; however, improved bullock drawn implements or hand operated implements such as a paddy or wheat thresher would be appropriate. They could buy some of the equipment through their common fund operated cooperatively. IAAS should publicize these technologies, help in making them available, and train farmers in their use.

Programs for Tree Planting:

Farmers, including those in Sharadanagar Panchayat, need to plant sufficient trees to meet their needs for timber, fuel and fodder. Trees planted for these purposes can also serve as wind breaks to protect houses and soil especially during the summer. IAAS Extension should develop programs to help farmers to plant trees on their farms.

Soil Conservation Programs:

Chitwan district faces an acute soil erosion problem. Both rain and wind erosion prevail. Wind erosion, which is more serious is caused by constant high winds over dry and exposed land surfaces. Most of the wind erosion takes place in summer when wind velocity increases, temperatures are high, the soil remains dry and farmers plow the land early in an effort to spread the labor load. The IAAS Extension should make an effort to inform farmers about soil erosion problems and initiate programs to protect valuable farm soils.

Implementation of the IAAS Extension Programs

A. The IAAS Extension Council/Board

I. Functions/Scope of responsibilities:

The previous IAAS Extension Committee has been renamed as the IAAS Extension Council. Its functions will be as follows:

1. The IAAS Extension Council after thorough discussion will approve the IAAS extension policies and programs submitted by the Department of Rural Sociology and Agricultural Extension. Extension policies and programs may be either of a temporary and specific nature or they may be long term in nature.
2. Because research and extension are complementary to one another, the IAAS Extension Council will work closely with the IAAS Research Committee. IAAS Extension efforts without the information supplied by research based on farmers problems, cannot be of the best quality. Likewise the IAAS Research committee can point the way to more meaningful research for the IAAS researchers with the suggestions concerning the farmers problems and needs which can be provided by the IAAS Extension Council.
3. It will provide direction to the various departments of IAAS for their roles and active participation in extension programs.
4. Besides providing recommendations for creating and providing necessary facilities for extension, it will finalize the annual budget for extension programs.

II. Council Members:

The council members will consist of the following persons:

Chairman: Dean

Members Secretary: - Chairman, department of Rural Sociology and Agricultural Extension

- Members: -
- 1) Assistant Dean, Academic affair
 - 2) Assistant Dean, Administrative
 - 3) Chairman, Dept. of Agronomy
 - 4) Chairman, Dept. of Horticulture
 - 5) Chairman, Dept. of Plant Protection
 - 6) Chairman, Dept. of Soil Science
 - 7) Chairman, Dept. of Animal Science
 - 8) Chairman, Dept. of Agricultural Economics
 - 9) Extension Officer
 - 10) Advisors

B. The Department of Rural Sociology and Agricultural Extension:

The IAAS extension programs has been carried out by the Department of Rural Sociology and Agricultural Extension through a sub-unit of that Department; the Extension Office. The Department plans coordinates and surpervises the extension programs. In addition, the Department is responsible for the over-all administration and morale of the extension personnel.

The IAAS Extension Program has been brought under the domain of this Department for logical reasons. The main reason for carrying out the IAAS extension programs through the Department of Rural Sociology and Agricultural Extension

The chairman of the Department, who is also the member secretary of the Extension Council, calls the meeting of Extension Council if and when needed in consultation with the Dean. He is also responsible for directing and supervising the extension officer, in charge of extension activities and also is responsible for evaluating the performance of the extension personnel.

C. The Extension Office:

The Extension Office executes the IAAS extension programs under the Department of Rural Sociology and Agricultural Extension. The scope of the specific responsibilities of the office are as follows:

1. Assess and document the farmers problems and needs.
2. Give technical advice to the farmers in consultation with subject matter specialists.
3. Receive visiting farmers and explain on-going extension activities.
4. Receive outside visitors and arrange for campus tours.
5. Maintain records of the visitors.
6. Conduct farmers training, tours, field days exhibitions, fairs and demonstrations.
7. Maintain a record of daily extension activities.
8. Publish an annual report of the extension program activities.
9. Prepare weekly, monthly and yearly work plans.
10. Prepare the annual extension programs and develop and manage the annual budget accordingly.
11. Provide market information to the farmers.
12. Consult, advise and recommend to the Department of Rural Sociology and Ag. Extension on matters pertaining to extension publications.

13. Run communication campaigns for special projects such as soil conservation, plantations and village sanitation.
14. Contact various agencies involved in rural and agricultural development in the area, participate in their activities and inform these agencies about IAAS activities.
15. Collect materials on rural and agricultural development of various agencies in the country and document them and make them available to the IAAS faculty members and students.

The extension officer in charge of the extension office is responsible for execution of the extension programs, in addition to establishing good relation with the public. Because of his accountability to the chairman of the Department of Rural Sociology and Agricultural Extension, he reports directly to the Chairman.

D. Farmer Council:

The IAAS extension programs should be based on the farmers needs. Because the IAAS extension program is directed to the benefit of the farming communities, the IAAS extension office should work closely with the farmers for better understanding their problems and needs. One of the ways to establish rapport with farmers is working with them through their organizations. So far there are not any such organized farmers groups in the farming communities. The IAAS extension office should initiate and encourage farmers to form councils at village (ward) and Panchayat levels. Some of the objectives of such farmers council are:

1. To provide a forum in which farmers can articulate their needs:

Farmers will discuss their immediate problems and needs and try to find out solutions. They may be able to get solutions of some of the problems after through discussion among themselves. They may sought for technical advice from IAAS if deemed necessary. Some farmers hesitate to approach IAAS for technical advice and service but could feel more comfortable in approaching and communicating with IAAS through their councils.

2. To encourage farmers to cultivate a cooperative spirit in addition to self help and ultimately self reliance among themselves.

It is expected that farmers will develop a cooperative action among themselves out of a strong sense of participation in their communities.

3. To receive support for implementing and enhancing the extension programs:

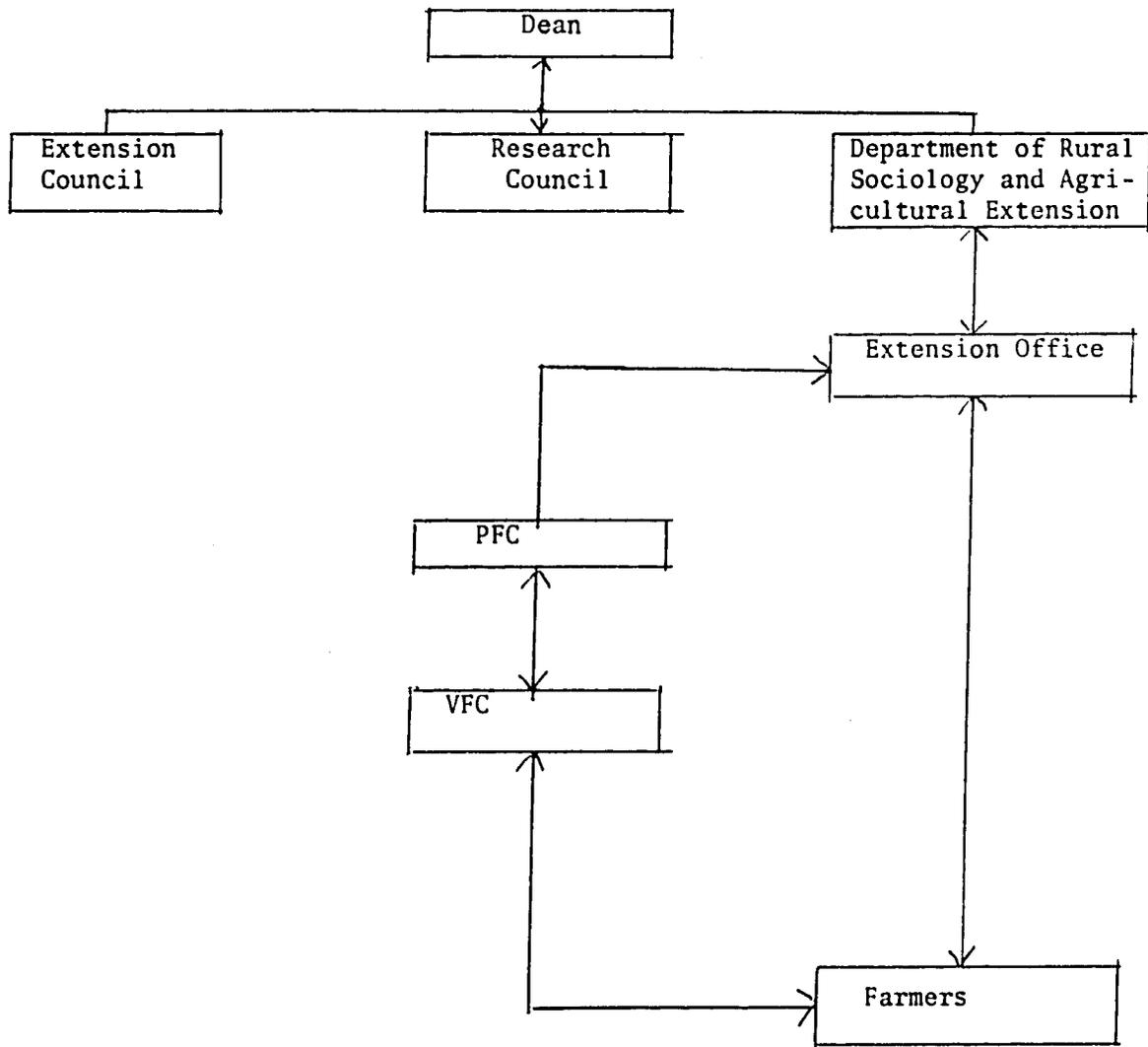
As the farmers develop a cooperative spirit, it will be easy for IAAS to improve extension programs through them to raise agricultural productions. Besides working as a communication channel, the farmers council could be utilized in projects to improve the livelihoods of the farmers specially in the pilot area. For example, the cooperative system may make available

farming equipment and resources such as wheat thresher, sprayers and improved seeds; provide for the establishment of a common fund and facilities and for the joint shipment of farm products; and initiate soil conservation programs and planting of trees for timber, fuel, and fodder.

Farmer's council will be formed at two levels. The village and the Panchayat level in the following manner:

1. Village Farmer's Council (VFC): - In each of the nine wards in a village council will be organized. The council will consist of seven members headed by the ward head. The remaining six members will consist of reputable, innovative farmers who will be nominated by the IAAS extension office in consultation with the ward head. At least one of the VFC members will be a woman farmer. The council will elect one of the members as its secretary and another member for PFC.
2. Panchayat Farmers Council (PFC): - The PFC members will consist of a representative from each VFC with the pradhan Pancha as its head. In the PFC, consisting of 10 members, one member of which will be a woman farmer nominated by the IAAS Extension Office from among the woman members in the 9 VFC. The PFC will elect a secretary among its members.

D. The Organization Structure of IAAS Extension:



Submitted by: Narawan Kunwar

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Pilot Extension Program (PEP), Annual Report
Fiscal Year 2040/41

A. Organization and Manpower:

The pilot extension program was launched by a committee representative of the instruction committees of IAAS and by the Dean; the MUCIA Chief of Party as well as the Rural Development Advisor also were members. The extension co-ordinator, as a member secretary of Extension Committee used to launch the programs in pilot area. The Extension Co-ordinator was assisted by two assistant instructors and one memographic assistant as the full time worker in this program.

At the start of the 2nd half of this fiscal year, an Extension Incharge was appointed as a full time extension worker. The Extension worker should make the programs and launch them under the guidelines of Rural Sociology and Agriculture Extension Instruction committee. A sub-instructor was also appointed to work under this program.

B. Vehicles:

To run each activity of this program, autos and motor-bikes which were furnished by MUCIA. In order to conserve fuel now, MUCIA has handed over three bicycles for the pilot extension program.

C. Activities:

1. Farmers training: - Two farmers from Sharadanagar Panchayat, Nanda Lal Mahto (ward No. 3) and Nardhoj Lama (ward No.8) and Mr. Tika Ram Dhakal from Extension Office, were sent for a month long veterinary training course given by the District Vet. Office Bharatpur, held on Ashad, 041. They were provided with a payment Rs. 320-/ each funded by MUCIA. Mr. Dhakal and Lama completed the training while Mr. Mahto withdrew after 4th day of training.
2. Farmers' tour: - Three farmers' tours were arranged in this fiscal year. both male and female farmers were benefitted by this program.

PARTICIPANTS

<u>Place</u>	<u>Subject</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>	<u>Panchayats</u>
Hort. Farm (IAAS)	Vegetable production	-	26	26	Shardanagar (1,5,8,9)
Khairahani	Badhi Utpadan program	6	-	6	Shardanagar (3,4,8)
Nawalparasi	Cottage industries	-	12	16	Sharadanagar (1,2,5,9)
Nawalparasi and Bhairahawa	Cooperative farming wheat thresher Gobar gas plant, fish farm 20	-	-	20	Sharadanagar (1-9)

3. Ipil-Ipil Nursery Raising and distribution: - A nursery of ipil-ipil (*Leucaena Leucocephala*), a production fodder tree was raised and distributed to the farmers in ward No. 1,2 and 9 of Sharadanagar Panchayat. A demand of 15,000 of seedlings had come from Sharadanagar Panchayat

<u>Seed</u>	<u>Amount</u>	<u>Source</u>
about	300gm	Horticulture
	250gm	Collected by Extension Staff

Nursery raising date - 041-1-10-15

No of seedling (packet) - 2200

No of seedlings - 1600 approx.

Distribution:

<u>W. No.</u>	<u>No. of farmer</u>	<u>No. of seedlings</u>	<u>Date</u>
9	10	220	041-2-5
2	2	45	" -7
1	1	22	" -8
1	2	24	" -19
1,2	6	320	" -29
2	2	44	" -30
2	1	20	4-3
2	1	20	4-8
1	7	140	3-29
		<u>855</u>	

The distribution is continuing in Shrawan too.

4. Result Demonstrations: - Result demonstration and of wheat production was done in differdnt three places in Sharadanagar Vi.P. The compound result demonstrations are also continuing in different places on maize and rice production.

Wheat - Place #1

- (a) Farmer - Huta Raj Gurung
 (b) Place - Sharadanagar, W. No. 2
 (c) Area - about 1 Kattha
 (d) Results
 -Farmer Method Improve method
 -Yield 2.2 Q/kattha 9.85 Qt/kattha

Place #2

- (a) Farmers - Yem Bhahadur Gurung
 (b) Place - Sharadanagar, W. No. 1
 (c) Area - about 1 kattha

(d) Result

-Farmers methods

26 pathi/kattha

94.9 kg/kattha

Improve method

33 pathi/kattha

109.3 kg/kattha

Place #3

(a) Farmers name - Marich Man Gurung

(b) Place - Sharadanagar Ward #1

(c) Area - about 1 kattha

(d) Result

Farmers method

196 Lb/kattha

88.98 kg/kattha

Improve method

208.05/kattha

94.45/kattha

Improve practice of maize - Place #1

(a) Farmers - Bikan Ram Mahato

(b) Area - about 1 kattha

Plot #2

(a) Farmers - Rabi Lal Gurung

(b) Place - Sharadanagar, W. No. 1

(c) Area - above 1 kattha

Cont.....

Plot #3

Farmers - Ramchandra Sapkota

Place - Sharadanagar Ward no. 8, Kirangang

Area - about 1 kattha

Cont....

Rice (improve practices) - Plot #1

Farmers Name - Raj Mani Mahato

Place - Sharadanagar Ward no. 4, Bangain

Field area - 1 kattha

Cont....

Plot No. 2

Farmers - Buddhi Bahadur Thapa

Place - Sharadanagar Ward. No. 4

Field area - 1 kattha

Cont.....

Plot No. 3

Farmers - Himat Moktan

Place - Sharadanagar Ward No. 7, Kirangang

Field area - 1 kattha

Cont....

5. Vaccination of livestock against H.S. diseases

<u>Buff.</u>	<u>Cattle</u>	<u>Total</u>	<u>Ward No.</u>
50	80	130	7
87	96	183	8
144	197	311	5
134	172	306	9
7	71	78	6
7	87	94	4
47	42	89	1
19	37	56	2
52	52	104	3
		<u>1351</u>	

Livestock were vaccinated against Haemorrhagic septecemia by extension workers in all villages of Sharadanagar V.P.

6. Marketing and distribution of vet. medicines, crop seed, other chemicals used for plant protection-
PEP buys such item and sells to the farmers who need them with a cheaper rate than the local market.

Marketing of vet. medicines and crops seed (040/41)

<u>Date</u>	<u>Price</u>
040-2-29	347.45
" 30	097.20
" 6-10	800.00
" "	035.25
040-11-21	132.06
" 22	1179.05
" 23	222.90
" 23	497.33
041-1-4	450.00
041-10-23	2999.73

Total 6991.22

Selling - (selling of vet. medicine crop seed 040/041)

Selling - (selling of vet. medicine crop seed 040/041) Cont....

Shrawan	516.35
Bhadra	477.20
Aswin	713.75
Kartik	380.10
Mangshir	403.30
Paush	203.30
Magh	164.45
Phalgun	534.10
Baisakh	826.40
Jestha	1033.00
Ashad	<u>1118.55</u>
	6667.05

7. Vaccination against rabies: - Extension staff vaccinated the dogs of the following Panchayat against rabies

No. of dogs - 286

No. of farmers benefitted - 230

Panchayats - Shardanagar, Parwatipur, Sivanagar, Mangalpur, Narayanpur

The rabies H.S. vaccines were found without cost from central vet. Hospital Kathmandu and district vet. hospital, Bharatpur.

8. Provision of sprayers facility for farmers: -

<u>Panchayat</u>	<u>No. of farmers benefitted</u>
Sharadanagar	22
Others Panchayat	
Naranpur, Gunjanagar, Parwatipur, Dibyanagar, Sivanagar, etc.	35
Total	<u>57</u>

There are two dusters and three sprayers kept for extension works and farmers' use.

9. Solving the farmers problems

<u>Panchayat</u>	<u>Livestock</u>	<u>Crops</u>	<u>Birds</u>	<u>Total</u>
Sharadanagar	41	46	5	92
Mangalpur				56
Shivanagar				65
Parbatipur				35
Gunjanagar				60
Narayanpur				70

Solving the farmers problems-----cont....

Dibya Nagar	<u>Total</u>
Jagatpur	28
Others	05
	<u>36</u>
Total	447

The farmers (no. 447) who reported their problems in many sectors of their fields and sheds were served by PEP.

10. Field visit scheduled

<u>Day</u>	<u>Place</u>
Sunday	Healthpost area, Haraiya, Bangai, Geluwa, Pradhan Pancha's Mill nrea, Sharadanagar Bazaar.
Monday	Giri Bahadur's house area, Sharadanagar town, Rampur Bazaar, Bijaya Lama's house area, Narayan Koirala's house area, Ward No. 9 leaders house area.
Tuesday	Office Job
Wednesday	Office Job
Thursday	Healthpost area, Haraiya, Bangai, Beluwa, Sharadanagar Bazaar area, Pradhan Pancha's Mill area.
Friday	Places same as Monday

There are altogether twelve contact places in different places in Sharadanagar Village Panchayat. All the spots are visited twice a week by the extension people.

11. Weekly market price collection of grains:

Extension workers collect market prices of the following grain on each Wednesday from Narayangadh Bazaar. Monthly average price of those grain areas as follows:

<u>Grains</u>	<u>Rice Course</u>	<u>Rice Fine</u>	<u>Rice Masuli</u>	<u>Maize</u>	<u>Wheat</u>	<u>Mustard (Tori)</u>
Sharawan	319	431	401	224	276	822
Bhadra	268	446	425	203	263	843
Aswin	275	438	407	211	208	870
Kartik	237	410	307	218	273	1007
Mansir	242	326	293	218	293	1050
Paush	277	325	299	232	255	1037

Weekly market price collection of grains:-----Cont....

<u>Grains</u>	<u>Rice Course</u>	<u>Rice Fine</u>	<u>Rice Masuli</u>	<u>Maize</u>	<u>Wheat</u>	<u>Mustard (Tori)</u>
Magh	294	367	323	256	292	868
Falgun	265	390	317	247	281	738
Chaitra	295	383	329	300	200	785
Baisakh	270	395	291	203	201	796
Jestha	223	390	322	218	213	940
Ashad	282	396	305	212	212	958
Annual Avg.	270	391	367	228	247	894

Price are expressed in Rs/quintal. So, the price of food grains is cheaper this year in comparison to last years.

Submitted by: Pandel

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TRIBHUVAN UNIVERSITY
Institute of Agriculture & Animal Science
Central Campus, Rampur

Pilot Extension Program (PEP)

PROGRAMS FOR THE FISCAL YEAR 041/42

1. Solving Farmers' Problems: Likewise the last years, the extension workers and/or the subject matter specialists will solve the problem that come from the farmers' field and shed. For this purpose we don't refuse to help the farmers other than Shardanagar Village Panchayat as equipted by our source and means.

2. Supply of Improved seeds. Veterinary Medicines and other chemicals used for plant protection:

For this purpose, we have a revolving fund that can only be used to buy those mentioned seeds and chemicals. We use to add 10% price to the market price and sold to the farmers. Whatever the cash income is collected under this heading, it is again either used to buy much items or submitted to the bank account. From this year, we use to request local Sajha Co-operatives to have such seeds which are highly demanded by the local farmers and whatever the seeds and other drugs are available in local Sajha Co-operative, they are not sold from our program, i.e. we don't want to compete Sajha, but complement it. However, the veterinary drugs should be arranged by Pilot Extension Program itself like last years.

3. Sprayers & Duster facility to the farmers: Likewise in the last years, the facility of the use of sprayers & dusters as their demand will continue. For their use the farmers are charged at the rate of 50 Paise per hour our Rs 5.00 per day.

4. Collection of Market Prices: The extension workers use to collect the weekly prices of Rice, Maize, Wheat and Mustard (Tori) from the local market of Narayangardh and use to publish it in the boards hung in Sharadanagar Town and Rampur Bazar.

5. Orientation of IAAS to the visitors: The visitors from many schools, campuses and other institution use to come to Rampur in order to know various activities run inside the institute. The extension workers also help them for this orientation program.

6. Vaccination of Cattles and Dogs: Last year, the extension workers themselves had helped the farmers to vaccinate their cattle against Haemorrhagic septisemia (H.S.) and Dogs against Rabies too. To forward such programs by the extension workers themselves for the coming years too is not thought so effective, because it takes more time that affect other activities of the extension program and it also lead to develop a farmers' habits to be lien on the institute. So, instead of serving ourselves, it is better to train the village local leaders at least one from each wards. So a training program is arranged for a period of 3-4 days

so that the trade develop their capacity to vaccinate cattles and dogs against H.S. and Rabies respectively. Thus, trained personnel can take a nominal charge from the farmers who are served. Anyway the extension program illustrates the farmers when and why such vaccines are necessary. The extension workers broadcast it by the means of posters, pamphlets or various contact methods.

7. Afforestation: Last year, a epil-epil nursery was raised by the extension program itself. About 2000 seedlings were raised and distributed to the farmers in ward No. 1, 2, and 9 in Shardanagar V.P. 20 seedlings were provided to one farmer free of cost. This year, Shardanagar V.P. office has demanded as much as 15, 000 of fodder trees to be transplanted in different wards and school areas. PEP raises a nursery of epil-epil in livestock farm in Cooperation with Animal Science and Horticulture Instruction committees. Extension workers too, use to collect seeds of epil-epil from the local sources PEP contracts with forest Nursery Division and other such institution in order to have numbers of seedlings of other fodder trees too. Whenever the seedlings are produced inside the campus, they are distributed with a nominal charge for the farmers. Panchayat and other local leaders are requested for the afforestation program in a panchayat wide scale.

8. Visits to Farmers Contact Places: All together 12 contact places are decided to visit twice a week by the extension workers in Shardanagar V.P. A board is fixed in each contact place. The boards are written with the days when the extension workers visit. 12 "farmers' problem boxes" are installed in each spot. The extension workers, in their visit, see the farmers waiting there in the contact places and try to solve their problems, if they are possible in the field, if not they report the problem in the in the office. If the extension workers do not find any farmers waiting at the spot, they see the boxes, analyze the problems and apply the means to solve them.

9. Publication: Since, we have no such a huge budget right now, we start publication with stencil cutting and if we get any sources later, we start printing of publications.

a. A three monthly farmer bulletin is published by PEP. It consists of various activities played by PEP, some new techniques, technical writings and other agricultural news. A cash remuneration of up to Rs 50.00 can be given to the writers of technical papers. All the contents are written in a straight Nepali Script.

b. The leaflets and pamphlets of different sectors are prepared as needed and distributed to the farmers. Such publication of Agriculture Information centre and/or Department of Agriculture and Deaprtment of Animal Husbandry and Animal Health are demanded and distributed to the farmers.

10. Farmers Field Competition: At the time of visits and contacts to the farmers, the extension workers select the best kitchen garden (specially a vegetable grower) such best sample is awarded with Rs 200.00 cash or equivalents in the following day.

11. Farmers Tour: 3 or 4 farmers tours are arranged in the suitable season to different Agriculture farms, livestock farms and other private farms of Chitwan Valley. They are also arranged to the local model kitchen garden in Shardanagar. Such tours may also be arranged in other neighbour districts if it seems justifiable. A number of 25 farmers take part in one program female farmers get priority for such tour related to vegetable productions.

12. Result Demonstration: Depending upon the past experiences, the result demonstrations to be arranged in the production of grain crops like rice, wheat and maize is not seen so effective because most of the farmers in Shardanagar V.P. plant improved varieties of such crops in most of their fields and they use fertilizers and other chemicals as and when needed too. Their economic status and other agroclimatic situation in this area do not allow them to follow all the improved practices under those crops as our recommendation. So our aim should rather be concentrated to seek the alternative ways to solve such problem or to have a profitable production. Anyway maize and rice production demonstrations which are already launched have to continue.

So, this year the programs under this item are diverted. A more kitchen garden is raised in a farm of a progressive farmer, the motto of this program is "Vegetable Allaround the Year". So, about one katha of land is selected and the farming is started which is based on a program planned by horticulturists. In this program Horticulture Instruction committed have a major role. Our Horticulture farm provide the seedlings and helps for seeds too. PEP is responsible for the necessary arrangements for program landing and plant protection in co-operation with related instruction committee; farmer should bear all the labour, fertilizer cost and provides land. Whatever the income is expected from this program, all of it goes to the owner of the land.

Beside this, the programs are also based on the use of green manures and study of its response, cropping system program based on the economic status of the farmers and local agro-climatic conditions.

13. Agriculture Exhibition: Likewise the last years, an Agriculture Exhibition (AE) is arranged in Dev Ghat Mela where more than 100 thousand people visit on the last day of Poush and the 1st day of Magh.

14. Farmers Day: In order to make farmers familiar to different activities under Agriculture and Animal Science going on IAAS and Rampur Maize Farm, different laboratories and their uses and other technical knowledge, a farmers' Day is arranged on 26th Magh. A small number of representative farmers from each panchayat of Chitwan valley and the extension workers of the related Panchayat are the participants of the Day. Representatives from each of district level offices related to Agriculture and Animal development, NMDP people and local leader are also invited in the occasion. Faculty members of IAAS. District Agriculture office and district Animal Devt. and Animal Health office, Chitwan.

15. Farmers Training: IAAS personnel run a one day training program to the farmers of Shardanagar V.P. in different respective seasons. In such programs the number of farmers participants is about 25. The items on which we should arrange the training programs are:

- Rice production
- Maize production
- Wheat production
- Animal husbandry and management
- Animal Health
- Kitchen garden
- Population education, and
- Balance nutrition (for child)

The last three trainings are given to the female farmers.

16. Photographies: The photographs and slides of different activities under Agriculture Extension and of Agriculture Development are prepared and used as the teaching or helping materials for the following programs.

17. Students Involvement: The students of the related field are involved in different activities under extension program.

To run above program, Pilot Extension Program needs the following manpower, sources and the means:

1. Official Staff: To run some of the above program, last year, there was an extension incharge, one sub-instructor, two Assistant-Instructors and one memographic Assistant who used to work under Rural Sociogy and Agriculture Extension Instruction committee. To make the program more effective, some more items are added. This year, an extension coordinator is appointed who work as the member secretary of the Extension Committee. The Extension Committee is chaired by the Dean. The members are from most of the instruction committees related to its programs. The Rural Development Advisor and/or MUCIA Chief of party also help to run the program being the member of Extension Committee. To run the program effectively PEP needs the continuation of this man-power throughout the year.

2. Vehicles: MUCIA has provided three bicycles to the extension workers. The extension workers as well as the subject matter specialist use motor-bikes and other vehicles as and when needed, to minimize the fuel consumption, the use of engine vehicles is tried to minimize. However, the training for motor-bike driving is needed for some of the extension workers.

To run all of the above programs PEP need the following helps in their related fields from the following Instruction Committees:

1. Animal Science Instruction Committee:

- Appointment of a livestock extensionist.
- Subject matter specialists for farmers' training.
- Preparation of technical papers.
- Nursery raising of fodder trees.
- Other assistants for the related fields.

2. Plant protection IC:

- Subject matter specialist (pathologists and entomologist).
- S M S (subject matter specialists) for farmers trainings.
- Technical paper writing.

3. Horticulture IC:

- S M S
- Farmers trainings
- Supply of seeds and seedlings of horticultural plants
- Program planning and implementation of model kitchen garden in the selected farmers' field and its inspection.
- Technical paper writing.

4. Soil Science IC:

- S M S
- Laboratory works and other technical help.
- Technical paper writing.

5. Agronomy IC:

- S M S
- S M S for farmers' training.
- Technical paper writing.
- Help in field Demonstration implementation and their observations.

6. Rural Sociology and Ag. Extension IC:

- Helps to run the program.
- Facility of Audio-visual aids and their handlings.
- Necessary assistant for publication and photographs.
- Other technical advices in order to make the program effective.

7. Humanities IC:

- Necessary editing assistants.

The extension committee meets several times and decides to launch those programs on appropriate time and season in effective manner.