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Unclassified

PROJECT PAPER

INSTITUTE OF AGRICULTURE AND ANIMAL SCIENCE - II
(367-0148)
NEPAL

OCTOBER 1984

Unclassified

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AGENCY FOR INTERNATIONAL DEVELOPMENT PROJECT DATA SHEET		1. TRANSACTION CODE <input checked="" type="checkbox"/> A = Add <input type="checkbox"/> C = Change <input type="checkbox"/> D = Delete	Amendment Number _____	DOCUMENT CODE 3
2. COUNTRY/ENTITY Nepal		3. PROJECT NUMBER 367-0148		
4. BUREAU/OFFICE ASIA		5. PROJECT TITLE (maximum 40 characters) Institute of Agriculture and Animal Science - II		
6. PROJECT ASSISTANCE COMPLETION DATE (PACD) MM DD YY 10/31/91		7. ESTIMATED DATE OF OBLIGATION (Under 'B.' below, enter 1, 2, 3, or 4) A. Initial FY 85 B. Quarter <input type="checkbox"/> C. Final FY 88		

8. COSTS (\$000 OR EQUIVALENT \$1 =)						
A. FUNDING SOURCE	FIRST FY 85			LIFE OF PROJECT		
	B. FX	C. L/C	D. Total	E. FX	F. L/C	G. Total
AID Appropriated Total	720	290	1,010	2,485	1,615	4,100
(Grant)	(720)	(290)	(1,010)	(2,485)	(1,615)	(4,100)
(Loan)	()	()	()	()	()	()
Other U.S.						
1. PL - 480					35	35
2. Peace Corps				192		192
Host Country		60	60		5,640	5,640
Other Donor(s) World Bank	100	200	300	4,208	4,992	9,200
TOTALS	820	550	1,370	6,885	19,167	19,167

9. SCHEDULE OF AID FUNDING (\$000)									
A. APF RO- PRIA1 ION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE		D. OBLIGATIONS TO DATE		E. AMOUNT APPROVED THIS ACTION		F. LIFE OF PROJECT	
		1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan
(1) FY	100	070				4,100		4,100	
(2)									
(3)									
(4)									
TOTALS						4,100		4,100	

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each) 600					11. SECONDARY PURPOSE CODE				
12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)									
A. Code	BRW	BSW	RAG	TECH					
B. Amount	4,100	4,100	4,100	4,100					

13. PROJECT PURPOSE (maximum 480 characters)

To improve the capability of IAAS to meet Nepal's need for trained agricultural and animal science manpower.

14. SCHEDULED EVALUATIONS Interim MM YY MM YY Final MM YY 0387 0390					15. SOURCE/ORIGIN OF GOODS AND SERVICES <input type="checkbox"/> 000 <input checked="" type="checkbox"/> 941 <input checked="" type="checkbox"/> Local <input type="checkbox"/> Other (Specify) _____				
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16. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of a _____ page PP Amendment)

17. APPROVED BY Signature: <i>Raymond E. Dropik</i> Title: Raymond E. Dropik Director USAID/Nepal		18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION Date Signed MM DD YY 07/19/84		MM DD YY 	
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Institute of Agriculture and
Animal Science - I[Project

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List of Acronyms

ADB/N	- Agricultural Development Bank
AIC	- Agriculture Inputs Corporation
AID	- Agency for International Development
APROSC	- Agricultural Projects Services Center
B.Sc.	- Bachelor of Sciences Degree
DOA	- Department of Agriculture
DLDAH	- Department of Livestock Development and Animal Health
GON	- Government of Nepal
IAAS	- Institute of Agriculture and Animal Science
I.Sc.	- Intermediate Science Certificate
JT	- Junior Technician (extension agent)
JTA	- Junior Technical Assistant (extension agent)
MOA	- Ministry of Agriculture
M.Sc.	- Master of Sciences Degree
Ph.D	- Doctor of Philosophy Degree
S.L.C.	- School Leaving Certificate (post-secondary examination)
T.U.	- Tribhuvan University

I Project Authorization

Nepal

Institute of Agriculture and
Animal Science - II Project
Project No. 367-0148

Pursuant to Section 103 of the Foreign Assistance Act of 1961, as amended, I hereby authorize the Institute of Agriculture and Animal Science - II Project (the "Project") for Nepal (the "Cooperating Country") involving planned obligations of not to exceed four million one hundred thousand U. S. dollars (\$4,100,000) in grant funds over a four year period from date of authorization, subject to the availability of funds in accordance with the AID OYB/allotment process, to help in financing foreign exchange and local currency costs for the project. The planned life of the project is from the date of initial obligation until October 31, 1991.

The project purpose is to improve the capability of the Institute of Agriculture and Animal Science (the "IAAS") to meet Nepal's need for trained agricultural and animal science manpower. The project consists of activities designed to improve the administration, curricula, and staff of IAAS; produce teaching materials; train students; and develop the IAAS farms and ancillary programs. The project is co-financed by the World Bank through an IDA loan for construction and procurement of equipment and materials.

Grant funds will finance approximately ten person years of technical assistance, advanced degree training for IAAS and GON staff, development of the IAAS farm, preparation of textbooks and manuals, and partial costs of research, extension, and scholarship programs.

The Project Agreement (s) which may be negotiated and executed by the Officer(s) to whom such authority is delegated in accordance with AID Regulations and Delegations of Authority shall be subject to the following essential terms and covenants and major conditions, together with such other items and conditions as AID may deem appropriate:

- A. Source and Origin of Commodities, Nationality of Services
Commodities financed by AID under the Project shall have

their source and origin in Nepal or in countries included in AID Geographic Code 941, except as AID may otherwise agree in writing. Except for ocean shipping, the suppliers of commodities or services, shall have Nepal or countries included in AID Geographic Code 941 as their place of nationality, except as AID may otherwise agree in writing. Ocean shipping financed by A.I.D. under the Project shall, except as A.I.D. may otherwise agree in writing, be financed only on flag vessels of Nepal or Code 941 countries.

B. Conditions Precedent to Disbursement

1. Prior to the first disbursement under the Grant, or to the issuance by AID of documentation pursuant to which disbursement will be made, the Cooperating Country will, except as may otherwise be agreed in writing, furnish to AID in form and substance satisfactory to AID:

- (a) documents demonstrating designation of a Project Director (Dean of IAAS); and
- (b) evidence that the Cooperating Country has concluded an agreement with the World Bank for the financing of an agricultural manpower development project, in a manner complementary to this Project.

2. Prior to disbursement under the Grant, or to the issuance by AID of documentation pursuant to which disbursement will be made for any Project activities other than technical assistance, the Cooperating Country will, except as may otherwise be agreed in writing, furnish to AID in form and substance satisfactory to AID:

- (a) evidence of the development of a maintenance plan to extend the useful life of IAAS equipment and physical plant throughout the life of the Project; and
- (b) evidence of the development of a comprehensive plan for the operation and utilization of the three IAAS campus farms.

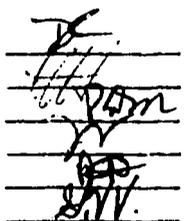
C. Covenants

The Cooperating Country will covenant that, except as may otherwise be agreed in writing, the Cooperating Country will:

1. prepare a long-term development plan for IAAS;
2. increase female enrollment and numbers of female staff at IAAS;
3. increase and maintain the annual IAAS budget sufficient to support all current and expanded program activities and provide adequate maintenance of facilities throughout the life of the Project;
4. maintain the current constituent departments of IAAS under the control and direction of IAAS throughout the life of the Project, and shall not establish any of said departments as separate institutions independent of IAAS; and
5. fully utilize the three IAAS campus farms for research, production and demonstration according to a comprehensive plan.

Clearance:

PDIS:DClark
 ARC:CHash
 PRM:GLewis
 AM:JHester
 FM:RDropik
 A/DD:JVandervlugt
 RLA:S Allan


 (In draft)

Signature 
 Dennis J. Brennan
 Mission Director
 Date 7/19/84

II. Project Rationale and Description

A. Project Rationale

1. Agricultural Sector

Agriculture is the dominant sector of the Nepalese economy. It produces about 60 percent of the GDP, employs over 90 percent of the population and accounts for about 75 percent of total exports. The country's limited resource base currently allows few, if any, significant alternatives to agriculture as a basis for economic development and improvement in the lives of the population.

Traditional, subsistence-level agriculture dominates the sector with very few farmers who would not be classified as small farmers by world standards. The average farm size is less than 1.25 ha. in the hills and 2.11 ha. in the Terai. The rapid rate of population growth (2.6 percent per year) is increasing pressure on the agricultural land and on the fragile mountain environment that serves as a source of fuel, wood and fodder, and on the watershed on which irrigated agriculture depends.

Since the beginning of the Fourth Five Year Plan (1971), the GON has put major emphasis on development of the agriculture sector. Despite this, agricultural production has stagnated and productivity has declined. Continued effort is needed to develop and introduce relevant new technologies, improve planning, policy making, and implementation of agricultural programs; and extend development efforts to all parts of the country.

2. Agricultural Manpower Situation

Since Nepal began an active development program in the early 1950s, a shortage of trained manpower has limited the government's ability to plan and implement agricultural development programs. In 1956/57 there were only 42 GON employees trained in agriculture at the officer level* and only 93 trained at the JT/JTA level**. Since that time available trained manpower has increased dramatically, but has failed to keep pace with the needs of Nepal's agricultural sector.

* Officer level refers to employees with four years training post-secondary school, or B. Sc. and above.

** JT (Junior Technician) level refers to personnel trained in two-year post secondary courses.
JTA (Junior Technical Assistant) refers to personnel with one-year post-secondary training.

Planning and implementation of agricultural programs continues to be constrained by lack of qualified personnel to staff GON agencies and programs. The commercial private sector, though relatively small, has potential to absorb increasing numbers of trained personnel and draw significantly from the GON ranks.

In 1980, the GON had a total of 1,084 officer-level and 3,328 JT/JTA level posts. Of these total posts, 287 officer level (26 percent) and 863 JT/JTA (26 percent) posts were vacant. This high proportion of vacant posts will not change until the country has an adequate supply of trained manpower.

Various demand projections illustrate the severity of the problem of lack of trained manpower. The National Planning Commission projected a need for an increase of 1,456 officer level and 6,334 JT/JTA level staff over the period of the Sixth Five Year Plan (1981-85). A 1981 study by APROSC (Agricultural Projects Service Center) on "Trained Manpower for the Agricultural Sector" used an investment-based methodology to estimate requirements for additional manpower over the period 1980 to 1990 at 2,507 for the officer level and 8,155 for the JT/JTA level. A World Bank/FAO Cooperative Programme project identification mission in 1981 estimated manpower needs for the period 1981 to 1990 at 3,790 JT/JTAs and 670 for officer level. Taking the average of these widely varied estimates, there is a training requirement for an annual turnout of 205 officer level and 834 JT/JTA level personnel.

There is no question that these levels are needed, but the higher estimates are also based on optimistic assessments of the GON's ability to absorb trained manpower. GON agencies often experience considerable difficulty creating new posts and assigning personnel. Even if future administrative improvements reduce that aspect of the problem, budgetary restraints will certainly continue to be an obstacle to the GON's utilization of an optimal number of trained technical personnel.

However, despite existing constraints, the GON can be expected to continue recruiting additional trained agricultural manpower in significant numbers. Over the period 1968 to 1980 the GON recruited an average of 64 officer and 204 JT/JTA level staff per year. Even so, most current development projects face shortages of trained technical manpower. The required investment* in the agricultural sector for the period 1986-1990 is estimated at \$120 million (constant 1980 dollars) per year and represents an 89 percent increase in investment over the previous ten year period. To meet this investment target, the GON will have to increase greatly technical agricultural staff numbers or face certain shortfalls in investment and unproductive utilization of funding. Requirements will further increase as a result of the GON policy of decentralization which will require additional

* Low estimate contained in ADB "Nepal Agricultural Sector Strategy Study".

trained personnel at the district and panchayat level to plan and implement development programs.

A common weakness of the numerical estimates of manpower needs is a lack of attention to private sector needs and to the quality of training. As the development process proceeds and the economy becomes more sophisticated, increased technical manpower will be needed in the private sector. Major private sector users of IAAS graduates will be cooperatives, local panchayats and panchayat organizations, private agencies, commercial farmers and seed and input retailers. To contribute fully to Nepal's development IAAS must also meet the growing trained manpower needs of the private sector.

The quality of training is also important. To date most degree training has been done outside of Nepal and has, to some extent, lacked focus on and relevance to Nepal's agricultural development situation. The in-country degree training program at the Institute of Agriculture and Animal Science (IAAS) is in its initial stage of development and must be further strengthened to be of international standards.

Training has not always been well planned and balanced. Specialized animal science training - both at the degree and JT/JTA level - has lagged; JT/JTA training has emphasized numbers over quality and course content; and subject matter of an integrative nature, such as courses on farming systems, agro-forestry, economics and rural sociology, and resource conservation and management have been neglected.

IAAS training must provide a balanced education in general agriculture and animal sciences. Practical training should be emphasized as most students come from cities or relatively-well-to-do families and may lack hands-on experience in agricultural production activities. Learning by doing is also important for new agricultural techniques for the student to gain the confidence of understanding and mastering necessary skills. It is especially important for graduates to have credibility with farmers.

Graduates leave IAAS for a wide range of positions. Most JTAs will be assigned as project extension workers in rural areas and most of their work will involve direct contact with farmers to promote new technology or direct supervision of laborers on government farms. Programs in which they may be assigned vary greatly. The following examples serve to illustrate:

- In the Department of Agriculture, graduates may be engaged in Training and Visitation System extension work, cropping systems block extension programs, on-farm or on-station varietal, cultural or fertilizer research trials, supervision of farm water use and management, fishery extension work, fruit and vegetable seed production or other activities.
- In the Agricultural Inputs Corporation, they may be involved in cereal crop seed production and seed and fertilizer sales.

- In the Department of Food and Agricultural Marketing Services, assignments may include market surveys and field surveys
- In the Agricultural Development Bank, they may prepare or review farmer loan applications.
- In the Department of Livestock Development and Animal Health, they may engage in livestock extension work, para-veterinary services work, or manage livestock farm enterprises.
- Finally in cooperatives and the private sector, they may do extension work and retail sales.

B.Sc. level graduates generally go into positions supervising JTAs. They serve as Subject Matter Specialists in district agricultural offices; administer extension programs; manage research trials on government farms; and occupy other mid-level supervisory positions. They are generally assigned to an office but spend much time in the field in contact with farmers and JTAs.

In numerical terms the GON is now close to meeting projected manpower needs. At present, at the B. Sc. level, approximately the following numbers of students begin programs each year: 37 under the AID India Training Program (FY 1984), 20 under a German-funded project, and 150 at IAAS. The total of 207 matches the 215 average of requirement estimates. However, India has recently reduced the allocation of seats in the AID India Training Program for B.Sc. agriculture programs (from 50 annually to 37 in FY 84) and the program faces certain reduction in future years and may end in FY 86. The German project may also send its last group of participants in 1986.

The present plan for JT/JTA training is to train 600 per year at the IAAS branch campuses. This is less than the 834 average obtained from the requirement estimates. However, to make up the difference five agricultural technical schools under the Directorate of Technical Education of the Ministry of Education are providing a three year vocational course roughly equivalent to JTA training for approximately 125 graduates per year.

A continued supply of trained manpower is essential for Nepal's future development. The GON must continue to expand technical staff if the country is to implement its future development agenda. With training capacity approaching requirements, now is the time for the GON to concentrate on the quality and relevance of technical agricultural training.

3. Institute of Agriculture and Animal Science

The Institute of Agriculture and Animal Science (IAAS) was formed in 1959 as a Department of Agriculture school to train extension workers. In 1969 the school became a college with a two-year certificate program and in 1971 the college was transferred to Tribhuvan University and became the Institute of Agriculture and Animal Science. The Institute moved from Kathmandu to a 400 acre campus at Rampur in 1973. It now has two branch campuses - Lamjung in the hills, and Paklihawa in the Terai.

The Institute's development and program have been hampered by a lack of clarity in its goals and stability in its training agenda. A Royal Commission on Higher Education has resolved the major outstanding questions and IAAS may now be past the problem of frequent changes in its training program.

IAAS now has a one year certificate (JTA) course at each of the two branch campuses; a second year certificate course (JT) at Paklihawa; a two year Intermediate Science Certificate (I.Sc.) course at Rampur; and a three year B.Sc. Agriculture course at Rampur. Beginning in 1985/86, the Institute will close out the second year certificate course and offer only a B.Sc. course and two year I.Sc. course at Rampur and a one year, non-academic (JTA) course at the branch campuses. B.Sc. and JTA courses will offer both animal science and agriculture options, with the JTA animal science option offered only at the Paklihawa campus. In the future, Junior Technician (JT) will be a promotional grade within the Ministry of Agriculture (MOA) agencies. In-service JTAs will be eligible for promotion to JT based on in-service training and work performance.

IAAS is the major institution in Nepal responsible for pre-service extension and higher education in agriculture and for pre-service higher education in animal science. Pre-service animal science extension training has been the responsibility of the Department of Livestock Development and Animal Health (DLDAH), but beginning in 1984/85, will be transferred to IAAS. The GON has rightfully recognized the prime importance of IAAS to future achievement of national development objectives and has accorded the Institute a high priority for development support.

In-service training is handled separately by each GON agency. Extension worker in-service training is best provided at regional training centers. However, a national center is needed for officer level in-service training and IAAS could be a logical site for this training in the future.

Proposals have been made to grant IAAS status as an autonomous university and establish an M.Sc. program at IAAS. Both actions would be premature and have been tabled for the present. However, one or both may be viable and desirable options within the next ten years.

One additional change may be made in the B.Sc. curriculum. This would change the curriculum from a five year post-S.L.C. program (15 total school years - 10 + 5) to four year post - I.Sc. program (16 total school years - 10 + 2 + 4) and would result in curriculum and total years of schooling to the B.Sc. level comparable to the U.S. system and that being developed in India. A decision on which curriculum to develop will be made early in the life of this Project.

4. IAAS Development Needs

The Institute of Agriculture and Animal Science Project (267-0102) has provided assistance to IAAS since June 30, 1974, but will end on September 30, 1984. During the life of this project, IAAS has experienced growth in physical facilities, trained staff and program content. However, the Institute continues to need assistance directed to certain specific areas.

Curriculum development and staff training have progressed well, but both must be a continuing process. The Animal Science Department and the extension worker (JTA) training programs are weak and further work is needed on course and curriculum development and staff training. Staff training needs to be better balanced and additional degree training is required in agricultural engineering, natural resource management, and integrative programs that reflect the small farmer agricultural situation.

Assistance is also needed to strengthen the teaching function of IAAS. There is a great need for relevant textbooks and teaching materials and a general need for training in pedagogical skills. Improved teaching laboratories and demonstration farm facilities will reinforce classroom teaching and provide valuable practical training.

The Institute has, in many ways, outgrown its administrative systems. Training is needed for many of the administrative and support personnel and attention must be given to improving systems for maintenance, planning, record keeping and policy development.

Additional physical facilities are needed to meet the minimal needs of the campuses. Chief among these are staff and student housing, especially for women students, and animal science teaching and laboratory facilities.

While technical rigor is important to the IAAS curricula, relevance to Nepali agriculture is even more important. Much of the staff training, equipment and methodology has been imported from abroad. The Institute still has to adapt curricula and programs to address Nepalese problems and to be appropriate to Nepalese conditions. Preparation of Nepali textbooks and active research and extension programs should help the Institute to address Nepalese problems and incorporate more relevant content in the teaching program. The research, extension, and textbook preparation programs will also help to enhance the IAAS identity and reputation. In the past complaints have been heard from some GON agencies based on perceived shortcomings of early graduates from IAAS. Although there may have been deficiencies in training early graduates, much of the reputation problem is due to a lack of professional contacts and institutional linkages between IAAS and GON agencies. These will not take place in any broad spectrum until the Institute is recognized for its professional competence and capabilities. Increased utilization of campus farms and

greater practical course content is essential to this; active research and extension programs can also contribute importantly.

5. IAAS - II Project

AID recognizes the crucial importance of IAAS to Nepal's agricultural sector. The ADB sector study concludes that agricultural manpower development is "probably the key factor in assuring the successful planning and implementation of a national agricultural strategy". AID further sees the desirability of continuing the productive relationship with IAAS begun under the Institute of Agriculture and Animal Science Project (367-0102) and helping bring the Institute to the end of its first stage of development, that of establishing full B.Sc. degree programs in agriculture and animal science.

The priorities and objectives of AID's planned assistance to IAAS fit well with the objectives of the World Bank Agricultural Manpower Development Project. The two have therefore been combined into a single, co-financed project in order to streamline implementation, avoid duplication and realize certain efficiencies of joint financing.

B. Project Description

1. Project Goal

The project goal is to increase agricultural production in Nepal's small farm sector. In order to achieve this goal, the GOM must improve the planning and implementation of agricultural development projects and programs. This, in turn, requires increased quantity and quality of trained manpower to work in the agricultural sector.

2. Project Purpose

The project purpose is to improve the capability of IAAS to meet Nepal's need for trained agricultural and animal science manpower. The project will build on progress made to-date in the institutional development of IAAS and further improve the Institute's training capability, physical facilities, curricula, policies and program content. Assistance will be directed toward development of B.Sc. and extension agent training programs. It will emphasize improvement in quality of training and provide for limited increases in quantity of students trained, particularly women and students from remote areas.

3. Project Outputs

a. Improved Administration: The project will assist the Institute improve its administrative and management functions. Major areas identified for improvement are: maintenance of physical facilities, operation of farms, operation of branch campus training programs, general administration and operation of Institute programs.

In addition to the two current Assistant Deans, whose responsibilities will be reorganized as offices of Assistant Dean for Teaching and Research and Assistant Dean for Administration as outlined in Annex C, the Institute will name an Assistant Dean for Extension, Training and Information (AD-ETI). The AD-ETI will have sufficient support staff to carry out the responsibilities of that office, including administration of the extension worker (JTA) training program on the branch campuses and management of Institute farms. The Assistant Dean for Extension, Training and Information will also administer the Institute publications program, farmer training and other training activities, and Institute research and extension programs.

The Institute will establish a Campus Operations Office with a manager in charge under the Assistant Dean for Administration. The Campus Operations Manager will be of Lecturer or Reader rank and will have adequate support staff to administer campus stores, building and equipment maintenance and engineering workshops. He will supervise engineers in charge of maintenance units, mechanics in charge of workshops, and stockmen in charge of campus stores. Campus security guards under the Campus Operations Manager will provide security on campus and halt encroachment on Institute land.

The project will assist the Institute to establish an IAAS Planning Unit under the Assistant Dean for Administration (AD-Adm). This Planning Unit, headed by an IAAS Planning Officer, will have major responsibility for the development of a long-term campus development plan to guide future growth and operation of the Institute. The IAAS Planning Unit will be assisted by an IAAS Planning and Campus Development Committee, chaired by the Assistant Dean for Administration. The Planning Unit will also seek additional grants and development support for the Institute and will monitor research studies on IAAS students and graduates. It will take an active role in coordinating IAAS training with user agencies.

The Institute will improve systems for budgeting and accounting, examinations and records, and personnel administration. It is expected that the Institute will begin to assume additional responsibilities, including administering all examinations for the JTA program students; opening a Kathmandu liaison office; and putting the campus dispensary into full operation by assignment of a medical doctor.

By June 30, 1985 the Institute will revise and codify procedures for the Student Admissions Committee, the Appointment, Evaluation and Promotion Committee, the Institute Research Committee, the Curriculum and Teaching Committee, the Scholarship Committee, the Examination Committee and the Institute Publications Committee. Evaluation of the functioning of various committees will be addressed in the mid-term project evaluation.

Also by June 30, 1985 the Institute and Tribhuvan University will have reviewed regulations governing the operation of the Institute's program and will have amended them as necessary to expedite project and program implementation.

By the end of the project the Institute will have developed administrative and management systems necessary for a major agricultural university level institution. The improved administrative support will facilitate improved and expanded Institute programs.

b. Improved Curriculum: The project will assist IAAS improve curriculum for various Institute training courses. Emphasis will be on (a) improving extension agent training at branch campuses, (b) establishing a specialized B.Sc. degree program in animal science, and (c) integrating more practical field and laboratory work into the curriculum.

By June 30, 1985 the Institute's Faculty Board will review the currently approved five year B.Sc. program and determine whether to continue with the curriculum or switch to a four year post - I.Sc. curriculum. Whatever the decision, beginning in 1985/86, the Institute will offer (a) the extension agent (JTA) program at the branch campuses as a one year terminal program; (b) four or five year B.Sc. programs in Agriculture and Animal Science at Rampur; and (c) a two year certificate program in Basic Science (I.Sc.) at the Rampur campus.

The B.Sc. program will be "rounded out" by developing additional courses and placing greater attention on agricultural engineering, irrigation and water management, forestry and conservation. In addition to extensive practical work during all years, the final year B.Sc. students will be required to take Practical Crop Production (PCP) and Practical Animal Production (PAP) courses, involving direct management and work on crop or animal production activities. By the end of the project the Institute should have both practical B.Sc. curricula of international standards relevant to Nepal's agricultural and animal science development needs and a well-rounded one year practical program to train extension workers.

c. Improved Staff: The project will contribute to further staff development by providing training in certain priority areas and by providing staff the opportunity to engage in professional work and career development activities. Emphasis will be on assisting IAAS staff to apply the knowledge from their overseas training to the development problems and environment of Nepal. Pedagogical training and experience with preparation of curricula and teaching materials will contribute to the staff's professionalism in the field of education.

Few additional teaching staff will be required. Most teaching staff will hold advanced degrees. Research, extension, and staff exchange programs will allow staff members to broaden their base of knowledge and experience. The Appointment, Evaluation and Promotion Committee will initiate a faculty evaluation system for competitive selection for advanced degree and other training opportunities. Promotion will be based on teaching, research, extension, publications and other professional activities.

Improved laboratory and office facilities will improve productivity. Additional staff housing will provide incentives and help the institute reduce future attrition. By the end of the project, the Institute will have adequate staff with necessary training and experience to teach B.Sc. and extension agent training programs.

d. Teaching Materials: The project will help develop textbooks, laboratory manuals and other teaching materials. The project will provide honoraria for IAAS staff and other Nepali professionals who prepare textbooks and manuals needed by the Institute for the B.Sc. program and the extension agent training program. The project will fund printing of these textbooks and manuals in quantities sufficient to distribute to serving JTs and JTAs of the Ministry of Agriculture (MOA), for IAAS libraries and for sale to students. Proceeds from sale of textbooks will go to a revolving fund to continue the textbook preparation program.

Additional laboratories, classrooms and improved campus farm facilities will also strengthen the teaching program. By the end of the project the Institute will have pedagogically sound classroom and practical teaching methods in use.

e. Farm Development: The project will assist with the continued development of a comprehensive farm development plan and will assist the Institute to put this plan and the campus farms into operation.

The Institute will appoint a Farm Operations Manager at the Lecturer or Reader level under the Assistant Dean for Extension, Training and Information. The Farm Operations Manager will supervise Farm Superintendents at the Assistant Lecturer level for the 1) Agronomy, 2) Horticulture, 3) Livestock and Fisheries farm units and 4) the Paklihawa farm and 5) the Lamjung farm.

The Institute will develop a separate annual budget for each farm. It will also develop a plan for operation of each campus farm. Each farm will operate as a unit on a farming systems basis, integrating horticultural crops, agronomy, livestock and agro-forestry.

The project will fund development of infrastructure for the farms, with special emphasis on livestock facilities at Rampur. Project-funded infrastructure will include animal sheds, feed room, land leveling, fencing, irrigation and drainage. Approximately six hectares of low lying land will be developed into fish ponds. The project will also assist the Institute to bring all land under appropriate cultivation and use.

By the end of the project, the campus farms will be completely under production and will directly support Institute teaching and research programs.

f. Program Development: The project will assist the Institute expand programs for research, extension and publications. These programs support the teaching function of IAAS; help to improve the quality of life for Nepal's rural population; and contribute directly to building the prestige of the Institute and the professionalism of the staff.

(i) Research: The IAAS Research Committee headed by the Assistant Dean for Teaching and Research with members as listed in Annex C will administer the IAAS Research Program. Faculty research projects will generally be low cost and must be relevant to Nepal's development situation. Research results will be published in appropriate IAAS and MOA publications.

(ii) Extension : The IAAS Extension Committee will continue to operate a program of farmer training and extension in selected areas adjacent to IAAS campuses. The program will not compete with MOA extension programs but will provide an opportunity for staff and students to gain extension experience.

(iii) Publications: The Institute will establish an IAAS Publications Committee under the Assistant Dean for Extension, Training and Information to publish various Institute publications, including the IAAS Journal, the Rampur Roundup Newsletter, extension bulletins and IAAS occasional papers.

(iv) Training: The Institute will begin an active training program for IAAS and GON staff, and possibly local farmers. Trainers will be drawn from IAAS and GON staff and technical assistance personnel from this and other projects. By using IAAS as a site for training GON personnel, linkages can be established between the Institute and GON agencies and better use made of the IAAS facilities. It would be desirable for IAAS to become the major site for in-service training of officer level personnel in the Ministry of Agriculture. The auditorium and a 36-bed visiting scientist hostel to be constructed under this project will give the Institute adequate physical facilities for such training.

By the end of the project, IAAS will have sound on-going research, extension, publications and training programs relevant to Nepal's development needs.

g. Students: During the seven year life of the project approximately 5,680 students will study at IAAS - 3,900 in the JTA program; 470 in the I.Sc. program; and 1,310 in the B.Sc. program. The project will construct or renovate dormitory facilities for 970 students, including 150 places for women. It will also provide an auditorium for meetings and student activities.

To complement construction of additional hostels and student sports facilities IAAS will appoint a faculty member at the Reader level as part-time Student Warden. The Institute will also assign several full-time Assistant Wardens (at Assistant Lecturer level) and a Physical Training Instructor. IAAS will assign one full-time female Assistant Warden for women at each campus and one male Assistant Warden for every 250 men. The Wardens and Physical Training Instructor will help organize student activities and counsel students, as required.

Student selection will be based on performance in prior examinations (S.L.C. or I.Sc.)* and will be overseen by the IAAS Student Admission Committee. The project will establish an equal access student scholarship program to provide financial support to women students and students from remote areas. This will make the student body more representative of the farming population of the country and a better source of trained manpower for the GON to draw upon to staff programs in remote areas.

The project will assist IAAS to complete studies of agricultural manpower needs in Nepal and of use and effectiveness of IAAS graduates. Under the IAAS research program it is expected that the Institute will monitor student performance and placement of graduates as a continuing process.

By the end of the project, IAAS production of graduates will meet Nepal's manpower needs up to the B.Sc. level.

4. Project Inputs

a. Technical Assistance: The project will provide technical assistance to IAAS to assist with (a) continued development of policies, procedures, and plans for the administration and future development of the Institute, (b) establishment of a Training Division under the Assistant Dean for Extension, Training, and Information to improve the extension worker training program, (c) improvement in teaching functions of the Institute; and (d) establishment of a specialized B.Sc. degree program in Animal Science.

* The S.L.C. (School Leaving Certificate) is awarded on passing a national post-secondary examination and is required for continuing in higher studies. The I.Sc. (Intermediate Science Certificate) is awarded on completion of a two year basic science course after the S.L.C.

The project will provide seven years of long-term technical assistance in agricultural education (3 person-years), veterinary science (2 person-years), and animal husbandary (2 person-years). It will also provide 35 person-months of short-term consultant services. Terms of reference for project technical assistance are included in Annex J.

In addition to formal technical assistance provided to IAAS, the implementing institution will arrange a staff exchange program whereby staff or Ph.D. candidates from U.S. or third country agricultural universities, on invitation from IAAS, spend six months to a year at Rampur doing independent research and teaching or otherwise assisting with the work of the Institute. The project will fund only travel costs; IAAS will provide housing and support; and, if necessary, the implementing institution will pay the exchange scientists' salary, possibly from AID Strengthening Grant Funds.

IAAS will also utilize eighteen person years of Peace Corps volunteer services during the period of this project. The volunteers will be assigned to teach English at Rampur and to assist with development and teaching of practical, work-experience and laboratory courses at all three campuses. The technical assistance contractor will provide technical training for the volunteers.

The World Bank will fund costs of local technical assistance needed to implement the construction program and to staff the Project Implementation Unit (PIU).

3. Participant Training: The project will provide approximately ten advanced degree programs; overseas short courses for 12 administrative support staff; international exchange programs for three academic staff; in-country exchange programs for five IAAS and five GON staff members; and in-country training programs for 110 IAAS support staff and 100 IAAS and GON technical staff. Four non-project funded advanced degree programs in India may also be included assuming that such spaces are offered by the Government of India at the time.

The degree programs will (a) fill gaps in the Institute faculty in the fields of agricultural engineering, irrigation and water management, fisheries and agroforestry; (b) strengthen the animal science program; (c) provide Ph.D. training for continued development of the faculty; and (d) train Ministry of Finance and National Planning Commission or other GON personnel involved with planning and management of the agricultural sector. Study tours and short courses will strengthen the IAAS administrative and support systems. The project will also provide in-country training to (a) Institute support personnel, whose development has lagged behind that of technical and academic personnel and (b) Institute academic staff and GON staff in subjects requiring reinforcement.

The implementing institution will also arrange a staff exchange program to allow senior Institute staff to spend three to nine months at agricultural universities in the U.S. or third countries conducting research or doing independent study. The project will pay travel expenses and living allowance for the IAAS staff members.

A similar in-country exchange program will allow IAAS and GON agricultural staff to spend 6-9 months on exchange programs for teaching and conducting collaborative research projects. This program will foster exchange of ideas and help IAAS incorporate more relevant and current information on GON programs into the curricula and other IAAS programs. The Project Training Plan is attached as Annex I.

c. Construction: Under the project, the GON and World Bank will fund construction and renovation of necessary buildings and infrastructure on the three campuses. The construction program will include: at Rampur - staff housing, staff offices, an auditorium, classrooms, a laboratory, a visiting scientists' hostel, livestock facilities, primary school facilities, electrical system and student dormitories for women and men; at Lamjung - dormitories for women and men, staff housing, a dispensary, an access road and water and electricity; and at Paklihawa - renovations for staff housing and student dormitories for women and men. Details are included in the World Bank Project Staff Appraisal, which is Annex P to this Project Paper.

AID and the GON will fund development of the IAAS campus farms. This will include fencing, irrigation and drainage works, land leveling and other minor construction works. Details are included in Annex K.

d. Equipment: The World Bank and the GON will fund purchase of equipment, materials, reference books for the library and teaching materials needed by IAAS. Major equipment needs are for branch campuses, new laboratories and campus farms.

e. IAAS Programs: AID and the GON will fund costs of Institute programs, including textbook preparation, research extension and student scholarships. Details of these programs are included in Annex K.

III Cost Estimate and Financial Plan

Table 1 presents the project cost estimate and financial plan. The project is a co-financed undertaking on the basis of parallel financing with the World Bank. The World Bank estimated project financial plan is included in Annex P and differs somewhat from this Project Paper. The financial plan presented here includes GON in-kind contributions, which are excluded from the World Bank plan.

Table 1 : Summary Cost Estimates and Financial Plan
(US \$ 000)

<u>Input</u>	<u>AID Grant</u>		<u>PL 480</u>	<u>Peace Corps</u>	<u>GON*</u>		<u>World Bank</u>		<u>Total</u>
	<u>FX</u>	<u>LC</u>	<u>LC</u>	<u>FX</u>	<u>LC</u>	<u>FX</u>	<u>LC</u>		
Construction	-	-	-	-	1,022	2,530	2,728		6,280
Technical Assistance	1,250	-	-	192	48	-	670		2,160
Training	500	90	30	-	140	-	-		830
Equipment and Materials	-	-	-	-	40	460	50		550
Farm and Campus Development	-	450	-	-	1,050	-	-		1,500
Textbook and Teaching Material Preparation	-	300	-	-	120	-	-		480
<u>IAAS Programs</u>									
- Research	-	130	-	-	43	-	-		173
- Extension	-	40	-	-	13	-	-		53
- Scholarships	-	99	-	-	33	-	-		132
Recurrent Costs	-	-	-	-	2,981	186	300		3,467
Contingency	207	138	-	-	90	328	364		1,127
Inflation	463	308	-	-	60	704	880		2,415
Total	2,485	1,615	35	192	5,640	4,208	4,992		19,167

* Includes land for campus farms (US \$ 1 million).

The GON contribution is estimated at 29.4 percent and consists primarily of salaries and recurrent costs of operating the Institute; GON funding for construction and procurement; and increased costs for expanded Institute programs. The value of land for Institute farms estimated at US \$ 1 million is included as an in-kind contribution, but the value of campus buildings and equipment (estimated at US \$ 7 million), much of which was constructed under previous AID or other donor programs, is not included. Although AID policy for relatively least developed countries including Nepal does not require a host country minimum commitment to development of IAAS by providing almost 30 per cent Pf project costs.

Inflation for the AID contribution is estimated at ten per cent compounded annually. This is less than the eleven percent annual estimate provided by AID/W for training activities, but is considered adequate as the inflation rate should be less for other inputs. The budget contains a contingency line item of approximately 9.2 per cent of other costs including inflation.

Table 2 presents cost of project inputs and outputs. These differ from the break-down of project components included in the World Bank Project Appraisal Report (Annex P) as the World Bank characterizes outputs by campus and training program and this Project Paper characterizes outputs by Institute-wide areas of improvement.

Table 3 presents a projection of project expenditures by fiscal year; Table 4 presents a planned obligation schedule; and Table 5 presents a detailed breakdown of AID funding by fiscal year.

IV Implementation Plan

The life-of-project will be approximately seven years from the date of signing of the grant agreement until the PACD (10/31/91). With the exception of degree training, all activities will be completed within six years. The additional year for participant training will allow participants to leave on a phased basis during the project and will allow staff members with Masters degrees to engage in professional work on campus before leaving for Ph.D. degree training programs.

Implementation of project activities will continue based on experience and relations developed between AID and IAAS during the Institute of Agriculture and Animal Science Project (367-0102). Under this new project, however, the technical assistance contractor's role will be limited to provision of technical assistance and training and IAAS will manage other project support with funding provided through the Tribhuvan University budget. IAAS has demonstrated the capability to implement projects and has developed most of the necessary systems and procedures. Development of the Institute now enables it to assume more implementation responsibilities than in the past.

Table 2
Costing of Project Outputs/Inputs

(US \$ 000)

Project Outputs

<u>Project Inputs</u>	<u>Administrative Development</u>	<u>Curricula Development</u>	<u>Staff Development</u>	<u>Teaching Materials</u>	<u>Farm Development</u>	<u>Program Development</u>	<u>Students</u>	<u>Total</u>
<u>I AID Appropriated</u>								
Technical Assistance	275	650	100	492	100	100	--	1,717
Training	200	--	700	--	--	--	--	900
Farm & Campus Dev.	--	--	50	--	520	50	--	620
Textbook & Teaching Material Preparation	--	100	95	300	--	--	--	495
IAAS Programs	--	--	116	--	--	116	136	368
<u>II Other US</u>	--	60	35	32	--	--	100	227
<u>III GON</u>								
Technical Assistance	8	18	3	14	3	3	--	49
Training	32	--	112	--	--	--	--	144
Farm & Campus Dev.	--	--	4	--	1,043	4	--	1,051
Textbook & Teaching Material Preparation	--	25	24	75	--	--	--	124
IAAS Programs	--	--	33	--	--	33	36	102
Construction	100	--	400	--	--	100	453	1,053
Equipment & Materials	20	--	--	11	10	--	--	41
Recurrent Costs	--	--	--	--	--	200	2,876	3,076
<u>IV World Bank</u>								
Construction	650	--	2,650	--	--	600	3,093	6,993
Technical Assistance	120	--	350	15	15	--	379	879
Equipment & Materials	340	--	--	170	170	--	--	680
Recurrent Costs	--	--	--	--	--	--	648	648
Total	1,745	853	4,672	1,109	1,861	1,206	7,721	19,167

Table 3 : Projection of Expenditures By Fiscal Year (US \$000)

<u>Fiscal Year</u>	<u>AID</u>	<u>PL-480</u>	<u>Peace Corp</u>	<u>GON</u>	<u>World Bank</u>	<u>Total</u>
FY 5	260	-	-	60	300	620
FY 86	761	7	36	750	1,000	2,554
FY 87	786	14	36	820	1,400	3,056
FY 88	510	10	36	900	1,400	2,856
FY 89	366	4	36	950	1,400	2,756
FY 90	246	-	18	950	800	2,014
FY 91	50	-	-	960	624	1,634
FY 92	5	-	-	100	-	105
Inflation*	771	-	30	60	1,584	2,445
Contingency**	345	-	-	90	692	1,127
Total	4,100	35	192	5,640	9,200	19,167

* Approximately 25.8 percent (10 percent per year compounded).

** 9.2 percent.

Table 4 : Planned Project Obligation Schedule by Fiscal Year (US \$ 000)

<u>Fiscal Year</u>	<u>Obligation</u>	<u>Expenditure*</u>	<u>Pipeline</u>
FY 95	1,010	284	726
FY 86	1,000	914	812
FY 87	1,045	1,039	818
FY 88	1,045	740	1,123
FY 89	-	583	540
FY 90	-	432	108
FY 91	-	97	11
FY 92	-	11	-
Total	4,100	4,100	-

* Includes inflation and contingency distributed by year.

Table 5 : AID Funding by Fiscal Year and by Activity
(US \$ 000)

	<u>85</u>	<u>86</u>	<u>87</u>	<u>88</u>	<u>89</u>	<u>90</u>	<u>91</u>	<u>92</u>	<u>Total</u>
T.A.	188	432	385	100	50	65	30	-	1,250
Training	-	125	160	180	85	80	20	5	655
Farm Development	18	90	123	107	100	12	-	-	450
Text Book Preparation	30	75	75	75	75	30	-	-	360
Research	19	22	22	22	22	23	-	-	130
Extension	5	7	7	7	7	7	-	-	40
Scholarship	-	10	14	19	27	29	-	-	99
Sub-Total	260	761	786	510	366	246	50	5	2,984
Inflation Factor *	1.0	1.1	1.21	1.33	1.46	1.61	1.77	1.95	---
Inflation	-	76	165	168	168	150	39	5	771
Total	260	837	951	678	534	396	89	10	3,755
Contingency (9.2%)	24	77	88	62	49	36	8	1	345
	<u>284</u>	<u>914</u>	<u>1,039</u>	<u>740</u>	<u>583</u>	<u>432</u>	<u>97</u>	<u>11</u>	<u>4,100.0</u>

* Inflation factor calculated at 10 percent per annum compounded.

A. IAAS Staff and Organization

The Dean of IAAS will be Project Director and has named a Project Coordinator to assist with project implementation. A few additional permanent staff will be required by IAAS for implementation of the project. These will be mostly for administration of campus farms and facilities, especially for maintenance.

During the life of the project, IAAS will establish a Project Implementation Unit (PIU). The PIU will manage the construction and equipment procurement components of the project. Cost of the PIU will be funded by the World Bank as local technical assistance. The PIU will be largely composed of local technical staff and will be disbanded when the project construction and procurement activities are completed.

Tribhuvan University has named an Executive Project Implementation Board for the World Bank financed Nepal Agricultural Manpower Development Project. The Board is responsible for project implementation and is composed of representatives from AID, the World Bank, IAAS, Tribhuvan University, the Ministry of Education and the Ministry of Finance.

IAAS will name an Assistant Dean for Extension, Training and Information, who will administer the extension agent training programs at the branch campuses. This office will also administer other non-degree training programs and the IAAS extension and publication programs.

The duties of the Assistant Dean for Teaching and Research will be expanded to include responsibilities for establishing and maintaining an academic calendar for the Institute. The Institute will administer all examinations for the JTA program and the Assistant Dean for Teaching and Research will set examination schedules and publish examination results.

IAAS will establish an Office of Campus Operations Manager. The Campus Operations Manager will be responsible for operation of workshops and for maintenance of campus physical plant. Most of the additional staff required for IAAS will be engineering and technical staff for this office.

Existing IAAS committees, including Research, Extension, Student Admissions, Scholarship, and Curriculum and Teaching will implement IAAS programs. With some modifications in procedures these committees are adequate to manage proposed project activities. Early in the life of the project IAAS and Tribhuvan University will revise regulations for IAAS programs to facilitate their implementation.

Project implementation will begin with IAAS operating as an Institute of Tribhuvan University. Over the course of the project IAAS may be transferred to a new technical university and may

receive additional autonomy in many aspects of operation, including personnel administration, setting courses and exams, and formulating Institute budgets. This would facilitate Institute operation, but such changes are not essential to the implementation of this project and the achievement of its purposes.

B. Contracting Arrangements

AID will contract directly to provide technical assistance and training. Because of the complexity of the project, the specialized manpower requirements, and the difficulty of staffing and implementing projects in Nepal, AID/N has concluded that the project would only be suitable for a set-aside for contracting with an historically black college or university (HBCU) (under the terms of the Gray Amendment), if the institution had extensive, relevant overseas experience. It is more likely that it might be implemented by an HBCU institution in association with a more experienced contractor, and this will be the preferred arrangement. Following initial negotiation of the contract in AID/W, contract management will be transferred to AID/N.

Contractor-IAAS relations will to some extent represent a break with past arrangements. When the Institute was first established in Rampur, IAAS depended on the technical assistance contractor for much operational support. Under this project, technical assistance team members will, to a large degree, depend on IAAS for support and advisors will be able to focus more on defined technical programs and administrative functions of IAAS and less on the global aspects of assisting with university development. The changes in this relationship result from the considerable progress made in institutional development of IAAS and from the judgement that advisors' contributions can more effectively be made in addressing specific problems.

IAAS will contract for construction and procurement of equipment and materials according to regulations of Tribhuvan University and using procedures acceptable to the World Bank. Detailed procedures are outlined in Annex P.

Farm and campus development, textbook preparation and research, extension and scholarship programs will be funded through the GON budget and funds utilized according to revised regulations approved by Tribhuvan University for IAAS. Direct reimbursements will be made for approved expenditures reported in a Statement of Expenditures. AID will fund a percentage of the costs of each of these programs. These percentages are as follows: farm and campus development (100 percent), textbook preparation (75 percent), research (75 percent), extension (75 percent), and scholarships (75 percent). The project may fund costs of research, extension, and scholarship programs on a sliding scale over the life of the project.

C. Methods of Implementation and Financing

a. The following information is provided per the Payment Verification Policy Implementation Guidance dated December 30, 1983 and the Mission Financing Policy and Procedures Assessment dated March 22, 1984:

Table 6: Method of Implementation and Financing

<u>Method of Implementation</u>	<u>Method of Financing</u>	<u>Approximate Amount</u>
Technical Assistance/AID Direct Contract with an Educational Institution	Direct Reimbursement	\$ 1,250,000
Participant Training/AID Direct Contract with an Educational Institution	Direct Reimbursement	655,000
Sector Assistance - IAAS	Direct Reimbursement	1,079,000
i. Farm Development		(450,000)
ii. Textbook Preparation		(360,000)
iii. Research		(130,000)
iv. Extension		(40,000)
v. Scholarships		(99,000)
	Sub - Total	2,984,000
	Inflation (26%)	771,000
	Contingency (9.2%)	345,000
	Total AID	\$ 4,100,000

b. There are no financing methods indicated which need justification, per AID/W guidance. Methods of payment are entirely consistent with preferred AID payment procedures as indicated in AID/Nepal's Mission General Assessment of Mission Financing Policies and Procedures.

c. GON contracting and commodity procurement procedures follow competitive procedures acceptable to AID/N.

D. Pre-Implementation Actions

The planned project represents a continuation of AID assistance to IAAS. The Institute of Agriculture and Animal Science Project (367-0102) will continue until September 30, 1984. During the time remaining, this project will continue training, farm development and procurement actions; assist IAAS with long-range planning and curriculum development and prepare for a phase-out of the project support.

Following the PACD of the present project, AID/N will contract one PSC advisor at Rampur for approximately six to nine

months. During this interim period the advisor will help the Institute (a) initiate procurement and construction design work for World Bank funding; (b) refine plans for training and technical assistance to be provided under the new project; (c) prepare to implement farm development, textbook preparation and IAAS program activities; and (d) continue curriculum development work.

The GON expects to negotiate the World Bank project IDA loan in July 1984. AID/N will fund design work for the World Bank funded construction program's first phase which will include construction of staff quarters and women's dormitory facilities at Rampur and Lamjung. IAAS should begin initial construction contracting and equipment procurement actions before the end of CY 1984.

E. Estimated Timetable of Implementation Actions

Following is a projected timetable for project implementation actions:

<u>Action</u>	<u>Time Frame</u>
PP Authorization (AID/N)	July, 1984
Non-funded PIØ/T submitted to AID/W (AID/N)	July, 1984
BEFAD Announces Project and Seeks Expressions of Interest (AID/W)	August, 1984
Bridging Period Advisor Arrives (AID/N)	October, 1984
Grant Agreement Signing (AID/N)	December, 1984
Initial Conditions Precedent Met (GON)	January, 1985
Request for Technical Proposals Issued (AID/W)	January, 1985
Research and Extension Programs Begin (IAAS)	February, 1985
Textbook Preparation Begins (IAAS)	February, 1985
Farm Development Begins (IAAS)	April, 1985
T.A. Contractor Selected (AID;GON)	May, 1985
First Phase Construction Work Contracted (GON)	May, 1985
T.A. Contract Signing (AID/W)	July, 1985
First IAAS Annual Project Progress Report Completed (IAAS)	August, 1985

Five Year B.Sc. Program Begun (IAAS)	September, 1985
First Long-Term Advisor Arrives (Contractor)	September, 1985
IAAS and Project Workplan and Budget Prepared for NFY 42/43 (IAAS)	October, 1985
T.A. Contractor's Participant Training and Textbook Review Committee Established (Contractor)	October, 1985
First Textbook Published (IAAS)	November, 1985
Research Program Reports Published (IAAS)	November, 1985
Completion of T.A. Contractor's Project Work Plan (Contractor)	December, 1985
First Participant Trainees Leave for Degree Programs (Contractor)	January, 1986
Full Three Person T.A. Team Assigned (Contractor)	January, 1986
First IAAS Exchange Scholar Leaves to Begin Program (Contractor)	March, 1986
Second Phase Construction Work Contracted (IAAS)	June, 1986
Campus Farms Brought Completely Into Production (IAAS)	June, 1986
Second Group of Participant Trainees Leaves for Degree Programs (Contractor)	August, 1986
First Exchange Scholar Arrives in Rampur (Contractor)	October, 1986
Project Mid-Term Evaluation (AID/N)	March, 1987
Third Group of Participant Trainees Leaves for Degree Training Programs (Contractor)	August, 1987
Veterinary Science and Animal Science Advisors Complete Assignments (Contractor)	December, 1987
Last Participant Trainee Leaves for Degree Training Program (Contractor)	December, 1987
Agricultural Education Specialist Completes Assignment (Contractor)	August, 1988
Second Exchange Scholar Arrives in Rampur (Contractor)	September, 1989

Third IAAS Exchange Scholar Leaves (Contractor)	September, 1989
Textbook Publication Program Completed (IAAS)	February, 1990
Final Project External Evaluation (AID/N)	March, 1990
Farm Development Activities Completed (IAAS)	April, 1990
Fourth Exchange Scholar Arrives in Rampur (Contractor)	April, 1990
Construction Work Completed (IAAS)	June, 1990
Last Participant Trainee Completes Degree Program (Contractor)	July, 1991
Fourth Exchange Scholar Departs (Contractor)	September, 1991
PACD	October, 1991

V Project Monitoring Plan

Primary responsibility for project monitoring will be with a Project Officer in the Agriculture and Resource Conservation Office of AID/Nepal and an AID/N Mission Project Committee. Project monitoring will be done through regular site visits and consultations with IAAS staff; meetings of the Executive Board for the Nepal Agricultural Manpower Development Project; annual GON workplan and budget preparations; technical assistance contractor reports; and IAAS publications and project reports.

Site visits to IAAS campuses and meetings with IAAS staff are the best means of monitoring project activities and the AID Project Officer and AID Engineer will make regular visits to monitor project activities. AID officers will also serve as members of the Executive Board for the project. The Board will meet, as necessary, to review progress and make decisions regarding project implementation and IAAS development.

AID/N will participate in the process of preparing the annual IAAS workplan and budget. At this time each year workplan targets and budget requirements will be determined. During the course of the Nepali fiscal year, the Project Officer will monitor budget expenditures and workplan accomplishments. The AID payment process and financial review arrangements are summarized in Table 7.

The technical assistance contractor will be required to submit semi-annual project progress reports and other reports, as required.

IAAS will prepare an Annual Project Progress Report at the end of the Nepali fiscal year. The report will contain details of

TABLE 7
SUMMARY OF AID PAYMENT PROCESS
AND

FINANCIAL REVIEW OF PROJECT IMPLEMENTATION

<u>Type of Assistance</u>	<u>Method of Implementation</u>	<u>Method of Payment</u>	<u>Pre-Payment Review</u>	<u>Post-Payment Review</u>	<u>Audit</u>	<u>AID Internal Control</u>	<u>Comments</u>
Technical Assistance: Direct Contract	Non-profit Contractor	Direct Pay	PO-ACD	N/A	IG	Good to Excellent	For services performed in the field, Project Officer should have good basis for voucher approval.
Training: Direct Contract	Non-profit Contractor	Direct Pay	PO-ACC	N/A	IG	Good	Full mission review of contract charges.
Misc. Grants: Host Country Contract	Non-profit Contractor	Direct Pay	PO-ACO	N/A	IG	Good	

Note: PO - Project Office; ACO - Area Contracting Office;
IG - Inspector General

how IAAS programs are responding to the needs of Nepalese farmers and the user agencies for IAAS graduates and how graduates are being prepared for the problems they will face in their future work assignments in Nepal. The report will also include details on the expenditure of AID project funds. Researchers will report research results in the IAAS Journal and in GON Agricultural Workshops. IAAS will prepare annual reports on the extension program and scholarship program.

VI. SUMMARY OF ANALYSES

A. Administrative/Institutional Analysis

IAAS and AID/N have the administrative ability and experience necessary to implement and successfully accomplish the objectives of this project. It is important to the success of the project that the Dean of IAAS, who will serve as Project Director, continue to be a person with the maturity and leadership ability to get the job done. The improved administrative structures and procedures outlined in Annex C will lead to greater effectiveness and harmony among the IAAS faculty and staff.

The collaborative nature of this project, with major funding inputs from the World Bank, the GON, and AID, will employ the strengths and resources of each to maximum advantage. The participatory management of shared decision making of the Project Implementation Board and Project Implementation Unit will make for clear communications and coordination.

The TA Team Chief, as counterpart to the IAAS administration during the early stages of the project, and short-term consultants will play a vital role in introducing sound and workable principles of management. They will provide the advice and assistance needed as the Institute gains maturity and moves toward greater independence and autonomy.

B. Technical Analysis

If the problems encountered during the current IAAS project are any indication, IAAS-II will not be an especially easy project to implement. The turnover in personnel both at the Institute and with the TA contractor, the separate perspectives of the faculty and the administration, the climate and living conditions, the remoteness, and lack of conveniences and facilities all combine to make this a very challenging project.

An experienced contractor employing capable and seasoned international development specialists will be required, and even for them the job will not be easy. The consultants must be knowledgeable not only in administration, education and the agricultural and animal sciences, but have a sensitivity to the internal dynamics of a new, emerging institution with a highly trained, young and impatient faculty.

The recently approved curricula are an improvement over previous curricula. However, there is still a need for further revisions to round out training in some areas and, especially, to incorporate more practical training.

The Institute is on an annual system of courses and examinations. A semester system might be better and would make course division and preparation better. The system of external examinations is good and should be retained as it protects the integrity of the examination and reduces unfair pressure on instructors.

The project will provide the equipment, facilities, and training necessary to improve the educational effectiveness of all programs at IAAS. The availability of learning materials and teaching aids is very limited. Textbooks, manuals, audiovisuals, and some equipment are in short supply or nonexistent.

Funds will be provided for programs of research and modest extension activities. A major commitment is made to farm development and participant training. In all areas, the budget is suitably scoped to meet the priority problems of the Institute. Since this is a collaborative project and includes considerable construction as well as technical assistance, the advisors will need an understanding of physical properties, their development as well as utilization for teaching, learning, research, extension, and service to Nepali agriculture. Relevancy and appropriateness of all inputs are vital considerations. Annex D provides further details.

C. Social Soundness Analysis

The farm families of Nepal, currently estimated to include over 90 percent of the population, are the ultimate and most important beneficiaries of the project. The benefit incidence is indirect as it is assumed that improved curricula and programs of IAAS will produce a better qualified graduate who will work in and improve functioning of GOA agricultural programs and agencies which in turn will help farmers to increase production, reduce environmental deterioration, and improve their families' well being.

Direct immediate beneficiaries of the project include the 200 staff and 5,680 students who will attend IAAS during the life of the project and the 5,000 persons living in the impact area of the IAAS extension program. Institute staff will benefit from improved facilities at IAAS; students will benefit from improved facilities and improved training; and residents of the extension program impact area will benefit from increased availability of improved agricultural technology.

The social soundness feasibility of the project is based on its ability to build on motivations found within the human dynamics on the Institute. The project uses these motivations to focus more of the Institute's programs and activities on meeting

needs and solving problems of Nepali small farmers. Briefly, the project incorporates socially significant characteristics by:

1. directing strong need for achievement motivation found in the faculty into increased professional productivity;
2. projecting the institution towards greater relevancy through activities which emphasize the faculty's functional information gathering skills, including active solicitation of farmer's views concerning rural farming needs; and
3. stimulating motivation with regards to the academic profession by providing increased academic and institutional support.

The Social Soundness Analysis in Annex E outlines how the project will accomplish these objectives.

D. Environmental Analysis

The Initial Environmental Examination attached as Annex I to the PID for this project recommended a finding of no significant environmental impact by any project activities. This finding was approved by the Asia Bureau Environmental Office. No further environmental analysis has been done. The facesheet of the IEE is attached as Annex F of this PP.

E. Economic Analysis

Project economic benefits are not easily quantifiable and do not lend themselves to calculation of cost-benefit or internal rate of return. Major benefits will occur when well-trained agricultural graduates of IAAS enter the workforce and improve planning and implementation of government and private sector agricultural activities. The size and importance of the agricultural sector in terms of employment, GNP, and government investment budget make it imperative that the GON develop trained technical agricultural manpower.

The GON has previously attempted to meet needs for B.Sc. level agricultural manpower through overseas training. This option is no longer viable as donor support is uncertain, access for Nepalese students to foreign universities is decreasing and foreign training is not always relevant to Nepalese agriculture and conditions. Development of local training capability to the B.Sc. level is essential.

Projected costs per graduate from IAAS are reasonable and compare favourably to B.Sc. training in India. By year 1990/91 (highest cost year during the project) the total of operating cost plus project investment amortized over twenty years will be \$ 980 per JMA and \$ 6,555 per B.Sc. graduate.

F. FINANCIAL ANALYSIS

The project is feasible in terms of financial changes occurring to the two major financial entities involved--IAAS campus budgets and IAAS farms. By the end of the project the GON will have to increase IAAS budgets for recurrent costs by approximately three million rupees per year. This increase is easily sustainable by the GON as it is equivalent to about one half of one percent of public expenditure for education in fiscal year 1982/83.

IAAS farms can be brought into full operation without greatly increasing GON operating costs. Farm operations are potentially profitable, but operation in the public sector and use of farms for teaching and research decrease the likelihood of consistently realizing operating profits. Profitable enterprises can be stressed and loss-generating enterprises reduced to the minimum required for demonstration and teaching. Only minor increases, if any, will be needed in farm operating costs.

VII. CONDITIONS AND COVENANTS

A. Conditions Precedent to Initial Disbursement

Prior to the first disbursement under the Grant, or to the issuance by AID of documentation pursuant to which disbursement will be made, the GON will, except as may otherwise be agreed in writing, furnish to AID in form and substance satisfactory to AID:

- a. documentation demonstrating designation of a Project Director (Dean of IAAS); and
- b. evidence that the GON has concluded an agreement with the World Bank for the financing of an agricultural manpower development project in a manner complementary to this Project.

B. Conditions Precedent to Additional Disbursement

1. Prior to disbursement under the Grant, or to the issuance by AID of documentation pursuant to which disbursement will be made, for any project activity other than technical assistance, the GON will, except as may otherwise be agreed in writing, furnish respectively to AID, in form and substance satisfactory to AID:

- a. evidence of the development of a maintenance plan to extend the useful life of IAAS equipment and physical plant throughout the life of the project; and
- b. evidence of the development of a comprehensive plan for the operation and utilization of the three IAAS campus farms.

C. Covenants

The GON will agree, except as may otherwise be agreed in writing:

1. to prepare a long-term development plan for IAAS;
2. to increase female enrollment and numbers of female staff at IAAS;
3. to increase the IAAS budget sufficiently to support expanded program activities and provide adequate maintenance of facilities throughout the life of the project;
4. to maintain the current constituent departments of IAAS under the control and direction of IAAS throughout the life of the project and not establish any of such departments as separate institutions independent of IAAS; and
5. to utilize fully the three IAAS campus farms for research, production, and demonstration according to a comprehensive plan.

D. Additional Considerations

Although not appropriate for inclusion as conditions precedent or as covenants, prior to and during project implementation priority consideration should be given to resolving the following issues through action by IAAS, Tribhuvan University, and the IAAS Faculty Board:

1. prompt decision on whether to develop the B.Sc. curriculum as five-year, post S.L.C. programs or four-year post I.Sc. programs;
2. revision by Tribhuvan University and IAAS of rules and regulations governing operation of IAAS programs in order to expedite their implementation;
3. constitution or reorganization of the following IAAS committees: Research, Curriculum and Teaching; Scholarship; Examinations; and Appointment, Evaluation and Promotion;
4. agreement to postpone consideration of developing an M.Sc. program at IAAS until after the final project evaluation;
5. agreement to avoid increasing the number of subject matter departments and attempt to consolidate into seven departments; and
6. agreement to include Practical Crop Production and Practical Animal Production programs in the B.Sc. curricula.

The advisor during the bridging period will assist IAAS with resolving these issues. The mid-term project evaluation will also consider the effect of actions and decisions on these issues.

VIII. EVALUATION AND AUDIT PLAN

AID, IAAS, and the GON will conduct annual internal project reviews each year following preparation of the Annual Project Report by IAAS. The World Bank will also be invited to participate in the reviews which will focus on progress on implementation, major problems affecting the project and progress towards realizing objectives of the project.

In addition to annual internal reviews, two project funded external evaluations are planned. Both will be conducted by joint teams of U.S. and Nepalese consultants contracted by AID. The first evaluation will be conducted in early CY 1987. It will review the progress made on providing project inputs and attaining outputs; evaluate the IAAS program in light of the manpower needs of the agricultural sector; and assess the likelihood of achieving project objectives. A project funded study of agricultural sector manpower needs will be completed prior to the evaluation and will provide a basis for much of the evaluation assessment of the IAAS program. The evaluation will, specifically:

1. review progress made on providing technical assistance and training;
2. review progress on equipment procurement and construction;
3. assess quality and relevance of textbook preparation, research, extension, and training activities of IAAS;
4. assess the effectiveness of the scholarship program in increasing enrollment of women and students from remote areas;
5. assess progress on farm development and identify weaknesses, if any, in the operation of IAAS farms;
6. assess success of IAAS in incorporating practical training into the curricula;
7. provide a general assessment of academic support capabilities, curricula, and teaching quality of IAAS and identify continuing needs of the Institute;
8. assess effectiveness of administrative organization of IAAS including effectiveness of various IAAS committees and the regulations governing operation of IAAS programs;
9. assess the IAAS training program in light of the manpower needs of the agricultural sector; and

10. suggest modifications in project targets and implementation in light of evaluation findings.

The second evaluation will be conducted in early CY 1990. This evaluation will review quality, relevance and adequacy of IAAS training programs to meet the manpower needs of Nepal. The evaluation will:

1. assess the adequacy of IAAS physical facilities, staff and curricula to meet manpower needs of the agricultural sector;
2. identify specific strengths and weaknesses in the IAAS program; and
3. recommend to IAAS actions which may be taken to further develop the Institute.

In addition to external evaluations, IAAS will, as a continuing function of the Institute, develop information on IAAS graduates and on the current student body.

B. Audit Plan

The ongoing project may be audited by the AID/Inspector General (AID/IG). It will also be possible for AID/Nepal's Financial Management staff to conduct during the life of the project a limited financial review, if deemed necessary. A stateside post-contract audit of U.S. direct contractors is normally conducted by the Defense Contract Audit Agency (DCAA).

Project funds have not been budgeted for these activities, since no third party will be called upon to carry out any of these audits.

TELEGRAM

AMERICAN EMBASSY KATHMANDU, NEPAL

ANNEX A

Proj 367-0148

ACTION:
AID-2

UNCLASSIFIED
Classification

INFO:
AMB
DCM
ECON
ADMIN
CHRON

NNNNVV MJA 613ESA365
PP RUMJHT
DE RUEHC #5986 0560847
ZNR UUUUU ZZH
P 250727Z FEB 84
FM SECSTATE WASHDC
TO AMEMBASSY KATHMANDU PRIORITY 6059
BT
UNCLAS STATE 055986

FEB 27 1 18 AM '84

PRIORITY

AIDAC

E.O. 12356: N/A
TAGS: AELD
SUBJECT: INSTITUTE OF AGRICULTURE AND ANIMAL SCIENCE II
PID 367-0148

Action Taken :
Date :
Initials :

1. PID APPROVED IN APAC HELD 2/15/84. IN ATTENDANCE WERE JPALLANTYNE AND WREES, IRRD. FOLLOWING COMMENTS ARE PROVIDED AS GUIDANCE FOR PP PREPARATION.

A; FP SHOULD OUTLINE PLANNED EVALUATION SCHEDULE AND PROVIDE APPROPRIATE BUDGET.

ACTION
ARC-2

B* APAC DISCUSSED RECURRENT COST IMPLICATIONS AND METHODOLOGY OPTIONS TO BE CONSIDERED IN PREPARATION OF A THOROUGH ECONOMIC ANALYSIS. BUREAU ECONOMIST WILL PROVIDE ASSISTANCE AND ADDITIONAL INFORMATION ON TYPES OF METHODOLOGY MISSION MAY WISH TO CONSIDER.

INFO
D/DD-1
AM-1
FM-1
PEM-1
PDIS-1
RF-1

C, IAAS II SEEMS APPROPRIATE CANDIDATE TO CONSIDER USE OF HISTORICALLY BLACK COLLEGES/UNIVERSITIES HBCU, POSSIBLY IN A JOINT VENTURE. ASIA/PD WILL REQUEST BIFAD TO PROVIDE LIST OF POSSIBLE HBCU'S, AS WELL AS OTHER UNIVERSITIES MISSION MAY WISH TO CONSIDER FOR TA.

D, PP SHOULD OUTLINE WHAT, IF ANY, PHYSICAL FACILITIES FOR WOMEN WILL BE CONSTRUCTED AT CAMPUSES OTHER THAN RAMPUR.

E; PP SHOULD ADDRESS ISSUE OF ABSORPTIVE CAPACITY OF IAAS GRADS INTO PUBLIC/PRIVATE SECTOR FROM STANDPOINT OF DEMAND FOR SERVICES HAS OPPOSED TO GENERALIZING ON OVERALL MANPOWER NEEDS OF AGRICULTURAL SECTOR, AS WELL AS GON FINANCIAL CAPACITY TO PROVIDE SALARIES. REES POINTED OUT THAT IAAS MUST TAILOR ITS NUMBER OF GRADS TO A REALISTIC NUMBER OF AVAILABLE POSITIONS.

2. MISSION IS COMMENDED FOR PRODUCING WELL-WRITTEN PID AND FOR SUCCESSFULLY BRINGING SECOND DONOR INTO PROJECT. SHULTZ
BT
#5986

ANNEX B

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project:
From FY 1985 to FY 1991
Total U.S. Funding \$4,100,000
Date Prepared: 6-19-84

AG 102-26 (7-71)
SUPPLEMENT 1

(INSTRUCTION: THIS IS AN OPTIONAL FORM WHICH CAN BE USED AS AN AID TO ORGANIZING DATA FOR THE PAR REPORT. IT NEED NOT BE RETAINED OR SUBMITTED.)

Project Title & Number: Institute of Agriculture and Animal Science Project - II

PAGE 1

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>Program or Sector Goal: The broader objective to which this project contributes:</p> <p>To increase agricultural production in Nepal's small farm sector.</p>	<p>Measures of Goal Achievement:</p> <p>Agricultural productivity increases at a rate not less than 3 percent per year for the 20 years following project completion.</p>	<p>GON, IBRD, and FAO reports.</p>	<p>Assumptions for achieving goal targets:</p> <ul style="list-style-type: none"> - GON regulations and policies do not restrict ability of GON employees and private sector individuals to contribute to increased agricultural production. - World economic and political situation does not restrict Nepal's ability to increase agricultural production.

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project:
From FY 1985 to FY 1991
Total U.S. Funding \$4,100,000
Date Prepared: 6-19-84

Project Title & Number: Institute of Agriculture and Animal Science Project - II

PAGE 2

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>Project Purpose:</p> <p>To improve the capability of IAAS to meet Nepal's need for trained agricultural and animal science manpower.</p>	<p>Conditions that will indicate purpose has been achieved: End of project status.</p> <p>a) IAAS is training a sufficient number of well-qualified persons up to the BSc. level to meet employment needs of GON and other institutions.</p> <p>b) 10 percent of IAAS students are women and 5 percent are from remote areas.</p> <p>c) Relevant, curricula being taught by well-trained motivated staff and including practical experience.</p> <p>d) Institute farm being fully utilized for research, production, and demonstration.</p> <p>e) Institute has established sound administrative procedures and policies, plans, and maintenance programs.</p> <p>f) Active research, extension, and teaching materials preparation programs underway at Institute.</p>	<p>a) GON and other agency records and conversation with supervisors of Nepali agricultural personnel.</p> <p>b) Site visits and IAAS enrollment records.</p> <p>c) Site visits, IAAS records, and project evaluations.</p> <p>d) Site visits; IAAS annual reports.</p> <p>e) Site visits; IAAS records and reports.</p> <p>f) Site visits; IAAS reports.</p>	<p>Assumptions for achieving purpose:</p> <p>a) --</p> <p>b) Additional female students can be recruited and retained at IAAS.</p> <p>c) GON continues to give high priority to the establishment of a B.Sc. program at Rampur.</p> <p>Trained staff can be retained at IAAS</p> <p>d) IAAS receives sufficient autonomy to permit good management of the farm.</p> <p>e) T.A. can be effectively utilized to help IAAS revise policies.</p> <p>f) Trained staff can be retained at IAAS.</p>

1
30
1

**PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK**

Life of Project:
From FY 1981 to FY 1991
Total U.S. Funding \$4,100,000
Date Prepared: 6-19-84

Project Title & Number: Institute of Agriculture and Animal Science - II Project

PAGE 3

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Outputs:	Magnitude of Outputs:		Assumptions for achieving outputs:
1. Improved administration.	1. Assistant Dean for Extension, Training and Information and Campus Operations Manager named. (FY 85) Maintenance plan accepted and implemented. (FY 85) Campus Development Plan accepted. (FY 87)	1. Site visits; Project and IAAS reports.	1. --
2. Improved curricula.	2. Animal Science B.Sc. program established. (FY 86) Practical work integrated into curricula. (FY 86)	2. Revised IAAS Handbook; Site visits; Project and IAAS reports.	2. --
3. Improved staff.	3. Adequate staff to teach curricula. (FY 88) Academic staff engaged in active professional programs of research, extension, publishing, and consulting. (FY 85)	3. Site visits; Project and IAAS reports.	3. IAAS can retain trained staff
4. Teaching materials.	4. Forty textbooks and laboratory manuals published. (FY 89) Additional teaching materials produced and used in teaching. (FY 87)	4. Site visits; Project reports.	4. Textbook honoraria are sufficient to attract qualified authors for textbooks.
5. Campus farms brought fully into operation.	5. Farm Plan developed and implemented. (FY 85) Farms completely under production and used for research and teaching. (FY 87)	5. Farm Plan; Site visits; Project reports.	5. Capable farm managers can be recruited.

**PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK**

Life of Project:
From FY 1985 to FY 1991
Total U.S. Funding \$4,100,000
Date Prepared: 6-19-84

Project Title & Number: Institute of Agriculture and Animal Science - II Project

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p><u>Outputs:</u> <u>Continuation</u></p>	<p><u>Magnitude of Outputs:</u></p>		<p><u>Assumptions for achieving outputs:</u></p>
<p>6. Research program expanded.</p>	<p>6. At least 12 new projects initiated each year and results published for at least eight. (FY 86)</p> <p>Research utilizes low cost approaches and is directed to priority development needs of Nepal. (FY 87)</p>	<p>6. Site visits; Research reports; Project and IAAS reports.</p>	<p>6. --</p>
<p>7. Extension program expanded.</p>	<p>7. Extension program reaching area farms through training programs (10/yr); technology trials (5/yr); and other programs. (FY 86)</p>	<p>7. Extension program annual Work Plan and Annual Report; Site visits; Project and IAAS reports.</p>	<p>7. --</p>
<p>8. Publication program expanded.</p>	<p>8. IAAS Publications Committee established. (FY 85)</p> <p>IAAS Journal published regularly and an IAAS Occasional Papers series begun. (FY 87)</p>	<p>8. IAAS publications.</p>	<p>8. --</p>
<p>9. Students graduated.</p>	<p>9. 85 agricultural and 40 animal science B.Sc. graduates produced annually. (FY 90)</p> <p>500 agricultural and 100 animal science JTAs trained annually. (FY 86)</p> <p>Ten percent of students are women and five percent are from remote areas. (FY 89)</p>	<p>9. IAAS records; Project and IAAS reports; Agricultural manpower needs study.</p>	<p>9. Sufficient qualified women and students from remote areas can be identified and are interested in applying to IAAS.</p>

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project:
From FY 1985 to FY 1991
Total U.S. Funding \$4,100,000
Date Prepared: 6-19-84

Project Title & Number: Institute of Agriculture and Animal Science - II Project

PAGE 4

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<i>Inputs</i>	Implementation Target (Type and Quantity)		Assumptions for providing inputs:
1. Technical assistance.	1. Long-term - 7 person yrs. Short-term-35 person mon. Visiting scholars - 3 programs. Peace Corps volunteers - 18 person yrs.	1. Project and IAAS reports	1. --
2. Participant training.	2. Fourteen degree programs - MSc. (8) and Ph.D. (6). Exchange scholars - three programs overseas and five in Nepal Overseas short-term training programs. (12) In-country training (210 persons).	2. Project and IAAS reports.	2. IAAS can identify qualified candidates to undertake training in specialized fields, i.e. engineering, irrigation, etc.
3. Funding for research, extension, in-service training; farm development, textbook publication, and student scholarships.	3. \$ 2,039,000	3. Project and IAAS reports.	3. IAAS obtains necessary autonomy and budgetary flexibility to undertake and continue special programs.
4. Recurrent costs for operation of IAAS.	4. \$ 3,467,000	4. IAAS budget and reports.	4. --
5. Construction.	5. Rampur - Staff housing - 34 units dormitories - 180 students guest house - 36 trainees	5. Project reports; Site visit.	5. --

ANNEX C
Administrative/Institutional Analysis*

1. IAAS Structure (May 1984)

The Institute of Agriculture and Animal Science at its main campus in Rampur offers academic programs for the second-year Intermediate in Science (Ag.), two-year Intermediate in Basic Sciences, and three-year B.Sc.(Ag.). The Institute's branch campus at Paklihawa offers one-year and two-year certificate-level training programs for extension workers, called JTAs and JTs respectively. At the Lamjung Campus only the JTA-level training is offered. The Institute has operated three training centers at Dana Marpha, Kathmandu, and Janakpur (farms of the Department of Livestock and Animal Health) for producing extension workers in Animal Science. These will be turned over completely to the Department of Livestock and Animal Health by the end of 1984.

The Dean of IAAS is the executive head of all programs and campuses. He is assisted by an Assistant Dean for Academic Affairs and an Assistant Dean for Administration. As soon as possible an Assistant Dean for Extension, Training, and Information will be named. Each Assistant Dean is assisted by a Deputy Administrator. The Dean chairs the Faculty Board and practically all committees, including Campus Development, Research, Extension, Scholarship, Examination, and Subject Matter. He exercises operational authority as specified by Tribhuvan University (TU) rules and regulations. TU regulations require faculty members of all instruction committees to perform a weekly teaching assignment of 18-21 hours, conduct research in respective professional fields, conduct examinations, and perform other duties as instructed by the Dean or the Campus Chiefs. Overall evaluation of teachers and researchers follows a specified format included in TU regulations. Campus security is the responsibility of the Campus Chiefs and Dean. Student hostels are supervised by wardens reporting to the Dean.

The two branch campuses are under TU jurisdiction and are administered by IAAS. These two campuses are committed to produce quality extension workers for the Departments of Agriculture and Livestock Development and Animal Health, as well as for other agencies in the field of agriculture and agro-industries.

* Prepared in May, 1984 by Dr. Cordell Hatch, Professor of Agricultural Communication, Penn State University, and Mr. Ganesh Rauniyar, Agricultural Economist, Nepal Tobacco Corporation, under contract to AID/Nepal.

The IAAS Faculty Board, more like a Board of Trustees, is chaired by the Dean and includes twenty members and ten invitees, representing employing governmental offices; selected chairpersons of instruction committees; and representatives from Tribhuvan University. The Board is responsible for formulating criteria of student admissions, establishing educational standards, approving manpower requirements, facilities and materials required for educational programs, and evaluating programs and plans for the different campuses and sending proposals to appropriate Technical Committees.

The Instruction Committees are Rural Sociology and Agricultural Extension, Soils and Chemistry, Crop Science, Horticulture, Plant Protection, Humanities, Animal Science, Agricultural Economics, Agricultural Statistics, Agricultural Engineering and Physics, and Agricultural Botany. Each has a chairperson. The departments of Crop Science, Horticulture, and Animal Science operate farms called the Agronomy Farm, Horticulture Farm, and Livestock Farm. Some integration of closely related disciplines might provide better coordination and communication.

The Research Committee is headed by the Dean and consists of members of the Technical Assistance team, Assistant Dean for Academic Affairs, chairs of the eleven instruction committees, and Farm Manager, Rampur Campus. The committee approves research proposals and reviews research progress.

The Extension Committee is headed by the Dean. Members of the Committee are the Assistant Dean for Academic Affairs; chairpersons of Instruction Committees; Technical Assistance Team Advisor; and the Head of the Agricultural Extension Subject Committee, who serves as Member-Secretary.

The Campus Development Committee is chaired by the Dean. The AID Project Officer and AID Project Engineer and the Assistant Dean for Administration are members of the Committee. One faculty member is invited and a previous project manager (engineer) who works for the National Construction Company of Nepal acts as Member-Secretary. The Committee usually meets once a month and is responsible for design formulation and overall development of the campuses.

The Scholarship Committee is headed by the Dean and has four other members: the Assistant Dean for Academic Affairs, Head of Extracurricular Activities and the President and Secretary of the Student Union. The Committee decides on annual distribution of scholarships to students. Approximately 30 per cent of the students are normally awarded some form of scholarship ranging from full scholarship (Rs. 2000 per year) to fee waivers.

The Subject-Matter Committee is headed by a faculty member or an expert appointed by the Dean. Three government officials and seven faculty members make up the Committee. The Committee discusses problems and programs of individual subject-matter departments.

The Examination Committee is headed by the Dean and includes the Assistant Dean for Academic Affairs, chairpersons of Instruction Committees, and the Head of Extracurricular Activities. The Deputy Administrator (Academic) serves as the Member-Secretary. The Committee executes examinations as set forth by the Institute and TU.

2. Project Implementation

Administration

The Dean, as Executive Head, will administer all programs, operations, and activities of the Institute. He will be assisted by three assistant deans, two campus chiefs, and staff with authority and responsibility delegated to each as follows:

The Assistant Dean for Administration (AD-Adm) will be responsible for initiating and overseeing a continuous program of long-range planning and development for all campuses, including the development of Master Plans for all campuses. He will be responsible for budgeting and accounting, purchasing and procurement, personnel, payroll and fee collections, student admissions and records, scholarships, participant training, and will supervise a Campus Operations Manager who will be responsible for physical plant operations, maintenance and repair, properties, supplies and stores, security and salvage, and ancillary enterprises.

The Assistant Dean (Administration) will be responsible for the IAAS Planning Unit. The Planning Unit will be headed by a Planning Officer, who will have one or two support staff. The Planning Officer will take initiative in developing long-term plans for development of the Institute and its programs and for seeking additional external funding and support for the Institute. The Planning Unit with the assistance of an IAAS Planning and Campus Development Committee will prepare a long-term master plan for approval by the Project Implementation Board and IAAS Faculty Board. The Planning Unit will also maintain liaison with user agencies of IAAS graduates and will identify changes in curricula or programs needed to meet the needs of the user agencies.

The Campus Operations Manager should be appointed by June 30, 1985. The Campus Operations Manager, appointed at the lecturer level with an engineering background, will have overall responsibility for operation of the three campuses. He will manage properties and stores and have support staff in construction, electricity, plumbing, sanitation and sewage systems for all three campuses.

The Assistant Dean for Teaching and Research (AD-TR) will be responsible for the administration of all resident education and research programs of the Institute and will provide the leadership and supervision needed for efficient, effective operation of all such programs at the department level. He will serve as ex-officio of each instruction committee, will be responsible for staff recruitment in collaboration with departments and search committees, will monitor and evaluate the performance of department heads or chairs, and will make recommendations to the Dean relative to hirings, promotions, salary adjustments, training opportunities, leaves, travel, discipline and termination. He will initiate and supervise the local development of educational resources, including the preparation and printing of textbooks and manuals. He will deal with student concerns as they relate to instruction and research activities, including the preparation, conducting, and grading of internal examinations and the preparation, administration, and evaluation of external examinations in coordination with TU.

The Assistant Dean for Extension, Training, and Information (AD-ETI) will be responsible for overall operation of the branch campuses at Lamjung and Paklihawa, extension activities and services of the branch campuses as well as the main campus in Rampur, and farm operations at all three campuses. He will organize, staff, and conduct special workshops, seminars, conferences, tours, field days, demonstrations, and other training events as needed for government officials, especially Ministry of Agriculture staff, agricultural leaders, foreign visitors, innovative and demonstration farmers, farmers within the vicinities of the three campuses, and the general public as warranted. He will direct the communications, public relations, and information services of the Institute, will supervise the library and Educational Resource Center, and will be in charge of printing and duplication services.

The training of JTAs at the two branch campuses for eventual employment as extension field workers represents close ties between training and extension. Thus the AD-ETI is the logical officer to oversee branch campus operations and assist Campus Chiefs in developing curricula, conducting training, and providing experience for JTAs which is relevant and needed for effective extension work. The development of IAAS farms under the AD-ETI's leadership can serve as a laboratory for extension training, demonstration, and research. Farm operations will be under the general direction of the AD-ETI with a Farm Operations Manager and superintendents providing on-site management and supervision.

The AD-ETI will develop a schedule of field days, seminars, workshops, and special events at IAAS for agricultural professionals. He will host foreign visitors and groups, serve as public relations and information officer for the Institute, and oversee the library and an Agricultural Communication Services Center. The general task of the AD-ETI will be integrate and coordinate many diverse but related functions.

The Campus Chiefs at Lamjung and Paklihawa will report principally to the Assistant Dean for Extension, Training, and Information, since their missions are to train extension workers. On some matters and in collaboration with the AD-ETI, Campus Chiefs may deal directly with the other two Assistant Deans and the Dean. Neither they nor other IAAS personnel will go directly to TU on matters except as arranged by the Dean. The Campus Chiefs will have general administrative authority over all operations and programs, including budgets, payrolls, student affairs, housing, library, extracurricular activities, faculty performance, farms, and other functions on their respective campuses.

An informal IAAS Executive Committee consisting of the Dean, three Assistant Deans, two Campus Chiefs, and a faculty representative will prepare recommendations for the Faculty Board and consider and expediate other matters, as appropriate.

The proposed IAAS administrative organizational structure is shown in Attachment A.

Academic Departments

The eleven current instruction committees tend to fragment Institute operations. Over time these committees should evolve into seven academic departments, as follows: Animal Science, Crop Science, Rural Development, Plant Protection, Soil Science, Agricultural Engineering and Water Management, and Basic Sciences and Humanities.

IAAS Board of Trustees and Faculty Senate

The Faculty Board as presently constituted is not a "faculty" board at all, but is more like a board of trustees. As the Institute is granted more autonomy in managing its own affairs, an oversight board -- a Board of Trustees -- should be established. The Board should have broad representation, with members coming from relevant ministries, departments, agricultural agencies and selected IAAS faculty and administrators. The Dean may serve as Chairman. The Board's function will be to formulate long-range plans and policies, assess Institute and campuses development, review academic progress, evaluate and approve recommendations from the Dean and Faculty Senate, and provide the general advice and leadership necessary for comprehensive institution building and service.

A separate Faculty Senate should consist entirely of IAAS faculty, staff, administrators, and others directly involved in Institute programs. The Senate should elect its own Chairman and Member-Secretary. It would formulate Institute policies, all to be implemented upon sanction and approval of the Dean and Board of Trustees. The Senate would serve as the "consolidated voice" of the IAAS and might assume many of the functions now performed by the Faculty Union.

Committees

To implement different IAAS activities effectively, a number of committees have to be constituted or reorganized by the end of June 1985. The committees would be as follow:

The Research Committee should be headed by the Assistant Dean for Teaching and Research, with members including the Farm Operations Manager, academic department representatives, the Agricultural Development Officer and the Veterinary/Livestock Officer of Chitwan District, and the Dean as ex-officio. The participation of experts from outside organizations will help in identifying problems faced by farmers and the country's agricultural development needs. The Committee will review and analyze programs, progress, and problems in agricultural research. Collaborative research will be encouraged with MOA personnel and other agricultural organizations. IAAS students may be employed to assist in carrying out research work.

The Curriculum and Teaching Committee should be headed by the Assistant Dean for Teaching and Research. The Committee will be responsible for curriculum development, teaching, and academic planning. Members of the Committee will be the chairpersons of academic departments, the Farm Operations Manager, and Chitwan Agricultural Development and Veterinary/Livestock Development Officers. The Deputy Administrator for Teaching and Research will serve as Member-Secretary.

The IAAS Planning and Campus Development Committee should be chaired by the Assistant Dean for Administration and will assist the IAAS Planning Unit in the development of long-term plans for the Institute campuses and programs. Other members of the Committee will include other Assistant Deans, Campus Chiefs, Farm Operations Manager, Technical Assistance Team Chief, IAAS-II Project Coordinator (as faculty representative), the Campus Operations Manager, and the IAAS Planning Officer as Member-Secretary. The Project Officer and Project Engineer (USAID/N) and the Program Officer (World Bank, Kathmandu) will be invitees. The Committee will be responsible for planning and directing development activities of the campuses. The Committee will look into funding of development activities by other donor agencies and make recommendations to the Dean for further action. It will help the IAAS Planning Unit to seek grants and contracts for the Institute and will be responsible for project identification, formulation, evaluation, reporting and developing a plan of action.

The Scholarship Committee should be headed by the Assistant Dean for Administration and will recommend scholarship or bursary (partial assistance) recipients for approval by the Dean, serving as ex-officio. Other members will continue as they are now.

The Examination Committee should be headed by the Assistant Dean for Teaching and Research, assisted by an Examination Controller. Other members will remain as they are at present. The Committee will monitor and execute final internal examinations and assist in external examinations as authorized by TU. The objective is to conduct examinations fairly and as established by TU and to get the results published quickly.

Farm Operations

Farm operations at the three campuses will be the overall responsibility of a Farm Operations Manager, appointed at the lecturer level and having farm management experience. The three farms at Rampur and the two branch-campus farms will each have one Farm Superintendent, assistant-lecturer level, to operate that particular farm. The Farm Operations Manager and farm superintendents should all be appointed by June 30, 1985. The IAAS Planning and Development Committee will guide the Farm Operations Manager on policies regarding efficient management of all farms. The Farms Operations Manager and Farm Superintendent will have support staff as appropriate and approved by the Dean.

The IAAS Campus Planning and Development Committee will allocate the total arable farm area and livestock enterprise at all campuses into four categories: Teaching, Research, Extension, and Commercial.

Farm superintendents will be named for each campus and will operate under the direction of the Farm Operations Manager in collaboration with the Campus Chiefs and AD-ETI. Farm superintendents will be responsible for running the commercial part of each farm block as profitably as possible. The initial inputs for operating the farm for one year will be funded by USAID. After that, farm operations will be on a sustaining or IAAS-funded basis.

The proceeds from the farm blocks will be deposited into separate accounts of IAAS, with full control and disposition held by IAAS. The Dean also will be authorized to use any income generated from research and extension to support these activities. Annual TU budget allocations will fund farm operations to allow teaching, research, and extension.

3. Relationships among IAAS, AID, TA Contractors, and World Bank

Collaborative Project Organization

The overall management of the IAAS-Project II, including policy decisions and coordination, will be the responsibility of the Project Implementation Board, chaired by the Vice-Chancellor of Tribhuvan University (TU). Members of the Board will include the Joint Secretaries of the Ministries of Agriculture, Finance, Education, and the National Planning Commission; Project Officer and Project Engineer (USAID/N); Technical Assistance Team Leader; Resident Representative, World Bank, Kathmandu; and the Dean,

IAAS, as Member-Secretary. The Board will meet every six months or more often if necessary.

Day-to-day administration of the Project will be the responsibility of the Project Implementation Unit, headed by the Project Director (Dean, IAAS). This unit will include the three Assistant Deans, the IAAS Project Engineer, the Technical Assistance Team Leader, and the Project Coordinator as Member-Secretary. The Project Coordinator will be responsible for day-to-day monitoring and management, coordination of project activities, and periodic assessment of project implementation. The Unit will be supported by staff and three assistant engineers, one for each construction site (Rampur, Lamjung, and Paklihawa). The Project Implementation Unit will meet monthly, and the Member-Secretary (Project Coordinator) will send minutes of meetings to the cooperating agencies.

Attachment B shows the HMG-USAID-World Bank Collaborative Project Implementation Organization for IAAS-Project II.

4. Administrative Policies

Present Status

The IAAS administration operates under TU rules and regulations. The Dean, Assistant Deans, and Campus Chiefs exercise their administrative authority predetermined by TU. Decisions which should be made by lower-level employees usually reach the Dean, who feels that he has to attend to many trivial administrative details.

Although the present TU rules and regulations do not allow the desired operational authority to the executive head, the Dean, they do serve to screen him and the Institute from unreasonable demands and pressures which are occasionally presented by students and staff.

The policies on to assigning faculty/staff responsibilities and duties as spelled out in the TU manual require teaching as well as research work. In practice, there is substitution of one for the other and virtually no dual responsibility is taken by many faculty members. Some members do research on their own initiative without extra pay; others seek to obtain additional remuneration for any research or extension work performed. Individual faculty work plans are needed, as are established standards for promotion and assignment of training opportunities.

TU regulations governing IAAS budgeting and financial matters are generally adequate. However, revised procedures for IAAS funding of textbook preparation, research, extension, scholarship programs and farm development are necessary to expedite these programs. Provision should also be made to allow IAAS to undertake consulting work. TU and IAAS will revise financial regulations for IAAS programs by June 30, 1985.

Under the Project

IAAS will remain under the authority of TU or under a proposed new technical university. As the institute matures greater autonomy in its operations is desirable, but it will not be ready for complete autonomy in the short- or mid-term future.

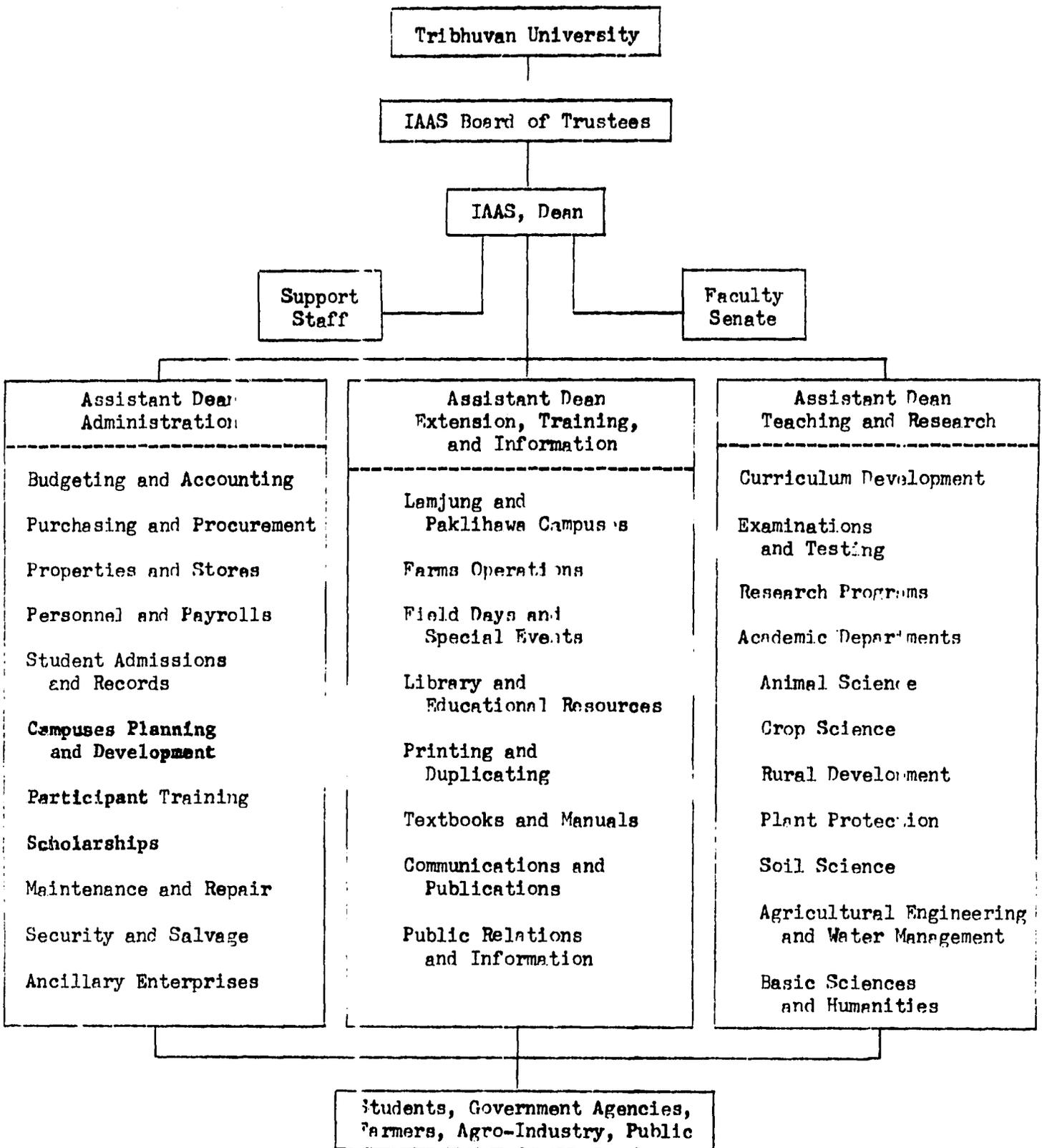
The Dean will set up an Appointment Evaluation and Promotion Committee under his own chairmanship to facilitate employment, discipline, suspension, or promotion of faculty and administrative staff and to nominate staff for training opportunities. The Committee will be composed of members of the IAAS Executive Committee plus a representative from TU and the Deputy Administrator (Administration), who will serve as Member-Secretary. Committee operations will conform to TU guidelines.

Nomination for any training or overseas tour will depend on comparative evaluation of all the faculty/staff based on scholastic ability, prior education, research conducted, service span, teaching skills, performance record, and management capabilities. The Institute will develop and use an annual faculty and staff evaluation procedure which will be employed in setting annual salary merit increases. This process will be approved by TU and employed during year one of the project. Following training, IAAS policy will require any staff member to serve the Institute in his assigned field for the following duration:

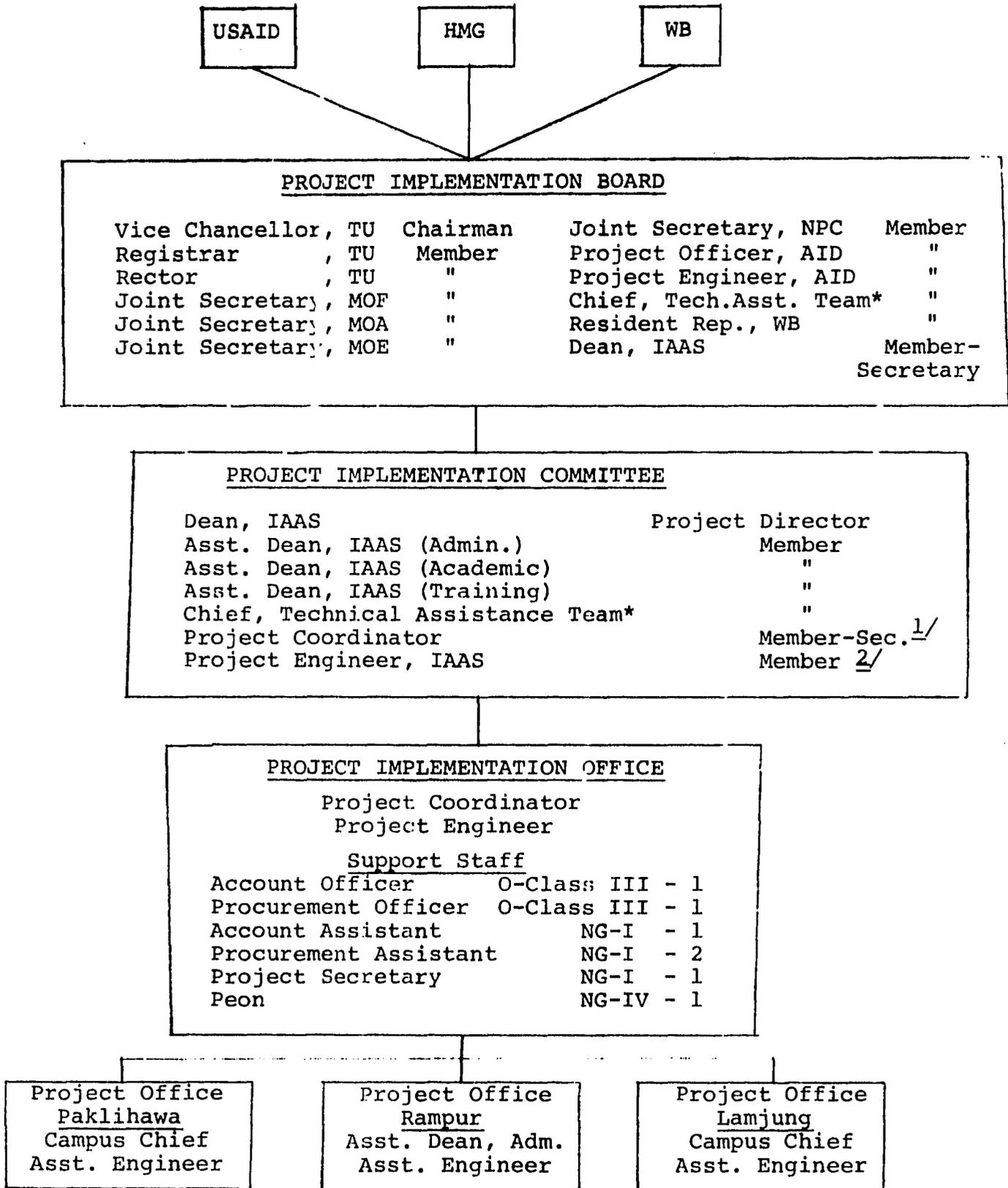
Training/Observation Tour Period -----	Required Duration of On-Campus Service -----
2 years or more	3 years
1-2 years	2 years
6 months - 1 year	1 year
3 months - 6 months	6 months
less than 3 months	3 months

The above requirement will contribute to manpower stability and predictability as well as possibly reduce disharmony among faculty members.

PROPOSED
IAAS ADMINISTRATIVE ORGANIZATIONAL CHART



HMG-USAID-WORLD BANK COLLABORATIVE PROJECT IMPLEMENTATION ORGANIZATION
INSTITUTE OF AGRICULTURE AND ANIMAL SCIENCE - PROJECT II



1/ Day-to-day monitoring and management, coordination of project activities, and periodic assessment of project implementation.

2/ Overall supervision and management of construction and repair work.

* For first three years of project, the Agricultural Education Advisor.

ANNEX D
Technical Analysis*

1. Campus Physical Plant for IAAS Training Agenda

The following additions and revisions are suggested for the scope of work for architectural and engineering services for design of campus infrastructure:

Auditorium

At Rampur the auditorium with seating for 1000 persons should be a multi-purpose indoor facility, which will accommodate full student/faculty assemblies; stage, film, or other audiovisual presentations; indoor sports and recreation facilities; conferences; and other events. The dimensions should be 70 x 140 feet with an elevated stage at one end. The stage should be equipped with a large projection screen, sound system, podium, and curtains in back and across the front of the stage.

Classrooms

The Lamjung campus has two classrooms which will suitably accommodate about 120 JTA trainees. However, up to 200 students have been admitted and two additional classrooms are urgently needed. The Paklihawa campus has many rooms which can be utilized for the projected student enrollments referred to in Attachment A. The classrooms at Rampur provide space for teaching 330 students in the main building and about 100 students in the old building near the basic science laboratories. Few classrooms at any campus have adequate lighting, either natural or electric. Acoustics, lighting, ventilation, chalkboards, and many broken chairs need renovation. At Rampur two additional classrooms, for 150 students each, should be constructed. They should have fixed seats on a gently sloped floor, giving easy visual contact between students and teacher.

The campuses at Lamjung and Paklihawa provide laboratory facilities for 30 and 300 students respectively. The main campus at Rampur has provision for 350 students. Most of the laboratory rooms are well constructed, but the closed arrangement of middle lab tables in some lab-rooms and low lab stools reduces useability and causes inconvenience.

The proposed project will fund two laboratories. The design will be based on need assessments from the TA team and teaching faculty who will be using the labs and will meet requirements for an additional 80 students. A third lab for 40 students will be needed. The labs should be constructed during years three, four, and five of the project.

* Adapted from a report prepared in May, 1984 by Dr. Cordell Hatch, Professor of Agricultural Communication, Penn State University, and Mr. Ganesh Rauniyar, Agricultural Economist, Nepal Tobacco Corporation, under contract to AID/Nepal.

Student Hostels

The three newly constructed hostels at Rampur, accommodating 270 students, provide large rooms but have many projections and much unused space. The building cost is much higher than for the older, more simply designed hostels, which actually are more comfortable in hot weather because the construction allows good, natural ventilation. The dormitories at Paklihawa and Lamjung need only repair and maintenance. Future dormitories to be built during this project should be of simple design, suitable for hot and humid conditions in Rampur and Paklihawa and the cool climate in Lamjung.

The dormitories should provide housing facilities for a warden, one cafeteria, one indoor sports room, and one common hall which will be utilized as a reception room for student's guests. The dormitory for female students should also be of simple conventional design and have walls on all four sides with only one main gate in it for security.

The project will fund renovation of hostels at Paklihawa for men and women and construction of one men's hostel in Rampur for 90 students and one women's hostel each at Rampur (80 students) and Lamjung (30 students). Even with these additional facilities, 150 students at Rampur will reside off-campus by the end of the project period. Details for all campuses are given in Attachments A and B. Additional funds should be sought by the institute to meet pressing residential needs after 1988. One student dormitory to house approximately 100 students may be required in 1988-89.

Housing for Faculty

The campuses at Rampur and Lamjung provide staff housing for 60 and 5 families respectively. Paklihawa provides housing for all staff, but housing needs to be renovated with attached latrine-baths in place of communal ones.

The newly constructed four duplex quarters at Rampur are less than ideal for the hot and humid climate. The cost of these buildings is estimated at Rs 700,000 for each duplex unit. A new architect should design seven duplex quarters of simple, economical construction suited for hot and humid climates. The proposed four single quarters at Rampur, each with 1500 square-foot surface area, will be constructed in one building having two flats on each floor of a two-story building. Sufficient attention will be given to sun and wind direction for maximum comfort. All new residential buildings should fall in line and be positioned so as to reduce space requirements and not occupy productive farm land. Design should consider proper ventilation and light availability for the heat and humidity in Rampur and the cool climate in Lamjung. Lamjung will have nine single staff residences constructed to meet current needs. Solar radiant heat for winter months should be a design feature. At Rampur, eighteen new faculty houses will meet approximately two-thirds of the requirements for the project period. An additional

eleven faculty houses will be needed by 1990.

2. Land Utilization Scheme

The farms should be divided into economic plot sizes in an effort to get more area under cultivation and less lying idle. Twenty plots of 0.68 hectare (1.0 bigha) at Rampur should be assigned to final-year B.Sc. (Ag) students for doing practical crop production. The total area of approximately 14 hectares should have irrigation and good drainage facilities. Students in groups of five will cultivate the plots, under both maize - and rice-based cropping patterns. The net income, if any, after deduction of input expenses, will be divided among participating students. The curriculum will provide appropriate credit for this practicum. One agronomist-lecturer will be in charge of the program, with student evaluations being made by the agronomist and the campus farm superintendent. The B.Sc. (Animal Science) students, in groups of five each, will be required to grow 0.2 hectare of fodder crops.

The proposed construction and renovation of animal sheds, especially at Rampur and Lamjung, will provide better teaching conditions for students majoring in Animal Science.

3. Curricula

Basic curricula have been approved for the JTA and B.Sc./Agriculture courses (Attachments C and D) but additional revision and improvement is desirable. Students spend about 35 hours a week attending lectures leaving little time for class review, advance lecture preparation and library consultation. Students do not learn much of the practical aspects of courses. Analysis of the new curricula shows that some improvements appear in the plant science curriculum for JTA-level training, but teaching hours allotted for field practical work are still limited. Restructured curricula are suggested in the full draft report available at IAAS or AID/Nepal. The suggested revisions need to be reviewed by the Curriculum and Teaching Committee and new revised curriculum development.

Some further curricula revision is required. A major goal must be to include more practically oriented course work for both JTA and B.Sc. level students. The new curricula should provide a Practical Crop Production (PCP) program for the B.Sc. (Ag) program in the final year and a Practical Animal Production (PAP) program for B.Sc. (Animal Science). The PCP would involve a group of five students employing knowledge learned in course work and farming 0.68 hectare of land with inputs made available from the IAAS Farm to students on credit. Under the PAP program, a group of five students should be assigned livestock and poultry from the IAAS Farm to manage and care for one year. Both PCP and PAP programs should carry 12 hours of credit.

Over the last two years of the B.Sc. curricula, students should be offered specializing courses (electives) of 20 contact hours a week. The options for the B.Sc. (Ag) program should be Crop Science, Plant Protection, and Rural Development and for the B.Sc. (Animal Science) program, Livestock Management, Animal Nutrition and Fodder Crops, Animal Health and Rural Development.

4. Educational Resources

A broad range of educational resource materials and communications and information services are needed to support the teaching, research, and extension programs. Textbooks, manuals, and audiovisuals are badly needed and will be produced by the project. An Educational Resources Center will be established to plan produce, and distribute teaching materials to all campuses. The Center may be integrated with the IAAS library, which may handle the cataloging, scheduling, storage, and maintenance of educational software.

5. Encouraging Female and Remote-Area Students

The project will provide scholarships to women and students from remote areas in the JTA program and to women in the B.Sc. program. The availability of scholarships will be announced in ways and in media readily accessible to these prospective students. In the case of women students, preference will be given to applicants from rural areas. Remote area students will be admitted to achieve relative national balance while meeting the manpower and skills needs of the agricultural sector. In order to attract female students, announcements and publicity should stress the scholarships available and the special and separate housing provided for women on all campuses.

6. Faculty Development

The Institute's teaching faculty in residence consists of degree holders as follows: at Rampur there are three B.Sc. (two of which are temporary); 46 Masters, (ten contract and seven temporary) and four Doctorates (one on contract); the Paklihawa Campus has eight Bachelor degree holders (four temporary), eight Master Level (two temporary and four contract); and three Ph.Ds. (two contract); and the Lamjung campus has eight Bachelor level (three temporary). The two Campus Chiefs are included on the faculty roster at Rampur. Sixteen faculty members were out of the country in May 1984 studying for advanced degrees: three were working toward M.S. degrees and 13 for Ph.Ds. Six others are to leave in mid-1984 for Ph.Ds. Six of the faculty who are abroad may not rejoin the Institute after they complete their degrees because they were not given sanctioned leave with pay. The status of faculty members as of Fall 1984 appears in Attachment E. Most faculty members who hold M.S. degrees have aspirations for acquiring Ph.Ds.

The faculty at all three campuses totals 104 and includes 101 degree holders and three JT-level instructors. The Lamjung campus has eight faculty in residence and Paklihawa, 19. At Lamjung and Paklihawa 55 per cent of the teaching staff are either temporarily employed or serve on contract. Few faculty members have served at Institute branch campuses for more than five years. The Lamjung and Paklihawa campuses are badly in need of trained and experienced teaching faculty in order to provide better education to the JTA-level trainees.

Every faculty member who goes on degree training is required by TU regulation to serve the Institute for five years immediately upon completion of the degree; otherwise he has to reimburse the whole cost of his education. Many faculty members, in spite of their commitments, have stayed abroad on their own or have been sent for a second degree by the Institute. This has caused envy and dissatisfaction among some faculty members. Completion of IAAS service requirement will be a condition for training under this project.

Based on a proposal to start a Master's degree program at Rampur, an unofficial Faculty Development Plan has been prepared. The Plan calls for a total increase of 19 Ph.Ds. on the staff by 1989. However, until the Institute has established sound B.Sc. and JTA level programs and until the Institute can retain all Ph.D.level manpower, initiation of a Master's program would be a mistake. A detailed manpower requirement and intake projection study will be done under the project to ascertain Master's level manpower needs in different disciplines and funding support available. Ph.D. training may be expanded in disciplines of need, but this is not anticipated until at least 1990, and beyond any possible support from this project. However, in order to up-grade the present faculty, several Ph.D. scholarships will be funded under this project.

Faculty transfers can meet needs for teaching approved curricula at the IAAS branch campuses. The average teaching load per faculty member will be 16 hours per week at Paklihawa, 13.5 at Lamjung, and 9 at Rampur. Only seven and twelve faculty members will be required at Lamjung and Paklihawa. At Rampur, the total faculty number exceeds actual requirements. The above faculty numbers should be sufficient to teach courses in the approved curriculum. Faculty numbers would not need to be increased for a revised curriculum, although additional staff are needed in some areas. Information on manpower and teaching loads appears in Attachments F and G. The teaching loads at Rampur should allow sufficient time for the faculty to conduct research, extension, and other allied activities. However, to improve the quality of teaching and to cover projected course requirements, 14 persons will require degree training. Four slots will be for training GON officials (probably NPC and MOF) to aid them in effective agricultural planning and decision making. The remaining 10 slots will be for IAAS staff. Six programs will lead to Ph.Ds. the rest to Master's degrees.

All four places for GON will be at the Master level. Current branch campus faculty should be given preference for other M.S. slots. The desired fields of graduate training under the project by number, project year, and relevant department appear below:

<u>Field of Training</u> <u>For IAAS</u>	<u>No.</u>	<u>Proj.Yr.</u>	<u>Recruiting Department</u>
1. Veterinary Science	1	I	Animal Science
2. Livestock Management	2	I & III	Animal Science
3. Ag. Engineering	1	II	Ag Engineering
4. Irrigation Water Mgt.	1	I	Ag. Engineering/Soils
5. Soil Conservation	1	III	Soils
6. Ag. Education Admin.	1	I	--
7. Fodder Crop Production	1	III	Crop Science (Agronomy)
8. Agroforestry	1	II	Crop Science (Ag. Bot.)
9. Fisheries	1	II	Basic Sci. & Humanities

For HMG

1. Ag. Policy Planning	1	I	HMG
2. Ag. Economics	2	I & II	HMG
3. Ag. Business Mgt.	1/4	II	HMG

If additional training places become available under the PL-480 India Training Program, the following programs should be supported:

<u>Field of Training</u> <u>For IAAS</u>	<u>No.</u>	<u>Proj.Yr.</u>	<u>Recruiting Department</u>
1. Weed Control	1	III	Plant Protection
2. Home Sciences	1	III	Basic Sci. & Humanities
3. Plant Breeding	1	IV	Crop Science
4. Farm Management	1	IV	Rural Dev. (Ag. Econ)
5. Crop Management	1	V	Crop Science (Agronomy)
6. Agricultural Extension	1	V	Rural Dev. (Ag. Ext)
7. Agricultural Education	2	Any	Branch campuses

ATTACHMENT A

PROJECTED ENROLLMENT BY PROGRAM AND YEAR
AT LAMJUNG, PAKLIHAWA, AND RAMPUR

Lamjung

Student Enrollment

<u>Year</u>	<u>Program</u>	<u>Pl. Sc.</u>	<u>An. Sc.</u>	<u>Total</u>
1983	JTA (Academic)	175	--	175
1984	JTA (Non-Academic)	100	--	100
1985	JTA	120	--	120
1986	JTA	140	--	140
1987	JTA	160	--	160
1988	JTA	180	--	180
1989 onward	JTA	200	--	200

Paklihawa

<u>Year</u>	<u>Program</u>	<u>Student</u>		<u>Enrollment</u>
		<u>Pl. Sc.</u>	<u>An. Sc.</u>	<u>Total</u>
1982	II Yr. I.Sc. Ag)	203	--	203
1983	JTA (Academic)	170	--	170
1984 Sept	JTA (Non-Academic)	120	30	150
	I.Sc.(Ag.) - II yr.	--	--	150
1985 Sept	JTA	140	50	190
1986 Sept	JTA	160	60	220
1987 Sept	JTA	200	60	260
1988 Sept	JTA	240	70	310
1989 Sept	JTA	280	80	360
1990 Sept	JTA	300	100	400
Onward				

Rampur

<u>Year</u>	<u>Total Enrollment*</u>	<u>Housing On Campus</u>	<u>Living Off Campus</u>
1984 Sept	540	430	110
1985 Sept	415	430	20 women
1986 Sept	460	430 + 80 = 510	--
1987 Sept	495	510	--
1988 Sept	620	510 + 90 = 600	20
1989 Sept	745	600	145
1990 and Onwards	745	600	145

* See Attachment B

* 40 Vacant spaces for women

ATTACHMENT B

PROJECTED ENROLLMENT BY PROGRAM AND YEAR AT RAMPUR CAMPUS

1984 Sept	2 yr. I.Sc. II yr. - 70	3 yr. B.Sc.(Ag) - - III yr. - 80
	I yr. - 50	3 yr. B.Sc.(Ag) - - II yr. - 80
	II yr. I.Sc.(Ag.)JT -160	3 yr. B.Sc.(Ag) - - I yr. - 100
1985 Sept	2 yr. I.Sc.- II yr. - 45	5 yr. B.Sc.(Ag)/A.S. - I yr. - 150
	I yr. I.Sc. - I yr. - 50	3 yr. B.Sc.(Ag) - - III yr. - 80
	II yr. I.Sc.(Ag) phases out	3 yr. B.Sc.(Ag) - - II yr. - 90
1986 Sept	2 yr. I.Sc.- II yr. - 45	5 yr. B.Sc.(Ag)/A.S. - II yr. - 125
	2 yr. I.Sc. - I yr. - 50	5 yr. B.Sc.(Ag)/A.S. - I yr. - 150
		3 yr. B.Sc.(Ag) - - III yr. - 90
1987 Sept	2 yr. I.Sc.- II yr. - 45	5 yr. B.Sc.(Ag)/A.S.- III yr. - 125
	2 yr. I.Sc.- I yr. - 50	5 yr. B.Sc.(Ag)/A.S.- II yr. - 125
		5 yr. B.Sc.(Ag)/A.S.- I yr. - 150
		3 yr. B.Sc.(Ag) phases out
1988 Sept	2 yr. I.Sc.- II yr. - 45	5 yr. B.Sc.(Ag)/A.S. - IV yr. - 125
	2 yr. I.Sc.- I yr. - 50	5 yr. B.Sc.(Ag)/A.S. - III yr.- 125
		5 yr. B.Sc.(Ag)/A.S. - II yr.- 125
		5 yr. B.Sc.(Ag)/A.S. - I yr.- 150
1989 Sept	2 yr. I.Sc.- II yr. - 45	5 yr. B.Sc.(Ag)/A.S. - V yr. - 125
	2 yr. I.Sc.- I yr. - 50	5 yr. B.Sc.(Ag)/A.S. - IV yr. - 125
		5 yr. B.Sc.(Ag)/A.S. -III yr. - 125
		5 yr. B.Sc.(Ag)/A.S. - II yr. 125
		5 yr. B.Sc.(Ag)/A.S. - I yr. - 150

APPROVED CURRICULUM FOR JTA TRAINING (NON-ACADEMIC)

PLANT SCIENCE

Subjects	Full Marks	Lecture Hours	Practical Hours	Total Hours
ANSC 1121 Gen.An.Husb- andry	75	61	38	99
Hort. 1131 Gen. Horti- culture	100	81	46	127
AGRO 1132 Agronomy	100	90	136	226
EXT. 1131 Intr. to Ag. Ext.	100	128	60	188
AGEC 1111 Farm Management	50	26	29	55
TOTAL	425	386	309	695

ANIMAL SCIENCE

Subjects	Full Marks	Lecture Hours	Practical Hours	Total Hours
ANS 13B Animal PDN. & Mgmt.	100	85	34	119
AHS 14B An. Nutr. & Fodder Pdn.	50	58	26	84
15B An. Breed., Ext. & Mt.	50	58	30	88
ANH 11B Animal Health - I	50	55	48	103
12B Animal Health - II	50	61	20	81
13B Animal Health - III	50	55	20	75
IPS 11B Intr. to Plant Science	N/A	N/A	N/A	N/A
ANS 12B Dairy Science	60	59	49	108
TOTAL	410	431	227	658

ATTACHMENT D

APPROVED CURRICULA FOR 5-YEAR B.SC.(AG.) PROGRAM

<u>Academic Year</u>	<u>Course Offering</u>	<u>Contact Hrs/Wk.*</u>	<u>Full Mark</u>
I	Nepali	4	100
	Nepal Studies	3	50
	Zoology	4	75
	Botany	4	75
	Mathematics	3	75
	Physics	4	75
	Chemistry	4	75
	English	3	75
	Animal Science	3	50
		-----	-----
		32	650
II	Zoology	4	75
	Botany	4	75
	Mathematics	3	75
	Physics	4	75
	Chemistry	4	75
	English	3	75
	Animal Science	5	100
	Agronomy	4	75
	Horticulture	4	75
		-----	-----
		35	700
III	Biochemistry	2	50
	Animal Science	3	50
	Agronomy	9	175
	Horticulture	5	75
	Soils	4	75
	Agricultural Extension	3	75
	Entomology	5	100
	Agricultural	2	50

		33	650
IV	Statistics	4	75
	Animal Science	3	50
	Agronomy	4	75
	Horticulture	3	50
	Soils	3	50
	Agricultural Economics	2	50
	Plant Physiology	4	75
	Agricultural Engineering	4	75
	Plant Pathology	5	100
	Rural Sociology	2	50
		-----	-----
		34	650

V	Animal Science	6	100
	Agronomy	4	75
	Soils	3	50
	Agricultural Economics	3	50
	Agricultural Engineering	3	50
	Agricultural Extension	3	50
	Rural Sociology	2	50
		-----	-----
		24	650
	Specializing Courses	<u>N.A.</u>	<u>150/175</u>
		24+E	800/825

* Contact hours per week refers to total weekly hours devoted to teaching (both class lectures and practical work).

** Full Marks refer to academic weightage for individual courses.

SPECIALIZING (ELECTIVE) COURSES OFFERED AT IAAS, RAMPUR

Agronomy	75	4	<u>12</u>	Principles of Crop Production
	75	4		Weed Control
	75	4		Seed Technology
Soils	75	4	<u>12</u>	Soil Chemistry and Fertility
	75	4		Soil Genesis, Classification, and Mapping
	75	4		Soil Conservation and Watershed Management
Entomology	75	4	<u>12</u>	Insect Pests of Field Crops
	75	4		Insect Pests of Vegetable and Fruit Crops
	75	4		Industrial Entomology
Plant Pathology	75	4	<u>12</u>	Diseases of Field Crops
	75	4		Diseases of Vegetable and Fruit Crops
	75	4		Seed Pathology
Horticulture	50	3	<u>21</u>	Spices and Plantation Crops
	50	3		Nursery Management
	50	3		Fruit and Vegetable Preservation
	50	3		Breeding for Horticultural Crops
	50	3		Vegetable Seed Production Techniques
	50	3		Floriculture and Ornamental Gardening
	50	3		Physiology of Horticultural Crops
	50	3		Animal Health
Animal Science	75	4	<u>20</u>	Cattle and Buffalo Production
	75	4		Sheep and Goat Production
	75	4		Poultry and Pig Production
	75	4		Dairy Processing
	75	4		Agricultural Marketing and Price Policy
Agricultural Economics	50	2	<u>5</u>	Agricultural Finance
	50	3		Survey Research Methodology
Rural Sociology	50	2	<u>5</u>	Sociology of Migration
	50	3		Communication and Social Change
Agricultural Extension	50	3	<u>9</u>	Audiovisual Communication
	50	2		Program Planning in Agricultural Extension
	50	2		Leadership Development

Figures indicate contact hours and full marks.

TRAINING OF IAAS FACULTY AND STAFF BY DISCIPLINE AND DEGREE
AT RAMPUR

<u>Faculty and Administration</u>	<u>In Residence</u>			<u>On Study Leave*</u>		<u>On Leave Without Pay</u>	
	<u>B.Sc.</u>	<u>M.Sc.</u>	<u>Ph.D.</u>	<u>M.Sc.</u>	<u>Ph.D.</u>	<u>M.Sc.</u>	<u>Ph.D.</u>
Soils		4	1				
Rural Sociology			1				
Entomology		2	1				
Plant Pathology		1		2			
		1c	1c				
Zoology		1c					
		2t					
Agronomy		5				5	
	1t	1t					
Animal Science	1	4				4	
Agricultural Economics		2				4	1
Economics		1t					
Agricultural Communications		1					
Agricultural Extension		2				1	
		1c					
Chemistry						1	
		2c					
Horticulture		5				1	
Mathematics						2	
		2c					
Physics		2				1	
		2c					
Agricultural Engineering					1		
Agricultural Botany		1					
Botany		2					
Nepali		1t					
History		1t					
English	1t	1c					
<u>Administrative Support</u>							
<u>Personnel &</u>							
General Administration		1					
Academic Administration		1(B.Com.)					
Accounting		1(B.Com.)	1(M.Com.)				
Property Management		1(B.A.)					
Store		1(D.P.A.)					
Project A/C		1(B.A.)					
Assistant Librarian		2(B.A.B. Lib.)					
Asst. Administrator (PA to Dean)		1(B.Com.)					

* Includes those planning to leave IAAS for Ph.D. study in Fall 1984.

c = contract

t = temporary

APPROVED CURRICULA FOR JTA TRAINING (NON-ACADEMIC)
COURSE LOADS AND TEACHER REQUIREMENTS
Paklihawa Campus

<u>Subjects</u>	<u>Class</u>	<u>Total Hrs/Sect.</u>	<u>No. of Sections</u>	<u>Total Teaching Hrs.</u>	<u>No. Teachers Required</u>
Animal Science	Plant Science	99	6	594	4
	Animal Science	657	2	1314	
Agronomy	Plant Science	226	6	1356	3
	Animal Science	84	2	168	
Horticulture		127	6	762	2
Agricultural Extension		188	6	1128	2
Farm Management		55	6	330	1
				5652	12

Lamjung Campus

Animal Science		99	4	396	1
Agronomy		226	4	904	2
Horticulture		127	4	508	1
Agricultural Extension		188	4	752	2
Farm Management		55	4	220	1
				2780	7

Academic Session

Summer Vacation	1.5 months
Dashain Holiday	1.0 month
Other Holidays	2.0 months
Exams	0.5 month
5.0 months .	

Total Teaching Duration : 7 months = 30 weeks
 Total Teaching Hours/Staff : 30 x 21 = 630

APPROVED CURRICULA FOR 5-YEAR B.Sc.(Ag.) PROGRAM, IAAS, RAMPUR
COURSE LOAD AND FACULTY REQUIREMENTS

Faculty Discipline	<u>Total Class Hrs/Sect.</u>			<u>No. of Sections</u>			<u>Total Teaching Hours</u>			Required No.* of Teachers	Faculty Available
	Core	Elective	Total	Core	Elective	Total	Core	Elective	Total		
<u>Basic</u>											
Nepali	4	--	4	2	--	2	8	--	8	0.50	1
Nepal Studies	3	--	3	2	--	2	6	--	6	0.33	1
English	6	--	6	2	--	2	12	--	12	0.67	1
Physics	8	--	8	2	--	2	16	--	16	1.00	2
Chemistry	8	--	8	2	--	2	16	--	16	1.00	2
Mathematics	6	--	6	2	--	2	12	--	12	0.67	2
Zoology/Fisheries	8	--	8	2	--	2	16	--	16	1.00	3
Botany/Ag. Botany	12	--	12	2	--	2	24	--	24	1.50	2
Statistics	4	--	4	2	--	2	8	--	8	0.50	-
Biochemistry	2	--	2	2	--	2	4	--	4	0.25	-
									122		14
<u>Agricultural</u>											
Ag. Engng.	21	12	33	1	1	3	42	12	54	3.00	6
Horticulture	12	21	33	2	1	3	24	21	45	2.50	5
Entomology	5	12	17	2	1	3	10	12	22	1.25	3
Plant Pathology	5	12	17	2	1	3	10	12	22	1.25	3
Soils	10	12	22	2	1	3	20	12	32	2.00	5
Agricultural Engr.	7	-	7	2	-	2	14	-	14	1.00	-
Ag. Econ./Econ.	7	5	12	2	1	3	14	5	19	1.25	1
Rural Sociology	4	5	9	2	1	3	8	5	13	0.70	1
Ag. Ext. & Comms.	6	9	15	2	1	3	12	9	21	1.20	4
Animal Science	20	20	40	2	1	3	40	20	60	3.40	6
									302		34
Total	158	108	266				316	108	424	24.07	48

*Teaching @ 18 hours a week.

Annex E

Social Soundness Analysis

The project's focus is on institution building. It will continue and expand support to agricultural training institutions during the life of the project and in the longer term will improve the quality and increase the quantity of trained manpower. In turn this will help strengthen GON institutional capability in areas of agricultural extension, research, training, and in the supply of agricultural inputs and credit.

The project's principal impact will be to provide the GON with middle-level personnel to implement planned development activities in the agricultural sector. The World Bank Project appraisal mission estimated that by 1990 the project would increase the proportion of middle-level agricultural technicians (JTA/JTs) from the present one technician per 1,050 farming families, to 1 per 500 families. Consequently, it will increase the number and quality of the technical support to achieve development objectives.

Immediate, direct beneficiaries of the project include the 200 staff and 5,680 students who will attend the Institute during the life of project. Additional direct beneficiaries will be an estimated 5,000 persons living in the impact area of the IAAS extension program. More important are the ultimate beneficiaries - the farm families of Nepal - currently estimated to include over 90 percent of the population. Improved curricula and teaching at IAAS will produce a better qualified graduate who will improve the functioning of GON agricultural agencies and programs which will in turn help Nepalese farmers to increase production, reduce environmental deterioration and improve their families' well-being.

Benefits will accrue to institutions and Nepal's farmers. Socially significant aspects of project design are directed towards achieving the following three goals:

1. increasing productivity of the IAAS faculty;
2. improving institutional relevance to local conditions; and
3. enhancing the effectiveness of the technical assistance team.

The following analysis explains briefly how project design and plans for implementation have been built up on the human dynamics unique to institutional and social contexts in Nepal. A supporting document explains these points in greater detail.

1. Increasing faculty productivity and institutional development is the first way the project impacts on the ultimate beneficiaries. Productivity is defined by: accomplishment in teaching; textbook/curricula development; research and extension work; effectiveness in supervising subordinates so that they are more productive; and concern shown in improving the skills, knowledge and attitudes of the IAAS graduate and in understanding the dynamics of user organizations and the problems of the Nepalese farmers.
 - a. Faculty productivity and institutional development will be increased by assuring that work performance is rewarded by access to positions of authority rather than simple increases in financial rewards. In certain ways authority is a more important motivator in the Nepali context than are financial incentives. The TA team will help IAAS to develop performance evaluation procedures defining standards for training, promotion, creation of academic chairs, faculty selection and conditions for increased institutional autonomy. Performance and productivity will be a prerequisite for training.
 - b. The project increases productivity by allowing sufficient time between successive training opportunities for staff to engage in productive professional activities. Formerly training and institutional development occurred so rapidly that there was not sufficient time for the faculty to produce results. An analysis of the incentive system at IAAS will look at each professional activity (teaching, research, etc.) in terms of time required to produce results, the financial reward, the status or prestige of the activity and the amount of work involved. The results will help determine the performance evaluation systems in point (a) above.
 - c. The project increases productivity by assuring that supervision and recognition of work by superiors of subordinates at all levels in the hierarchy is increased. The TA team will assist IAAS to devise situations where subordinates receive recognition of their work through site inspections and committee review. Supervisory capacity evaluation will be stressed as stated above.
 - d. Increased productivity will also be achieved by expanding faculty involvement in external professional activities carrying financial incentives. The project will help to expand staff professional activities, such as consultancy, textbook publication, guest lecturing and others. At the same time, the project will seek ways to neutralize any negative effects of staff participation in outside activities carrying financial benefits.

- e. Productivity will be increased by providing faculty with increased opportunity to obtain and plan the use of financial resources. The exchange between donors and faculty will develop a better level of expectation and provide proof of institutional sustainability. The project will institute an annual planning exercise and support IAAS in seeking additional external grants and financial support.
- f. The project places emphasis on favoring faculty members that are motivated by attachment to their professions. Increased investments in equipment and infrastructure (funded by World Bank parallel financing) and increased ability of IAAS to assure smooth running physical plant and academic support systems will expedite professional activities and achievement. Attachment to the profession will also be a consideration in selecting trainees.
- g. Finally, productivity is increased by allowing women and remote area groups access to the faculty, staff and student body. Groups recruited outside of the majority tend to rely on work performance as a means of professional advancement. The project through its Equal Access Scholarship Program will be able to recruit to the student body the most competent women and remote area students.

2. Increased institutional relevance to local conditions is the second way the project achieves the transfer of knowledge through IAAS graduates to farmers. The project increases institutional relevance to local conditions by placing greater emphasis on activities which make use of the faculty's training as a process as opposed to activities which stress its knowledge contents.

This distinction is important. On one hand, as a knowledge specific content the faculty's training includes all the facts, information and data on the concerns of the country in which they studied. Since, in most cases, this training was received overseas, teaching, textbook editing and curriculum development based on knowledge specific to their training is apt not to be particularly relevant to Nepal. As a functional process, on the other hand, their training consists of a capacity to exercise a scientific method of gathering data, analyzing it, explaining phenomena and solving problems. In short, the key characteristic that distinguishes the trained faculty member is his ability to think.

Faculty members need to have more opportunities to use their overseas training not in terms of specific knowledge contents, but in terms of a functional process of information gathering, analysis and problem-solving. Once they apply this process in the Nepalese context they will begin to develop a new knowledge-specific content of information which is rooted in local situations. This in turn will enrich their teaching, curriculum development and textbook writing. The ways that the project achieves this aim are the following:

- a. **Research activities:** While technical solutions abound, the real work in doing research is to determine how solutions can be applied given the opportunities and limitations existing (i) in Nepal in the various sub-groups of the farm community; (ii) in the network of organizations serving agriculture; and (iii) in the student body itself. Research activities will take into consideration the means, networks and channels through which technical solutions, once developed, can be communicated. Research projects should present an occasion for the faculty member to acquire knowledge of the dynamics of the farm community, the operations of the user organizations and the effectiveness of IAAS graduates. Ultimately the only way the Institute has of impacting on the farm population is by the training it gives its graduates. Research findings should add to technical content of training and draw implications on how training can be improved to make graduates more effective in the process of transferring knowledge to farmers.
- b. **Study Tours:** Study tours bringing IAAS students (and staff) to visit user agencies, farmers and working UTAs will give participants information relevant to future job opportunities and constraints.
- c. **Student Graduate Surveys:** Studies of graduates and students will help answer the questions of where graduates are employed; what are their weaknesses and strengths; and how the IAAS training program can be improved.
- d. **Academic Planning:** Planning activities will relate the needs of the farmers to procedures, activities and structures of the Institute.
- e. **Exchange Scholar Program:** To make this program relevant to conditions in Nepal, participants from U.S. institutions will be selected on the basis of their ability to apply a specific research methodology to an agricultural problem in Nepal, to gather information, analyze it and generate solutions. Visiting scholars by their presence should demonstrate how research can be done under Nepalese conditions to generate knowledge about problems in Nepal. Participants from IAAS to U.S. institutions will be selected on the merits of a proposal to do a discrete, punctual program, which will provide input to solving a problem specific to Nepal and which will increase the relevance of training to local user agencies and/or the Nepalese farmer.
- f. **Textbook Development:** Textbooks must a) address the agricultural problems for which Nepalese farmers require information; b) take into account the constraints prevailing among the IAAS user agencies; c) be adapted pedagogically to the skills, knowledge and motivations of the various levels of IAAS students; and d) provide content relevant to graduates who will operate as change agents in the Nepalese environment. All texts will utilize examples

and data from Nepal and as, faculty participate in more research and pilot extension activities, the content of the texts will be focused on the Nepalese situation to an increasing degree.

3. Project design is directed towards enhancing effectiveness of technical assistance personnel. While project technical assistance is limited, it is a very important component of project inputs. By directing focus of technical assistance personnel towards the items covered in point (1) above the technical assistance staff will have a better chance of success, as these are the areas in which advisors are perceived to have a competitive advantage by virtue of competence. At the same time, they will be assisting the Institute to achieve its own goals and objectives.

Consideration of the above factors in project preparation, will likely increase the success of the project in transferring knowledge from IAAS staff to graduates to the target farm population.

INITIAL ENVIRONMENTAL EXAMINATION

PROJECT COUNTRY : NEPAL

PROJECT TITLE : INSTITUTE OF AGRICULTURE & ANIMAL SCIENCE PROJECT II (367-0148)

FUNDING : \$ 4,100,000.00

LIFE OF PROJECT : 7 years beginning FY 1985 through FY 1992

IEE PREPARED BY : John J. Pinney 1/26/84
 John J. Pinney Date
 Project Development
 & Implementation
 Support Office
 USAID/Nepal

Environmental Action Recommended: Negative Determination on all project activities.

Concurrence: Dennis J. Brennan 1/27/84
 Dennis J. Brennan Date
 Mission Director
 USAID/Nepal

Bureau Environmental Office's Decision:

Approved Michael S. Pully

Disapproved _____

Date 6/17/84

Annex G

Economic Analysis

Economic impact of and returns to the project will accrue when graduates from Rampur enter government service or embark on future private sector careers in agriculture. Nepal has given agricultural development the highest priority, but despite considerable past investment, production increases have been minimal. One reason has been a shortage of trained technical manpower to plan and implement agricultural development programs. The project will assist the GON to expand the numbers and quality of training of IAAS graduates and fully develop capability for local training in agriculture up to the B.Sc. level.

The importance of training technical manpower in agriculture is a result of the importance of agriculture to national development. Over 90 percent of Nepal's population is engaged in agricultural production activities. The ADB "Nepal Agricultural Sector Strategy Study" estimates required investment in the agricultural sector at a minimum of US\$ 120 million per year for the period 1986 to 1990. If better trained technical personnel are available to plan and implement this investment program, and, if this results in only a five percent increase in productivity of that investment, there would be an increased economic benefit of over US\$ 6 million per year. This is intended only to demonstrate the level of magnitude of possible benefits accruing as a result of better trained public sector agricultural manpower and does not include secondary level benefits to accrue from the trained private sector technical manpower.

Given the need for trained agricultural technical manpower, the question becomes one of determining the best alternative for providing training. In the past Nepal has relied on overseas training for B.Sc. level personnel. This has led to a reliance on donor support for training and on willingness of foreign universities to accept Nepalese students. Nepal can rely on neither continued donor support, nor access to foreign universities (mainly Indian) in the long-term. In fact, India has recently moved to reduce the numbers of Nepalese students accepted in B.Sc. program in agriculture under the AID PL-480 financed India Training Program.

Nepal's only real option is to develop local capacity for training B.Sc. level and extension agent personnel in agriculture. This approach carries the added advantage of giving students training that is directly relevant to Nepalese agriculture and institutions. IAAS has been a cost effective means of providing this training. Table 1 presents estimates of cost per graduate from IAAS.

Table 1: Estimated Cost Per Graduate in Terms of
Campus Operating Expenses (\$ US)

Campus/Program	1980/81	1981/82	1982/83
Lamjung/JTA	264	259	272
Paklihawa/JT-JTA	261	530	435
Rampur/B.Sc.	-	4,410	4,507

Costs per graduate are reasonable and should improve over the course of this project as graduate numbers increase. By 1990/91, cost per graduate in terms of campus operating expenses will be : Rampur/I.Sc.- \$652; Rampur/B.Sc. \$3,259; Lamjung/JTA - \$235; and Paklihawa/JTA - \$252. (The average for JTA training is \$246, as Paklihawa produces more graduates.) The estimate for Rampur is based on an estimate of 125 B.Sc. graduates and 45 I.Sc. graduates per year and on an estimate that costs per year of I.Sc. training are one half that of B.Sc. training. The decreased cost per graduate occurs despite considerable improvement in the quality of training and the change from a three year to five year B.Sc. program.

Project costs for improving the JTA program are estimated at US\$ 8,147,000 and for the B.Sc. program at US\$ 7,003,000 (World Bank Project Appraisal Report Annex P). Amortizing these costs over a twenty year period (1984-2004) results in a investment cost per B.Sc. graduate of \$3,296 (2.125 graduates) and per JTA of \$734 (11,100 graduates) Total of investment cost plus operating costs for the year 1990/91 (high year for project) is \$6,555 per B.Sc. graduate and \$980 per JTA. These costs are reasonable and compare favorably to the cost of US \$10,900 to train a B.Sc. graduate in agriculture under the PL-480 India Training Program.

Annex H

Financial Analysis

The IAAS campuses and campus farms are the major entities participating in the project whose financial status is critical to project success. In both cases funding of annual budgets is provided by the GON through the Tribhuvan University budget. The campus farms are treated separately as they are capable of generating significant income and will have separate annual budgets in order to improve their management. The major consideration in the financial analysis is whether the GON can meet recurrent costs occurring because of the project.

IAAS Operating Budgets:

Table 1 presents the past actual and projected future budget and expenditure levels for the three IAAS campuses. Projections were made based on the following assumptions:

- ten percent increase in FY 1984/85 (NFY 41/42) and five percent per year increases for each year following FY 1984/85 (NFY 41/42)*;
- farm budget subsidies increase at the same rate as the total budget;
- Rampur campus budget for FY 1984/85 (NFY 41/42) increases by Rs. 120,000 to compensate for loss of MUCIA support for fuel, maintenance, and other expenses; and
- AID funding for IAAS program expansion is not included in projections.

These projections provide a rough estimation of future year expenditures and can serve as a benchmark for future budget reviews. Total GON expenditure for the IAAS operating budget for the seven years of the project is estimated at US \$ 3,467,000 and represents an increased annual expenditure of US \$ 98,000 over the average of the previous three fiscal years.

Budget increases are particularly important for budget items 09/011 "Repair and Maintenance"; 09/012 "Fuel" and 09/033 "Chemicals Glassware, and Teaching Materials". Recent year increases in the budget for "Repair and Maintenance" at the Rampur campus have helped greatly to meet severe maintenance problems there. With increased facilities and aging of some of the physical plant further increases may be necessary.

The projected increases in recurrent costs are sustainable by the GON. Recurrent costs in fiscal year 1990/91 will be approximately

* Nepali Fiscal Year (NFY) is from July 16 through July 15.

Table 1: IAAS Operating Budget
(In Rs. 000 and \$000)

		Actual					Estimates							
		NPY 55/36 (78/79)	36/37 (79/80)	37/38 (80/81)	38/39 (81/82)	39/40 (82/83)	40/41 (83/84)	41/42 (84/85)	42/43 (85/86)	43/44 (86/87)	44/45 (87/88)	45/46 (88/89)	46/47 (89/90)	47/48 (90/91)
<u>Rampur Campus</u>														
Approval Budget	(Rs.)	2,199	3,042	2,903	3,474	4,177	4,471	5,038	5,290	5,554	5,832	6,124	6,430	6,751
	(\$)	183	254	242	267	301	293	315	331	347	364	383	402	422
Expenditures	(Rs.)	2,224	2,250	2,879	3,503	4,447	N.A.	5,038	5,290	5,554	5,832	6,124	6,430	6,751
	(\$)	185	188	240	269	320	-	315	331	347	364	383	402	422
<u>Paklihawa Campus</u>														
Approved Budget	(Rs.)	N.A.	N.A.	1,156	988	1,166	1,100	1,210	1,270	1,334	1,401	1,471	1,545	1,622
	(\$)	-	-	96	76	83	72	76	79	83	88	92	97	101
Expenditures	(Rs.)	N.A.	N.A.	818	1,129	1,215	N.A.	1,210	1,270	1,334	1,401	1,471	1,545	1,622
	(\$)	-	-	68	87	87	-	76	79	83	88	92	97	101
<u>Lamjung Campus</u>														
Approved Budget	(Rs.)	N.A.	616	423	788	570	515	567	595	625	656	689	723	759
	(\$)	-	51	35	61	41	34	35	37	39	41	43	45	47
Expenditures	(Rs.)	N.A.	524	393	560	607	N.A.	567	595	625	656	689	723	759
	(\$)	-	44	33	43	44	-	35	37	39	41	43	45	47
<u>TOTAL</u>														
Approved Budget	(Rs.)	N.A.	N.A.	4,482	5,250	5,913	6,086	6,815	7,155	7,513	7,889	8,284	8,698	9,132
	(\$)	-	-	374	401	425	399	426	447	469	493	518	544	570
Expenditures	(Rs.)	N.A.	N.A.	4,090	5,192	6,269	N.A.	6,815	7,155	7,513	7,889	8,284	8,695	9,132
	(\$)	-	-	341	399	451	-	426	447	469	493	518	544	570

* Note: Figures should be considered estimates as information was incomplete and difficulties were encountered in disaggregating operating and investment budgets. Any errors should not be large.

three million rupees greater than in fiscal year 1983/84. This is equivalent to about one half of one percent of the total estimated public sector expenditure for education in fiscal year 1982/83.

World Bank parallel financing will fund partial costs of additional recurrent expenditures for the project on a decreasing percentage basis. World Bank funding will cover 100% of incremental costs for FY 84/85; 85% for FY 85/86; 75% for FY 86/87; 50% for FY 87/88; 20% for FY 88/89; and 10% for FY 89/90. This funding will help to ensure that the GON provides adequate budget for additional recurrent costs, especially for maintenance and additional personnel.

Table 2 included for future reference presents annual operating expenditures by Tribhuvan University budget category for the three campuses for FY 1982/83 (NFY 39/40).

Table 2: IAAS Operating Expenditure for
FY 82/83 (NFY 39/40) by Campus
(Rs. 000)

<u>Item No.</u>	<u>Item</u>	<u>Rampur</u>	<u>Lamjung</u>	<u>Pakhlihawa</u>
09/001	Salary (Teaching Staff)	892	102	285
002	Salary (Non-Teaching Staff)	609	133	220
003	Allowances	386	117	141
004	Provident Fund	101	11	20
005	"	-	-	-
006	"	-	-	-
007	Examination Expenses	49	2	4
008	Electricity/Water	149	3	77
009	House rent	2	-	-
010	Insurance	-	-	-
011	Repair & Maintenance	474	13	18
012	Fuel	44	2	4
013	Advertisement	30	3	2
014	Bank Charges	5	1	1
015	Legal Expenses	-	-	-
016	Stamps	2	1	6
017	Stationery & Printing	35	10	10
018	Journals & Newspapers	2	4	2
019	Travelling Allowances	142	22	16
020	Ceremony Expenses	7	1	1
021	Expenses for Guests	11	1	4
022	Overtime Expenses	23	1	3
023	Meeting Allowances	12	1	1
024	Misc	61	5	26
025	Awards & Prizes	-	-	-
026	Farm Expenses	607	27	56
027	Student Welfare & Activity	60	6	13
028	"	-	-	-
029	Publication	-	-	-

030	Research	3	-	-
031	Scholarship	157	88	15
032	National Development Services	-	-	-
033	Chemicals, Glassware, Teaching Material	54	5	39
034	-	-	-	-
035	Transportation	6	4	1
		-----	-----	-----
		4,447	607	1,215

IAAS Farm Budgets:

In order for IAAS to develop a quality, practical agricultural program, it will have to bring Institute farms into operation for research, demonstration, and student practical work. This is one of the major aims of this project. However, neither IAAS, nor the GON, can afford to bear greatly increased recurrent costs to support operation of the farms.

In past years, campus farms have routinely incurred operating losses. (Table 3) It is not expected that campus farms will produce profits. Difficulties of operating farms under public sector regulations and inefficiencies inherent in conducting research and demonstrations make it unlikely that farms can consistently produce profits. In addition, use of land for student practicals will result in students capturing some of the potential profits.

Table 3: IAAS Campus Farm Performance - Expenditure and Income by Fiscal Year
(in Rs.000 & US \$ 000)

	37/38 (80/81)	38/39 (81/82)	39/40 (82/83)
<u>Rampur Campus</u>			
Farm Expenditures* (Rs.)	460	601	607
(in \$)	38	46	44
Farm Income: (Rs.)	298	650	565
(in \$)	25	50	41
<u>Pakhlihawa Campus</u>			
Farm Expenditures* (Rs.)	2	27	56
(in \$)	-	2	4
Farm Income: (Rs.)	-	7	6
(in \$)	-	1	-
<u>Lamjung Campus</u>			
Farm Expenditures* (Rs.)	25	23	27
(in \$)	2	2	2
Farm Income: (Rs.)	9	12	24
(in \$)	1	1	2

*Excluding labor costs

The poor utilization of farms can be corrected through infrastructure and management improvements to be provided under this project. Full utilization of campus farms can be achieved without greatly increasing subsidies to the farms. This can be achieved if farms are operated as follows:

1. reducing livestock numbers to the minimum necessary for teaching, research, extension, and demonstrations in order to avoid the high costs involved in maintaining livestock.
2. managing livestock activities in accord with local practices and potentials, minimizing concentrate feeding and utilizing of prime agricultural land and maximizing use of crop by-products for feed.
3. operating horticulture and fisheries activities on a limited scale to reduce expenditures and attempting to avoid operating losses.
4. utilizing student labor to the maximum extent to reduce labor costs and provide students maximum practical experience.
5. arranging to utilize farms for production of certified seed in order to obtain higher prices for farm produce.
6. using recommended production technologies in order to increase production.
7. using land for the highest use consistent with its production potential.

It should be stressed that the expectation is not that farms will consistently produce profits. However, the following table adapted from work under the Integrated Cereals Project demonstrates the potential profitability of various cropping systems suited to IAAS farms.

Table 4: Potential Returns to Various Cropping Systems Suited to IAAS Campuses* (Rs.)

<u>Location/ Land Type</u>	<u>Cropping Pattern</u>	<u>Production Costs/ha.</u>	<u>Gross Returns/ha.</u>	<u>Net Returns</u>
Rampur: Irrigated lowlands	Rice-Wheat Mung	7,034	27,215	20,181
Rampur: Rainfed lowlands	Rice-Fallow Maize	4,432	20,070	15,638
Rampur: Upland	Maize-Maize Wheat	6,259	21,143	14,384
Lamjung: Irrigated lowlands	Rice-Wheat Maize	7,442	21,315	13,393
Pakhlihawa: Irrigated lowlands	Rice-Maize- Mung	7,349	21,635	14,286

*Data from one year trials (1981/82) at GON Cropping Systems Sites.

Summary

The planned project is financially feasible. Increases are required in the GON budget, but these increases may be gradual and can easily be provided by the GON. Initial World Bank funding of part of the additional recurrent costs generated by the project will further help the GON to meet additional recurrent costs. Campus farms can also be brought into full production without greatly increasing subsidies. Farm operation may not be consistently profitable, but profitable enterprises can be stressed and loss-generating activities minimized.

Annex I

Project Training Plan

The project technical assistance contractor will arrange project funded training. Degree training will a) fill gaps in the Institute faculty in certain fields; b) strengthen the animal science program; c) train GON personnel involved with planning and managing agricultural sector development and d) provide for continued development of IAAS faculty.

Study tours and short courses will help train administrative support staff for the Institute. The technical assistance contractor will organize in-country training courses to train administrative support personnel and to provide courses of general interest to IAAS and GON staff.

The technical assistance contractor will also organize an exchange scientist program to help Institute staff maintain professional contacts, stay current in their fields, and engage in collaborative research and study programs.

Training will be aimed at broadening the base of experience and development models for IAAS staff. Training will be at a variety of universities and Ph.D. programs will generally be done in countries other than these where the candidate nominated completed his M.Sc. To the extent possible, M.Sc. level training will be done in India under the India Training Program.

M.Sc. participants will be selected and nominated by the Appointment, Evaluation and Promotion Committee from serving faculty. Ph.D. and Exchange Scholar Program candidates will apply for available positions. All applications and nominations will be ranked by the Appointment and Promotion Committee and forwarded to the technical assistance contractor for final selection based on merit and evidence of active professional involvement in research, textbook preparation and extension programs.

Short term training will generally be done within the region. Women's participation in the training program is to be encouraged and it is expected that at least three of the degree training programs will go to female staff of IAAS or the GON.

A. Degree Programs

Determination of degree programs, training locations and degree level is consistent with the IAAS Academic Plan. (Completed under the IAAS - I Project) and with the Technical Analysis (Annex D) of this Project Paper. Training will be based on the needs of the Institute and not on needs for individual career development. To the extent possible, M.Sc. level training will be done in India - at no cost to the project - or at other third country universities. If the PL-480 India Training Program continues beyond FY 1986, six additional programs in weed control, home science, plant breeding, farm management, crop management, and

agricultural extension should be supported. Also to the extent possible, IAAS staff in areas in which the Institute has excess staff will be retrained in subjects in which there is a shortage of staff.

For teaching at the B.Sc. and extension agent training program levels, a faculty trained at the Masters level is considered necessary. A limited number of staff trained to the Ph.D. level is also considered desirable to give additional leadership in research and intellectual enquiry at IAAS. The Ph.D. training is highly sought after and formal procedures must be applied to assure that only participants with outstanding performance records within the Institute are selected. Candidate performance will be judged by accomplishment in teaching, textbook/curriculum development, research and extension work; in their effective supervision of subordinates; by concern shown in improving the skill, knowledge and attitudes of the IAAS graduate and in understanding the dynamics of user organizations and the problems of the Nepalese farmer. Before participants receive Ph.D. training a strong attachment to the tasks of the profession, as opposed to an attachment to the Ph.D. as an end in itself, must be demonstrated. Essay statements on past career accomplishments and future goals may be one basis for determining the subjective significance of training for the particular participant.

Tentative fields for training are as follows:

<u>Field</u>	<u>No. of Programs</u>
Development Planning/Agriculture Policy*	2
Agricultural Economics/Agriculture Business Management*	2
Agricultural Education	1
Veterinary Science	1
Livestock Management	1
Animal Genetics	1
Fodder Crop Production & Ruminant Nutrition	1
Agro-Forestry	1
Agricultural Engineering	1
Irrigation & Water Management	1
Fish Production	1
Soil Conservation	1

Total	14

*GON, probably National Planning Commission and/or Ministry of Finance.

Estimated costs for degree training are as follows:

Degree Training Costs (US\$ 000)

<u>Program</u>	<u>Expenditure by Fiscal Year</u>						
	<u>FY 86</u>	<u>FY 87</u>	<u>FY 88</u>	<u>FY 89</u>	<u>FY 90</u>	<u>FY 91</u>	<u>FY 92</u>
M.Sc. or Ph.D./India (4)	-	-	-	-	-	-	-
M.Sc./Phil. (3)	32.1	30.0	9.6	-	-	-	-
M.Sc./Us (1)	24.9	23.6	7.0	-	-	-	-
M.Sc./Phil. (1)	-	10.7	10.0	3.2	-	-	-
M.Sc./US (1)	-	24.9	23.6	7.0	-	-	-
Ph.D./US (1)	-	24.9	23.6	23.6	7.0	-	-
Ph.D./Phil. (1)	-	-	10.7	10.0	10.0	3.2	-
Ph.D./US (1)	-	-	24.9	23.6	23.6	7.0	-
Ph.D./Phil. (1)	-	-	-	10.7	10.0	10.0	3.2
Total	57.0	114.1	109.1	78.1	50.6	20.2	3.2

B. Exchange Scholar Program

The project will fund three programs for IAAS staff members to serve as exchange scholars at US or third country universities or agricultural research institutions. The programs will last for three to six months and will allow staff members to do independent study and research, audit courses, present seminars and lectures and maintain professional contacts.

In order to increase the relevance of these programs, participants will be selected on the merits of a proposal to do a discreet, punctual program which will provide input to solving a problem specific to IAAS and which will increase the relevance of training to local user agencies and to transfer of knowledge to the Nepalese farmer.

The project will fund travel costs and provide a living allowance for the participant. Applicants from the faculty will be required to prepare a program plan and application to be submitted to Appointment, Evaluation and Promotion Committee and the technical assistant contractor. The contractor's home office will make final selection and arrange placement of the exchange scientist.

Costs for the program are estimated at US \$ 22,000 per year in FY 86, FY 88 and FY 90.

The technical assistance contractor will administer an additional Exchange Scholar Program which will provide for an in-country exchange of staff between IAAS and its major user agencies, principally the MOA. Under this program, each year one IAAS staff member will go to a GON research station (outside of Kathmandu or Chitwan) for a period of six months to collaborate with the GON agency on research or other special study programs. At the same time one GON member involved with research or another aspect of agricultural development will come to Rampur to teach and pursue independent research or studies. IAAS and the GON agencies will provide housing.

The project will provide an allowance of approximately \$ 50 per month per exchange scholar to cover costs of moving, living allowance, and research support. Funds are budgeted for this program for five years during the project at the rate of \$ 800 per year (based on an estimate of two eight-month programs per year).

C. Short Term Training

Short term training will include twelve overseas short courses to upgrade capability of Institute support personnel and will be based on nomination by the Dean in consultation with the Academic Administration Advisor. Average cost of programs is estimated at \$ 5,000.

An illustrative list of training programs is as follows:

FY 86

Personnel Administration
Librarian Training
Laboratory Technician (2)

FY 87

Maintenance and Property management (2)
Student Record Systems
University Farm Management

FY 88

University Admissions Procedures
University Budget and Accounting (2)
Research Station Management

D. In-country Training

During fiscal years FY 86, FY 87, and FY 88, the Academic Administration Advisor will arrange in-country training sessions for Institute support personnel. Approximately \$ 20,000 will be budgeted each of these three years for this purpose. Training will be approximately as follows:

<u>Staff Skill Area</u>	<u>Number</u>
Secretaries	20
Drivers and Mechanics	10
Electricians/Plumbers	10
Tractor Drivers/ Other Farm Staff	10
Laboratory Technicians	10
Generator Operators/Other Maintenance Personnel	10
Accountants	10
Administrative Personnel	20
Library Staff	10
	<u>110</u>

It is recognized that some staff in excess of current needs will have to be trained as there will be attrition and movement of trained support personnel from Rampur to urban areas.

Advisors and short term consultants will present approximately five seminars at Rampur on subjects of general interest to IAAS faculty and GON officials. The courses may be taught by teams involving U.S. and third country advisors in conjunction with IAAS and GON staff. The training will help to build linkage between IAAS and GON agencies. If possible, this approach to training will also be used for training of administrative personnel. Approximately 20 participants will attend each course. Funds are budgeted to cover costs of materials and in-country travel of course participants at the rate of \$ 5,000 per course. The courses may include:

- Delivering Livestock and Veterinary Extension Services to Small Farmers
- High Elevation Farming Systems
- Meeting Needs for Trained Agriculture Manpower
- Effective Vocational Agriculture Programs
- Effective Classroom Teaching

E. Budget For Training

The following table presents a detailed project budget for training:

Detailed Project Training Budget

(\$ 000)

<u>Item</u>	<u>FY 86</u>	<u>FY 87</u>	<u>FY 88</u>	<u>FY 89</u>	<u>FY 90</u>	<u>FY 91</u>	<u>FY 92</u>
1. Degree Training	57.0	114.1	109.1	78.1	50.6	20.2	3.2
2. Faculty Exchange Program	22.8	0.8	22.8	0.8	22.8	-	-
3. Short Term Training	20.0	20.0	20.0	-	-	-	-
4. In-Country Training	25.0	25.0	25.0	5.0	5.0	-	-
Total	<u>124.8</u>	<u>159.9</u>	<u>176.9</u>	<u>83.9</u>	<u>78.4</u>	<u>20.2</u>	<u>3.2</u>
Rounded	<u>125</u>	<u>160</u>	<u>180</u>	<u>85</u>	<u>80</u>	<u>20</u>	<u>5</u>

Annex J

Project Technical Assistance Plan

The project technical assistance contractor will provide approximately seven person years of long term technical assistance and thirty five person months of short term consultancy services and will arrange for approximately four exchange scholar programs for personnel from overseas universities.

Technical assistance personnel will participate with Institute staff in the teaching, research, and extension work of the Institute. They will assist with the establishment and development of Institute programs and the implementation of the joint GON-World Bank-AID funded project. Approximately equal time and attention will be given to the B.Sc. program on the Rampur campus and the extension agent program at the branch campuses. IAAS will provide support for the advisory team. The technical assistance team will report to the Dean of IAAS and AID/Nepal. Generally, all advisors will present seminars and short courses at Rampur for IAAS and GON personnel. Since much of the focus of the technical assistance will be on increasing the relevance of IAAS programs to Nepal's agricultural development needs, technical assistance personnel should have previous experience in working in Nepal or a similar LDC environment. Budget breakdown for technical assistance is included in Table J1. Terms of reference for technical assistance personnel are as follows:

A. Agricultural Education Specialist

The Agricultural Education Specialist will be recruited for the first three years of the project and will serve as team leader for the technical assistance team. He/she will assist the Institute with the improvement of teaching and training functions of the Institute with special focus on the extension worker training at branch campuses. The advisor's specific duties will include:

1. advising IAAS on the organisation and management of the Training Division;
2. assisting with development and revision of curricula, especially that of the extension worker training program;
3. assisting IAAS with planning and preparation of relevant curricula, teaching materials, textbooks, and laboratory manuals;
4. arranging courses on pedagogy, teaching methodology, lesson planning and execution (particularly field and farm demonstration) and examination methodology for Peace Corps volunteers and all teaching staff;

5. assisting IAAS to increase the practical and work experience content of courses;
6. advising IAAS on student selection, operation of a scholarship program and surveying of students and graduates;
7. investigating additional means of increasing the proportional enrollment of women and students from remote areas; and
8. assisting IAAS to arrange a seminar series at Rampur which will utilize technical assistance advisors from this and other projects to train IAAS and GON personnel.

B. Animal Science Specialist

The Animal Science Specialist will be recruited for the first two years of the project. He/she will assist the Institute with the development of the animal science program. The advisor's specific duties will include:

1. assisting in teaching practical aspects of "Introductory Animal Science" and "Animal Science Production and Management" especially with ruminant species;
2. assisting in developing practicals and demonstrations for courses listed above;
3. advising the Institute on the development of curricula for other livestock production courses, especially for extension agent training;
4. advising the Institute on development of research projects and the management of the Institute research program; and
5. assisting the Institute with the planning and development of the three Institute farms.

C. Veterinary Science Specialist

The Veterinary Science Specialist will be recruited for the first two years of the Project. He/She will assist the Institute with development of courses in veterinary science and with development of laboratories. The advisor's specific duties will include:

1. assisting with the development of courses in pathology and clinical studies, including both teaching and practicals;
2. assisting with development of curricula, practicals and teaching materials for other veterinary science related courses;

3. assisting the Institute with the establishment of teaching and research laboratories; and
4. assisting the Institute organize and improve the IAAS extension program.

D. Academic Administration Advisor

The Academic Administration Advisor will provide twenty months of short term consultancy services on a recurrent basis over the life of the project. It is expected that most of these services will be performed by the same individual. Separate individuals may, however, be used for certain specialized tasks. The Academic Administration Advisor will advise the Dean on the academic administration of the Institute; arrange training for administrative and support staff; and assist Institute staff develop and establish operational and management procedures for the Institute.

One major activity of the Academic Administration Advisor will be in helping develop a staff evaluation system based on work performance for use by the Appointment and Promotion Committee. There is a widespread consensus that training opportunities and promotion be allocated on the basis of work performance. Procedures must establish the standards of performance necessary for promotion, training and succession to higher positions and these need to be established so that they will be fair to all. This is required so that faculty members will know the kind of work performance required to obtain the positions to which they aspire. Performance requirements must also be tied to making the IAAS program relevant to the needs of Nepalese farmers.

A second major activity of the Academic Administration Advisor will be responsibility for the institutionalization of an effective maintenance and academic support system. Investments in physical infrastructure will not of themselves give the faculty the support they need to get their jobs done. The advisor will help IAAS design a plan detailing the entire support network required to keep the infrastructure in operating order. He will integrate short term training and in-country training into the plan in order to achieve this objective.

The third major activity of the Academic Administration Advisor will be to review various Institute procedures - including student admission, budgeting and accounting, examinations and student records, and long-range planning - and help the Institute revise and improve these procedures and policies. One aspect of this task will be to devise systems to help the Institute ensure better supervision of staff at all levels. The recurrent visits by the advisor over a long period will give him the opportunity to continue monitoring procedures and suggest further revisions, if necessary.

A fourth task will be to help the Institute through the Institute Planning Unit develop the capability to locate and tap external resources and to engage in more external professional activities. This may include helping the Institute to develop systems for obtaining contracts for consulting services; seeking grants for research and pilot programs; and seeking fellowships and travel grants. These activities need to be encouraged, but in such a way that they do not detract from the Institute's primary training goal.

E. Other Short Term Consultants

Approximately fifteen person months of other short-term services will be provided over the first five years of the project. During the first year of the project a consultant on manpower planning assisted by a local consultant will prepare a study on Agricultural Manpower Needs of Nepal. A local consultant will be contracted to prepare a study on use and effectiveness of IAAS graduates. Other services will be related to farm and campus development and establishment of research and extension programs. Consultants may include the but not necessarily be limited to following:

- Manpower Planning (2 mon.)
- Manpower Planning (Local Consultant, 2 mon.)
- Use of IAAS Graduates (Local Consultant, 3 mon.)
- Farming Systems Research Specialist
- Farm Planning Specialist
- Animal Traction Specialist
- Agro-Forestry Specialist
- Irrigation Water Management Specialist
- Dairy Processing Specialist
- Vegetable Seed Production Specialist
- Curricula Development Specialist

F. Visiting Scholar Program

Staff, advanced level graduate students, and post-doctorate level personnel from other universities will be encouraged to spend six to twelve months at IAAS at the invitation of IAAS. IAAS will provide housing and office space and the project will pay travel costs. Approximately four such programs are planned.

In order that this program be relevant to conditions in Nepal, participants will be selected on the basis of their ability to apply a specific research methodology to an agricultural problem in Nepal, to gather information, analyze it and generate solutions. Visiting scholars by their presence should demonstrate how research can be done under Nepalese conditions to generate knowledge about problems in Nepal. While at IAAS, visiting scholars will:

1. conduct research and studies on Nepalese agricultural problems under conditions available to Nepalese scholars;

2. present seminars particularly on the application of their approach and its usefulness;
3. assist with teaching, especially the information developed by their research; and
4. advise on research and extension programs, as requested.

B. Contractor Home Office Staff

In addition to standard contractor home office staff functions of staff recruitment and support, the contractor's home office staff will:

1. make final selection of applicants and nominees for degree training programs and faculty exchange programs; and
2. review drafts of textbooks and laboratory manuals produced by the project.

II. Evaluations

AID will contract for two project evaluations from independent contractors. Funds are budgeted for two person months of expatriate and one person month of local consultant services for each of the two scheduled project evaluations.

TABLE 1 : Detailed Project Technical Assistance Budget
(\$ 000)

Item	FY85	FY86	FY87	FY88	FY89	FY90	FY91
1. Agricultural Education Specialist	60	120	120	60	-	-	-
2. Animal Husbandry Specialist	60	120	60	-	-	-	-
3. Veterinary Science Specialist	-	120	120	-	-	-	-
4. Academic Administration Advisor/Short term	40	40	40	20	20	20	20
5. Short term Consultant	28	32	10	20	20	10	-
6. Visiting Scholars	-	-	10	-	10	10	10
7. Evaluation	-	-	25	-	-	25	-
Sub Total	188	432	385	100	50	65	30

Annex K

IAAS Program Implementation Plan

IAAS will implement project-supported programs and development activities according to revised rules and regulations for IAAS, as agreed upon by Tribhuvan University and IAAS. Summary plans and budgets for these activities are presented below.

1. Textbook and Teaching Manual Preparation Program

Textbooks and laboratory manuals are required in English for the five year B.Sc. program and in Nepali for the JTA program and for distribution to serving JTAs. IAAS will contract qualified Nepalese to prepare textbooks and manuals and have them published by commercial printers in Nepal. For each required text, IAAS will establish an expert committee composed of three faculty members. The expert committee will assist with selection of authors, provide guidance on required content, review drafts and offer guidance on revisions. This will be in addition to and outside of normal Institute duties and responsibilities.

IAAS will advertise to solicit expressions of interest from prospective authors whose credentials and previous work will be reviewed by the expert committee. An author or several co-authors will be selected to prepare each textbook or manual. In cases where two or more equally qualified candidates apply to prepare a text, the expert committee will ask each applicant to prepare one chapter of the text. The author whose chapter is judged best by the committee will be selected to prepare the text and other applicants will be paid Rs. 200 each.

The initial draft will be reviewed by the expert committee and, in the case of B.Sc. level texts, by the technical assistance contractor. Authors will revise textbooks as required by the expert committee.

It is particularly important that the texts be a) adapted to agricultural problems confronting Nepalese farmers, b) that they take into account the constraints affecting agencies serving farmers in Nepal and c) that they are adapted pedagogically to the skills, knowledge and motivations of students at appropriate levels in the Institute. All texts will utilize at a minimum, examples and data from Nepal. As faculty participate in more research and pilot extension activities, the content and form of the texts will focus even more on the Nepalese situation.

Authors will be selected irrespective of current employment or work assignment. Selection will be on the basis of work experience, academic record, teaching and research experience, previous publications, writing ability, and ability to complete work on a reasonable schedule. It is expected that many authors will be from IAAS or other institutes of Tribhuvan University and that others will be from the Ministry of Agriculture or the private sector.

Authors will receive honoraria for the preparation of textbooks and manuals. Expert committee members will also receive honoraria for their time in reviewing and editing. Upon satisfactory completion of writing, authors will receive 75 percent of the fixed honorarium. Following printing, authors will receive the balance of their honoraria. The expert committee will receive an honorarium following printing of texts. The honoraria for various texts are listed below.

<u>Honoraria (Rs.)</u>			
	<u>Author</u>	<u>Expert Committee</u>	<u>Typing</u>
<u>Textbooks or Reference Books</u>			
<u>B.Sc. and JTA Level</u>			
One credit course	12,500	5,000	2,000
Two credit course	25,000	10,000	4,000
Three credit course	37,000	15,000	6,000
<u>Laboratory Manual</u>			
<u>B.Sc. and JTA Level</u>			
One credit course	8,000	4,000	2,000
Two credit course	16,000	8,000	2,000

Following is an illustrative list of textbooks and manuals to be prepared:

A. Textbooks/JTA (Plant Science)

1. General Animal Husbandry (2 credits)
2. General Horticulture (3 credits)
3. Agronomy (3 credits)
4. Introduction to Agricultural Extension (3 credits)
5. Farm Management (1 credit)

B. Laboratory Manuals/JTA (Plant Science)

1. General Horticulture (1 credit)
2. General Agronomy (1 credit)

C. Textbooks/JTA (Animal Science)

1. Dairy Science (2 credit)
2. Animal Production & Management (3 credits)
3. Animal Nutrition & Fodder Production (2 credit)
4. Animal Breeding , Extension & Marketing (2 credit)
5. Animal Health I (2 credits)
6. Introduction to Fish Culture (1 credit)

D. Laboratory Manuals/JTA (Animal Science)

1. Animal Production & Management (1 credit)
2. Animal Health I (1 credit)

E. Textbooks/B.Sc. Program

First Year

1. Introduction to Fish Culture (1 credit)

Second Year

2. Introduction to Agronomy (2 credits)
3. Animal Husbandry (3 credits)

Third Year

4. Animal Husbandry II (1 credit)
5. Crop Production I (2 credits)
6. Vegetable Production & Ornamental Horticulture (2 credits)
7. Introduction to Soil & Soil Fertility (2 credits)
8. Genetics (3 credits)
9. Extension Education (2 credits)

Fourth Year

10. Nepalese Agricultural Development Strategy (1 credit)
11. Introduction to Dairy Science (1 credit)
12. Crop Production II (2 credits)
13. Fruit Production (1 credit)
14. Rural Sociology (1 credit)

Fifth Year

15. Farm Management (1 credit)
16. Nutrition and Fodder Production (1 credit)
17. Introduction to Plant Breeding (2 credits)
18. Soil and Water Conservation (1 credit)
19. Sociology of Rural Development (1 credit)

F. Laboratory Manuals/B.Sc. Program

First Year

1. Introduction to Fish Culture (1 credit)

Second Year

2. Introduction to Agronomy (1 credit)
3. Animal Husbandry I (1 credit)

Third Year

4. Introduction to Soil and Soil Fertility (1 credit)
5. Genetics (1 credit)

Fourth Year

6. Rural Sociology (1 credit)
7. Soil and Water Conservation (1 credit)

For the JTA Course, 8,000 copies of textbooks and 4,000 copies of laboratory manuals will be printed; for the B.Sc. program, 2,500 copies of textbooks and manuals will be printed. JTA course textbooks will be distributed to approximately 3,500 serving JTA/JTs. Of the remaining JTA textbooks and laboratory manuals, 1,000 will be placed in the IAAS libraries and the remainder sold to students. Of the B.Sc. level textbooks and manuals, 400 will

be placed in IAAS libraries and the remainder sold to students and GON agricultural staff.

Proceeds from sales of textbooks and laboratory manuals will go into a revolving fund for additional textbook preparation. This will enable IAAS to continue preparing and reprinting textbooks.

Costs are estimated in the following tables:

Estimated Costs for Publishing Textbooks
(6.5" x 9" per 1,000 copies)

<u>Type</u>	<u>No. Pages</u>	<u>Costs* (Rs.)</u>
One Credit Course Textbook	125	20,000
Two Credit Course Textbook	250	40,000
Three Credit Course Textbook	375	60,000
All Laboratory Manuals	100	20,000

* Includes printing, paper, binding, cover, and limited pictures and illustrations.

Estimated Costs Per Text For
Textbook/Laboratory Manual Preparation (Rs.)

<u>Book Type</u>	<u>Honoraria</u>	<u>Typing & Editing</u>	<u>Printing</u>	<u>Total</u>
JTA Textbook/One Credit	17,500	2,000	160,000	179,500
JTA Textbook/Two Credit	35,000	4,000	320,000	359,000
JTA Textbook/Three Credit	52,500	6,000	480,000	538,500
JTA Manual/One Credit	12,000	2,000	80,000	94,000
B.Sc. Textbook/One Credit	17,500	2,000	50,000	69,000
B.Sc. Textbook/Two Credit	35,000	4,000	100,000	139,000
B.Sc. Textbook/Three Credit	52,500	6,000	150,000	208,500
B.Sc. Manual/One Credit	12,000	2,000	50,000	64,000

Estimated Total Budget For
Textbook/Laboratory Manual Preparation (Rs.)

<u>Textbook/Manual</u>	<u>No. to be Produced</u>	<u>Cost Per Text (Rs.)</u>	<u>Total Costs (Rs.)</u>
JTA Textbook/One Credit	2	179,500	359,000
JTA Textbook/Two Credits	5	359,000	1,795,000
JTA Textbook/Three Credits	4	538,500	2,154,000
JTA Manual/One Credit	4	94,000	376,000
B.Sc. Textbook/One Credit	10	69,000	690,000
B.Sc. Textbook/Two Credits	7	139,000	973,000
B.Sc. Textbook/Three Credits	2	208,500	417,000
B.Sc. Manual/One Credit	7	64,000	448,000
Misc. Teaching Materials	-	468,000	468,000
Total Cost			7,680,000
US \$ Equivalent (rounded)		\$480,000	

The estimated budget and financial plan for this activity is as follows:

(US \$ 000)

<u>US FY</u>	<u>AID Contribution</u>	<u>GON Contribution</u>	<u>Total</u>
FY 85	30	10	40
FY 86	75	25	100
FY 87	75	25	100
FY 88	75	25	100
FY 89	75	25	100
FY 90	30	10	40
FY 91	-	-	-
FY 92	-	-	-
	-----	-----	-----
	360	120	480

II. IAAS Research Program

Research should be a major function of IAAS. It provides knowledge, skills and experience to the researcher, lends relevance to classroom teaching, and provides solutions to farmers' problems. If the Institute is to gain the stature and recognition it seeks, it will have to develop a research program aimed at solving some of the main problems in Nepalese agriculture.

The majority of the IAAS faculty hold degrees from overseas universities and possess skills in the functional processes of scientific observation, information-gathering, analysis and problem solving. This project will support the IAAS research program and provide opportunity for the IAAS staff to use their functional skills to generate new knowledge about Nepalese agriculture. This objective will be achieved only when researchers approach their investigations with an eye to agricultural conditions in Nepal.

Most of the faculty members are interested in conducting research. As the Institute physical infrastructure is developed and effective maintenance and academic support systems become operational, IAAS staff motivation to do research can be expected to increase. When AID/MUCIA funds were available during 1982-84, 24 IAAS faculty members started research activities. With the exception of one large project involving construction of fish ponds, costs average about Rs 36,000 (US \$ 2,400) per research project.

The utilization of research funds is governed by IAAS Research Committee guidelines and deliberations. This committee will be chaired by the Assistant Dean for Teaching and Research and will include the Farm Operations manager, academic department representatives, the Agricultural Development Officer and Livestock Development Officer of Chitwan District and the Deputy Administrator (Teaching and Research) as member secretary.

The IAAS Research Committee will review research proposals to its satisfaction and recommend them for funding. The Research Committee will assure that funded proposals take sufficiently into account the opportunities and constraints of Nepalese farmers, IAAS user agencies and IAAS graduates and attempt to develop technical solutions that can be readily conveyed to farmers.

The researcher is obliged to complete the research project and write a final report for the committee. Research findings will be published in the IAAS Journal and reported at GON agricultural workshops.

Ultimately the major impact the Institute will have on the farm population is the training it gives its graduates. Research findings should be used in the teaching program and should draw implications on how training can be improved to make graduates more effective in user agencies. As part of the research program, IAAS will conduct a continuing studies of the IAAS student body, needs for agricultural manpower; and the utilization of IAAS graduates.

Much of the research funded by the AID/MUCIA contract has been exploratory in nature and needs further confirmation. To maintain continuity, there should be follow-on studies to much of this research. Major areas identified for future research are:

1. Production and Management

A. Crops: research on agronomy, plant improvement, plant production and water management for food, pulse and oilseed crops to increase productivity per unit area.

B. Soils: soil fertility research and soil survey and mapping work to provide support information to production agronomists; research on soil conservation technologies.

C. Horticulture: research on feasibility of production of different kinds of fruits and vegetables to supplement dietary needs of the farm families in Chitwan; research on agro-forestry; plant improvement, plant protection, propagation, seed production, processing and preservation.

D. Livestock: research on genetic improvement, nutrition, and management of various species; research on housing, fodder management, animal health care and utilization of animal products and byproducts; research on environmental physiology animal traction, and integrated animal-crop farming.

E. Farming systems: interdisciplinary work on small farm agricultural production systems.

2. Social Science

A. Economics: study of farm management and marketing problems pertaining to small farmers; farming systems research to identify ways to better utilize farmers' resources; studies on land tenure problems.

B. Rural Sociology and Extension: research on effective teaching methodologies; the adoption diffusion process, changes in

the structure of agriculture, areas of conflict and changes and migration; socio-economic and cultural surveys.

3. Basic Science Research: work on crop plants and factors causing changes of maturity, sterility and yield; study of existing plant and animal species in the locality and their role in economic and ecological balances.

The above topics indicate the general areas of planned research activities. Specific projects will depend on individual interests, time and facility availability, needs of farmers and the GON, and progress of ongoing research.

Research projects will generally be low cost, utilizing procedures and equipment and materials readily available in Nepal. Research projects will generally be coordinated with the Ministry of Agriculture and collaborative projects will be encouraged. It is expected that research grants from the Ministry of Agriculture will be available to supplement the limited funding provided under this project. The project will provide research funds through the T.U. budget. Funds will be utilized according to revised regulations established by T.U. for IAAS.

Research Program Budget and Financial Plan

(US \$000)

<u>Items</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 97</u>	<u>FY 88</u>	<u>FY 89</u>	<u>FY 90</u>
Number of research projects	15	15	15	15	15	15
Total cost of project	25	25	25	25	25	26
Administration and support services (data processing, travel, weather station, insect collection, etc.)	-	5	5	5	5	5
Total	25	30	30	30	30	31
AID Funding	18.75	22.50	22.50	22.50	22.50	23.25
AID Funding (rounded)	19	22	22	22	22	23

III. IAAS EXTENSION PROGRAM

One of the major learning locations for IAAS teachers and students is the farmer's field. Unless IAAS works closely with farmers, it will not learn from them and will be less effective in addressing their needs and in orienting applied research towards real needs. IAAS has conducted pilot extension programs in Sharda Nagar Panchayat for nearly three years. The department of Rural Sociology and Agricultural Extension coordinates extension services in the pilot area through a separate exten-

sion office. IAAS extension programs benefit farmers in the pilot area and those from other parts of Chitwan District who come to IAAS for service and advice.

The rationale for IAAS's active involvement in extension and in pilot programs is to:

1. develop more appropriate and effective extension techniques;
2. disseminate and apply technical knowledge generated by faculty members;
3. monitor the special needs and problems of the farming communities so that IAAS researchers can respond to such problems and needs;
4. coordinate activities and cooperate with DOA, DOL, ADB/N, AIC, and cooperatives;
5. train students in extension work;
6. provide agricultural information to farmers in the surrounding area; and
7. complement teaching and research with experiences from extension activities.

The IAAS extension program will work with farmers to better understand their problems and needs and will encourage farmers to form farmer extension councils at the ward, panchayat, and command area levels. These farmer extension councils will help implement extension programs and will provide information to IAAS on farmers' needs and problems.

The IAAS extension program will focus its extension efforts in the following areas:

1. Women's Program to help farm women start income generating activities and help mothers improve their health and that of their children;
2. Livestock Improvement Program to provide veterinary services, establish breeding programs, and encourage farmers to grow fodder crops and trees;
3. Crop Production Program to introduce improved varieties of horticultural and agronomic crops, advise farmers in modern farming methods and coordinate farm inputs and credit availability through other agencies;
4. Farm Mechanization Program to promote use of appropriate hand operated tools and improved bullock harnesses and implements, make these implements available locally and train farmers in their use and artisans in their construction and repair;
5. Tree Planting Program to help farmers plant and nurture trees to meet food, timber, fuel and fodder needs;

6. Soil Conservation Program to inform farmers about soil erosion problems and initiate programs to protect valuable farm soils; and

7. Population Education Program to increase the awareness of the rural population of the consequences of increasing population and of the availability of family planning services and commodities.

The Assistant Dean for Extension, Training and Information will administer the IAAS Extension Program through the Extension Committee of the Department of Rural Sociology and Agricultural Extension. A core staff of 2-3 JT/JTAs working with farmer Extension Councils will implement the program with support from various technical departments and occasional involvement of IAAS students. Extension program targets are summarized in the following table:

Extension Program Targets

<u>Activity</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>	<u>FY 88</u>	<u>FY 89</u>	<u>FY 90</u>
Training Programs	5	10	10	10	10	10
Field Days/Tours	5	10	10	10	10	10
Trees Planted (Thousands)	2	2	10	10	10	10
Livestock Vaccinated (Thousands)	10	10	10	10	10	10
Livestock Crossbred	100	100	100	100	100	100
New Farm Implements Introduced	-	1	1	1	1	1
Crop Production Programs (ha.)	-	20	50	100	200	250
Farmer Technology Trials	1	3	3	3	3	3

AID/W will fund 75 per cent and the GON 25 per cent of extension program costs. Major equipment purchases (i.e., motorcycles and implement proto-types) and construction of extension office will be funded under World Bank parallel financing. The Extension Program budget is summarized in the following table:

Extension Program Budget and Financial Plan

(US\$ '000)

Item	FY 85	FY 86	FY 87	FY 88	FY 89	FY 90
Salary & Allowances	1.5	2.5	2.5	2.5	2.5	2.5
Equipment & Materials	2.5	1.5	1.5	1.5	1.5	1.5
Publications	-	0.5	0.5	0.5	0.5	0.5
Training Program/ Field Days/Tours	1.5	2.5	2.5	2.5	2.5	2.5
Tree Nursery	0.5	1.0	1.0	1.0	1.0	1.0
Miscellaneous	1.0	1.0	1.0	1.0	1.0	1.0
Total	7.0	9.0	9.0	9.0	9.0	9.0
Grand Total						52.0
AID Funding	5.25	6.75	6.75	6.75	6.75	6.75
AID Funding (rounded)	5.0	7.0	7.0	7.0	7.0	7.0
Grand Total AID Funding						40.0

IV. EQUAL ACCESS SCHOLARSHIP PROGRAM

The Equal Access Scholarship Program seeks to increase enrollment of female and remote area students at IAAS. Both groups could potentially make important contributions to agricultural development in Nepal.

In the case of women students, the AID-funded study, The Status of Women in Nepal, clearly substantiates that women have an important role in farm operations, both in terms of labor and decision making. Agricultural programs for women and a cadre of trained women are needed to bring about development and introduce new technologies to and through the female members of the farm families.

The greatest need for junior technical assistants (JTAs) and junior technicians (JTs) is in the remote hill areas of Nepal. However, students recruited from cities and the Terai districts are reluctant to serve for long terms in remote areas. Students from remote hill areas would be familiar with hill agricultural problems and would seek knowledge about those problems during training and be more inclined to serve in remote hill areas.

The measures outlined below will enable IAAS to better meet national needs for trained manpower and to select the most competent students for admission to IAAS. The major change relates to the means of publicizing student admission applications, which previously tended to limit the geographical areas from which the Institute could recruit.

In order to increase female and remote area student enrollment to IAAS, the project will work within the current student admission regulations, procedures and operating bodies established at IAAS. The following measures will be used:

1. The project will find announcements in national daily newspapers, i.e. the "Gorkha Patra", and on the national radio station, Radio Nepal, for two months prior to the opening of admissions. Previously, newspaper and radio announcements were made only one month before the admission deadline and remote area applicants were essentially eliminated because of the length of postal delivery time. The radio and newspaper announcements will specifically mention the availability of financial support for women and remote area students.

2. The Agriculture Development Officers (ADO) in all GON designated remote area districts will be supplied a sufficient number of IAAS admission forms. In order to limit the administrative workload of having a very large number of forms submitted to IAAS, the ADO will charge six rupees per form (less than 40 cents), as is required by IAAS regulations. This will enable prospective applicants to obtain admission forms right after completing their School Leaving Certificate (final high school examination). IAAS will further attempt to lengthen as much as possible the time between the opening and cut-off deadlines for student admission consideration.

The admission process is lengthy due to the practice of determining admission by merit as evaluated by the SLC examination marks. The results of the examination are posted only a couple of months before the admission cut-off deadline date. Formerly students would have to pick up admission forms from the IAAS offices in Rampur or Kathmandu. This effectively excluded most students from remote areas. By making the forms available in district ADO offices and by lengthening the time period during which forms will be considered, applicants from remote areas will be able to obtain, complete and post their applications much more rapidly. Postal delivery time from any place in the country is estimated to be approximately ten days. Two months from SLC exam results to admission deadline should provide sufficient time. Furthermore, students do not have to submit applications within the same year that they obtain their SLC scores. However, for administrative reasons, applications cannot be accepted throughout the year.

3. Once applications are received, IAAS will determine that the applicant is genuinely residing in a remote area by whether or not he passed his examination in a district designated as a remote area by GON. This is indicated on the SLC mark sheet which must accompany the admission form. Where remote area residents went to school in one of the major towns or a city, they will not qualify for remote area status.

4. The project will annually fund scholarships for new entrants for up to 20 women per year at the Rampur campus, up to 70 women divided between the two branch campuses, and up to 20 students from remote areas at the two branch campuses.

IAAS admits students based on SLC scores. Tribhuvan University has established that five percent of total annual enrollment will be reserved for remote area students regardless of their ranking or scholastic achievement. The project will fund scholarships for women and remote area students who qualify either on merit or under the five percent quota. Eligible students in each group will be ranked and scholarships awarded based on the ranking.

IAAS through Tribhuvan University provides scholarships to twenty-five percent of the total number of students enrolled annually based on the internal assessment examination developed by IAAS. As the accumulation of scholarships is not allowed, AID funded scholarship grantees are excluded from GON funded scholarship competition. The program, therefore, will in no way reduce the total number of scholarships which T.U. would have normally awarded if the project funded program had not come into existence.

5. The amount of the project funded stipend per person for both female and remote area students, will be 4,000 rupees (\$250) annually paid over a ten month academic year. On an annual basis this includes 3,000 rupees (\$188) for living and travel expenses, 500 rupees (\$31) for books and supplies and 500 rupees (\$31) for medical expenses.

This amount is probably not sufficient to cover the entire cost of student expenses but is sufficient to act as an incentive to increase enrollment of the two target groups. According to the existing T.U. regulations the amount of the T.U. scholarship is set at 2,100 rupees (\$125) annually. Actually student expenses for the academic year are estimated at around 5,000 rupees (\$313). The calculation of the project funded stipend is based on the T.U. regulated amount, plus extra for travel, books, and medical needs. Care was taken to arrive at an amount which would be fair to T.U. scholarship recipients and the rest of the student body whose families are sacrificing to finance their educations at IAAS. The evaluation in year three of the project will assess the degree to which the stipend has been an effective inducement to increased female and remote area student enrollment.

6. The project will fund radio time to announce the names of selected applicants in remote districts by radio in order that they will have sufficient time to travel to the campus. This is required due to the time constraints in the selection process and the postal delivery service.

7. The Student Admissions Committee will administer the Equal Access Scholarship Program.

Female and Remote Area Students on Scholarships

	<u>FY 86</u>	<u>FY 87</u>	<u>FY 88</u>	<u>FY 89</u>	<u>FY 90</u>
Women Students/ Branch Campuses	20	30	40	60	70
Remote Area Students/ Branch Campuses	20	20	20	20	20
Women Students/Rampur	10	20	40	60	60
Total	50	70	100	140	150

Estimated costs for the scholarship program are given in the following table. AID will fund 75 percent of the costs of the Equal Access Scholarship Program.

Estimated Financial Plan - Equal Access Scholarship Program (US \$)

	FY 85	FY 86	FY 87	FY 88	FY 89	FY 90
Radio/Newspaper Advertisement	500	750	750	750	750	750
Scholarships (All Campuses)	--	12,500	17,500	25,000	35,000	37,500
Total	500	12,750	18,250	25,750	35,750	38,250
Grand Total						131,250
AID Funding (Rounded)	--	10,000	14,000	19,000	27,000	29,000
Grand Total AID Funding						99,000

V. IAAS FARM AND CAMPUS DEVELOPMENT PROGRAM

The areas of the three IAAS campus farms are: Rampur - 182.5 ha.; Lamjung - 16 ha.; and Paklihawa - 22 ha. The farms are important to the IAAS training programs in that they 1) serve as a laboratory for teaching practical courses; 2) provide facilities for IAAS staff to conduct research; and 3) support IAAS extension work by demonstration and by production of improved genetic material for distribution.

In the past the farms have been poorly utilized. The reasons include; 1) lack of IAAS autonomy in farm budgets and use of proceeds to reinvest in the farms; 2) lack of necessary farm infrastructure; 3) lack of comprehensive farm plans; 4) division of farms into sections, i.e., horticulture, livestock, agronomy, etc., while integrated operation would be more efficient and would better reflect local integrated farming operations and 5) inadequate supervision and monitoring of farm operations.

The IAAS-II Project will assist IAAS to develop campus farms and operate them to better achieve their objectives.

A. Farm Plan: Development of a Farm Plan is included in the Work Plan for the IAAS-I Project. This Farm Plan will likely require further revision, but will serve as the basis for future development and operation of IAAS farms. The IAAS-II Project will provide, if necessary, short-term consultant services to complete the Farm Plan.

B. Farm Budget: Various reports have identified the need for some autonomy in IAAS farm budgets and for the establishment of a revolving fund for the IAAS farm. Tribhuvan University and IAAS will establish a separate fund and account for the IAAS farms. Proceeds from the sale of farm produce will go into the fund and will be available for the operation and development of the farms. The fund will be controlled by the Dean of IAAS and use of funds will not require approval of Tribhuvan University. Tribhuvan University will, however, retain authority to audit farm accounts.

A detailed farm budget should be prepared as part of the overall Farm Plan. The IAAS farms will require some financial support from Tribhuvan University each year, but this should be minimized by reducing farm operations that lose money and are not essential to the IAAS program.

C. Farm Management and Operations: A fulltime, qualified Farm Operations Manager will be assigned at Rampur at a rank equivalent to that of lecturer. The Farm Operations Manager will be assisted by five farm superintendents for 1) Agronomy, 2) Horticulture, 3) Livestock, 4) the Paklihawa Farm, and 5) the Lamjung Farm.

The Campus Land Utilization Committee will establish an over-all plan for use of campus land for farms. A Faculty Farm Management Committee chaired by the Dean with the Farm Manager as member secretary will be responsible for farm operations and for assignment of specific farm operations, crops, demonstration or researchers.

D. Farm Development: The IAAS-II Project will assist IAAS to complete necessary infrastructure to bring farms into full operation. In order to improve quality of student life and develop a positive campus atmosphere, the project will also fund development of campus field sports facilities and campus landscaping. Activities to be funded for the three campuses are presented below:

Rampur Campus

<u>Item</u>	<u>Rupees</u>
Tubewell Boring	1,960,000
Irrigation Channels (Concrete-400 m)	400,000
Brick Canal Lining	400,000
Channel Filling	200,000
Road Improvements	200,000
Fencing	1,800,000
Drainage Canals	200,000
Fish Pond Construction (5-7 ha.)	240,000
Campus Landscaping	100,000
Sports Field Development	100,000
Fodder and Fuelwood Planting	120,000
Farm Operation Support	300,000

TOTAL	6,020,000

Paklihawa Campus

Fencing	160,000
Irrigation Channel Brick 720 m)	340,000
Pumps (2)	40,000
Road and Walkway Improvement	40,000
Landscaping	20,000
Fodder and Fuelwood Planting	20,000
Farm Operation Support	50,000

TOTAL	670,000

LAMJUNG CAMPUS

Fencing	30,000
Irrigation Canal Improvement	150,000
Reservoir Construction (2)	30,00
Fodder, Fruit, and Fuelwood Planting	50,000
Compost Pit Construction	20,000
Terracing	100,000
Landscaping	50,000
Field Sports Facilities	50,000
Farm Operation Support	30,000

TOTAL	510,000
Grand Total for three campuses	7,200,000
US\$ Equivalent =	450,000

Estimated Farm Development
Program Financial Plan
(US\$ '000)

<u>Campus</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>	<u>FY 88</u>	<u>FY 89</u>	<u>FY 90</u>
Rampur	10	50	100	100	100	12
Paklihawa	4	20	15	5	-	-
Lamjung	4	20	8	2	-	-
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Total	18	90	123	107	100	12



His Majesty's Government

MINISTRY OF FINANCE
Bagh Durbar,
KATHMANDU
NEPAL

19th October 1984

Mr. Donald B. Clark
Chief
Office of Project Development and
Implementation Support
USAID/Nepal
Kathmandu

Dear Mr. Clark,

Further to our discussion, I would like to request, on behalf of His Majesty's Government of Nepal, to continue USAID support to the on-going development of the Institute of Agriculture and Animal Science (IAAS).

With regards,

Yours sincerely,

A handwritten signature in cursive script, appearing to read 'B. R. Shrestha'.

B. R. Shrestha
Under Secretary

Annex M

Certification Pursuant to Section
611 (e) of the Foreign Assistance
Act of 1961, as amended

The Institute of Agriculture and Animal Science - II Project (367-0148) will assist the GON to improve physical facilities of the Institute of Agriculture and Animal Science (IAAS) and its programs to train extension workers and B.Sc. level agriculture and animal science degree candidates. The GON has accorded technical agricultural training a high priority and has given the Institute of Agriculture and Animal Science sufficient personnel and budget to develop the Institute rapidly over the past ten years. The GON has adequately maintained and utilized the physical plant of the Institute and other facilities developed under previous AID-funded projects, and this Project will further assist the Institute to improve its maintenance systems and capabilities.

I, Dennis J. Brennan, the Director of the Agency for International Development Mission to Nepal, having taken into account among other things the maintenance and utilization of IAAS premises in projects previously financed or assisted by the United States, do hereby certify that in my judgement Nepal has the capability, both as to financial and human resources, to effectively maintain and utilize the Institute of Agriculture and Animal Science II Project.

Dennis J. Brennan
Director

Annex N

Background Documentation Used in Project Preparation

Project Paper - Institute of Agriculture and Animal Science Project (367-0102); USAID; June 14, 1974.

Project Paper Amendment No. 1 - Institute of Agriculture and Animal Science Project (367-0102); USAID; January 1981.

Project Paper Amendment No. 2 - Institute of Agriculture and Animal Science Project (367-0102); USAID; June, 1983.

Evaluation: An Analysis of Progress and Outcomes of the Institute of and Animal Science Project, Rampur, Nepal; Wu P'i Inc; September, 1983.

Staff Appraisal Report: Agricultural Manpower Development Project (Report No 4852-BD); World Bank; May 7, 1984.

Progress Reports - Institute of Agriculture and Animal Science Project/Contract AID/NESA-C-1197; MUCIA ; through 30 December, 1983.

Nepal Agricultural Sector Strategy Study (Vol. I and II); Asian Development Bank and His Majesty's Government of Nepal; December, 1982.

Administration and Management Study of the Institute of Agriculture and Animal Science - Draft Report; APROSC; April, 1984.

Trained Manpower for the Agricultural sector (Vol. I and II); APROSC; July, 1981.

Agricultural Manpower Development Project, Preparation Mission Report; FAO/World Bank Cooperative Program; March 8, 1982.

Work Plan for July, 1982 through September, 1984 IAAS-MUCIA Project; MUCIA; June 16-30, 1982.

Organizational Aspects of IAAS - Views in Progress; IAAS edited by Kailash Pyakural; 1984.

In-Service Training at the Department of Agriculture: An Analysis of the Present Situation and Program Proposal; Manpower Development/Agriculture Project; December, 1983.

Academic Plan/Development of the Institute of Agriculture and Animal Science - Preliminary Draft; Andrew J.Sofranko and Russell T.O'dell, MUCIA; June, 1984.

STATUTORY CHECKLIST

Items from the Standard Item Checklist have been reviewed and taken into consideration during the preparation of the project paper. Applicable items have been addressed in the project paper and/or the Grant Agreement.

- I. COUNTRY CHECKLIST - Please refer to the Country Checklist included in the Project Paper for the Radio Education Teacher Training -II Project (RETT-II; Project No. 367-0146).

II. PROJECT CHECKLIST

A. GENERAL CRITERIA FOR PROJECT

1. FY 1982 Appropriation Act Sec. 523; FAA Sec. 634A; Sec. 653(b).

(a) Describe how authorizing and appropriations committees of Senate and House have been or will be notified concerning the project; (b) is assistance within (Operational Year Budget) country or international organization allocation reported to Congress (or not more than \$1 million over that amount)?

(a) Project was included in FY 85 ABS & CP. A full CN will be sent to Congress before obligation in FY 1985.

(b) Yes.

2. FAA Sec. 611(a) (1). Prior to obligation in excess of \$100,000, will there be (a) engineering, financial or other plans necessary to carry out the assistance and (b) a reasonably firm estimate of the cost to the U.S. of the assistance?

(a) Yes; (b) Yes.

3. FAA Sec. 611(a) (2). If further legislative action is required within recipient country, what is basis for reasonable expectation that such action will be completed in time to permit orderly accomplishment of purpose of the assistance?

N/A.

4. FAA Sec. 611(b); FY 1982 Appropriation Act Sec. 501. If for water or water related land resource construction, has

N/A.

project met the standards and criteria as set forth in the Principles and Standards for Planning Water and Related Land Resources, dated October 25, 1973? (See AID Handbook 3 for new guidelines.)

5. FAA Sec. 611(e). If project is capital assistance (e.g., construction), and all U.S. assistance for it will exceed \$1 million, has Mission Director certified and Regional Assistant Administrator taken into consideration the country's capability effectively to maintain and utilize the project? Yes.
6. FAA Sec. 209. Is project susceptible to execution as part of regional or multilateral project? If so, why is project not so executed? Information and conclusion whether assistance will encourage regional development programs. No.
7. FAA Sec. 601(a). Information and conclusions whether project will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; and (c) encourage development and use of cooperatives, and credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture and commerce; and (f) strengthen free labor unions.
- (a) As project realizes goal of increasing agricultural production, and as Nepal is a net agricultural exporter, the project will result in increased agricultural trade.
- (b) A supply of educated technical personnel should facilitate development of the private sector.
- (c) N/A
- (d) N/A
- (e) The project should increase availability of information on improved agricultural technology.
- (f) N/A

8. FAA Sec. 601(b). Information and conclusions on how project will encourage U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprises). The project will utilize services of U.S. universities to provide technical assistance and arrange training for ten IAAS staff.
9. FAA Sec. 612(b), 636(b); FY 1982 Appropriation Act Sec. 507. Describe steps taken to assure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services, and foreign currencies owned by the U.S. are utilized in lieu of dollars. The GON contribution to the project is US\$ 5,640,000 equivalent which is more than 29 per cent of total requirements. PL480 funded India training will be utilized for the appropriate portion of degree training.
10. FAA Sec. 612(d). Does the U.S. own excess foreign currency of the country and, if so, what arrangements have been made for its release? No.
11. FAA Sec. 601(e). Will the project utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise. Yes.
12. FY 1982 Appropriation Act Sec. 521. If assistance is for the production of any commodity for export, is the commodity likely to be in surplus on world markets at the time the resulting productive capability becomes operative, and is such assistance likely to cause substantial injury to U.S. producers of the same, similar or competing commodity? N/A.
13. FAA 118(c) and (d). Does the project comply with the environmental procedures set forth in AID Regulation 16? Does the project or program take into consideration the problem of the destruction of tropical forests? Yes; Yes.

14. FAA 121(d). If a Sahel project, has a determination been made that the host government has an adequate system for accounting for and controlling receipt and expenditure of project funds (dollars or local currency generated there from)? N/A.

B. FUNDING CRITERIA FOR PROJECT

1. Development Assistance Project Criteria

a. FAA Sec. 102(b), 111, 113, 281(a). Extent to which activity will (i) effectively involve the poor in development, by extending access to economy at local level, increasing labor-intensive production and the use of appropriate technology, spreading investment out from cities to small towns and rural areas, and insuring wide participation of the poor in the benefits of development on a sustained basis, using the appropriate U.S. institution; (ii) help develop cooperatives, especially by technical assistance, to assist rural and urban poor to help themselves toward better life, and otherwise encourage democratic private and local governmental institutions; (iii) support the self-help efforts of developing countries and the improvement of women's status; and (v) utilize and encourage regional cooperation by developing countries?

a. (i) The project will be at IAAS campuses in rural areas of Nepal; will train extension workers to work in rural areas; attempts to increase the proportion of students at IAAS from remote areas; increases the relevance of the IAAS curricula to Nepal's agriculture; and will stimulate development of appropriate technologies.

(ii) The project will train personnel who will be available to staff cooperatives and other agriculturally related local institutions.

(iii) Trained extension workers will be better able to encourage local self-help development activities in Nepal.

(iv) The project will build dormitory facilities for 150 women at IAAS campuses and encourage recruitment of women faculty members.

(v) N/A.

- b. FAA Sec. 103, 103A, 104, 105, 106. Does the project fit the criteria for the type of funds (functional account) being used? Yes, Section 103.
- c. FAA Sec. 107. Is emphasis on use of appropriate technology (relatively smaller, cost-saving, labor-using technologies that are generally most appropriate for the small farms, small businesses, and small incomes of the poor)? Yes, to the extent that the project emphasizes any specific technologies.
- d. FAA Sec. 110(a). Will the recipient country provide at least 25 % of the costs of the program, project, or activity with respect to which the assistance is to be furnished (or is the latter cost-sharing requirement being waived for a "relatively least developed" country)? Nepal will provide 29 per cent of the project costs.
- e. FAA Sec. 110(b). Will grant capital assistance be disbursed for the project over more than 3 years? If so, has justification satisfactory to Congress been made, and efforts for other financing, or is the recipient country "relatively least developed?" (M.O.1232.1 defined a capital project as "the construction, expansion, equipping or alternation of a physical facility or facilities financed by AID dollar assistance of not less than \$100,000, including related advisory, managerial and training services, and not undertaken as part of a project of a predominantly technical assistance character). Nepal is a relatively least developed country.
- f. FAA Sec. 122(b). Does the activity give reasonable promise of contributing to the development of economic resources, or to the increase of productive capacities and self-sustaining economic growth? Yes.

g. FAA Sec. 281(b). Describe extent to which program recognizes the particular needs, desires, and capacities of the people of the country; utilizes the country's intellectual resources to encourage institutional development; and supports civil education and training in skills required for effective participation in governmental processes essential to self-government.

The project assists the development of Nepal's only institution for agricultural higher education. It will help develop the administration and programs of this institution to better serve the needs of Nepal's population.

III. STANDARD ITEM CHECKLIST

A. PROCUREMENT

1. FAA Sec. 602. Are there arrangements to permit U.S. small business to participate equitably in the furnishing of commodities and services financed?

Yes. Only technical assistance and training can feasibly be provided from the U.S. AID will attempt to involve a HBCU in a consortium with another educational institution to provide these services.

2. FAA Sec. 604(a). Will all procurement be from the U.S. except as otherwise determined by the President or under delegation from him?

Yes.

3. FAA Sec. 604(d). If the cooperating country discriminates against marine insurance companies authorized to do business in the U.S., will commodities be insured in the United States against marine risk with such a company?

Yes.

4. FAA Sec. 604(e); ISDCA of 1980 Sec. 705(a). If offshore procurement of agricultural commodity or product is to be financed, is there provision against such procurement when the domestic price of such commodity is less than parity? (Exception where commodity financed could not reasonably be procured in the U.S.)

N/A.

5. FAA Sec. 604(g) Will construction or engineering services be procured from firms of countries otherwise eligible under Code 941, but which have attained a competitive capability in international markets in one or these areas? Construction and engineering services will be funded by the World Bank and will be procured according to World Bank regulations.
6. FAA Sec. 603. Is the shipping excluded from compliance with requirement in section 901(b) of the Merchant Marine Act of 1936, as amended, that at least 50 per centum of the gross tonnage of commodities (computed separately for dry bulk carriers, dry cargo liners, and tankers) financed shall be transported on privately owned U.S. flag commercial vessels to the extent that such vessels are available at fair and reasonable rates? Compliance will be required for A.I.D. funded shipments.
7. FAA Sec. 621. If technical assistance is financed will such assistance be furnished by private enterprise on a contract basis to the fullest extent practicable? If the facilities of other Federal agencies will be utilized, are they particularly suitable, not competitive with private enterprise, and made available without undue interference with domestic programs? Technical assistance services will be procured from educational institutions.
Yes.
8. International Air Transport. Fair Competitive Practices Act, 1974. If air transportation of persons or property is financed on grant basis, will U.S. carriers be used to the extent such service is available? Yes.
9. FY 1982 Appropriation Act Sec. 504. If the U.S. Government is a party to a contract for procurement, does the contract contain a provision authorizing termination of such contract for the convenience of the United States? Yes, such provisions are standard in A.I.D. direct contracts.

B. CONSTRUCTION

1. FAA Sec. 601(d). If capital (e.g., construction) project, will U.S. engineering and professional services be used? World bank funded construction and engineering will be contracted according to World Bank regulations. AID funding will be utilized only for small farm development works which are only suited to contracting design work from local firms.
2. FAA Sec. 611(c). If contracts for construction is to be financed, will they be let on a competitive basis to maximum extent practicable? Yes.
3. FAA Sec. 520(k). If for construction of productive enterprise, will aggregate value of assistance to be furnished by the U.S. not exceed \$100 million (except for productive enterprises in Egypt that were described in the CP)? N/A.

C. OTHER RESTRICTIONS

1. FAA Sec. 112(b). If development loan, is interest rate at least 2% per annum during grace period and at least 3% per annum thereafter? N/A.
2. FAA Sec. 301(d). If fund is established solely by U.S. contributions and administered by an international organization, does Comptroller General have audit rights? N/A.
3. FAA Sec. 620(h). Do arrangements exist to ensure that United States foreign aid is not used in a manner which, contrary to the best interest of the United States, promotes or assists the foreign aid projects or activities of the Communist-bloc countries? Yes.

4. Will arrangements preclude use of financing:

- a. FAA Sec. 104(f): FY 82 Appropriation Act Sec. 525: 4. a.
(1) To pay for performance of abortions as a method of family planning or to motivate or coerce persons to practise abortions; (2) to pay for performance of involuntary sterilization as a method of family planning, or to coerce or provide financial incentive to any person to undergo sterilization; (3) to pay for any biomedical research which relates, in whole or part, to methods or the performance of abortions or involuntary sterilizations as a means of family planning; (4) to lobby for abortion? 1) Yes.
2) Yes.
3) Yes.
4) Yes.
- b. FAA Sec. 620(g). To compensate owners for expropriated nationalized property? b. Yes.
- c. FAA Sec. 660. To provide training or advice or provide any financial support for police, prisons, or other law enforcement forces, except for narcotics programs? c. Yes.
- d. FAA Sec. 662. For CIA activities? d. Yes.
- e. FAA Sec. 636(i). For purchase, sale, long-term lease, exchange or guarantee of the sale of motor vehicles manufactured outside U.S., unless a waiver is obtained? e. Yes.
- f. FY 1982 Appropriation Act Sec. 503. To pay pensions, annuities, retirement pay, or adjusted service compensation for military personnel? f. Yes.
- g. FY 1982 Appropriation Act Sec. 505. To pay U.N. assessments, arrearages or dues? g. Yes.

- h. FY 1982 Appropriation Act
Sec. 506. To carry out provisions of FAA section 209(d) (Transfer of FAA funds to multilateral organizations for lending)? h. Yes.
- i. FY 1982 Appropriation Act:
Sec. 510. To finance the export of nuclear equipment, fuel, or technology or to train foreign nationals in nuclear fields? i. Yes.
- j. FY 1982 Appropriation Act
Sec. 511. Will assistance be provided for the purpose of aiding the efforts of the government of such country to repress the legitimate rights of the population of such country contrary to the Universal Declaration of Human Rights? j. No.
- k. FY 1982 Appropriation Act
Sec. 515. To be used for publicity or propaganda purposes within U.S. not authorized by Congress? k. Yes.