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UNIVERSITY OF TENNESSEE

COLLEGE OF AGRICULTURE

DEPARTMENT OF AGRICULTURAL ECONOMICS AND RURAL SOCIOLOGY

ANNUAL TECHNICAL REPORT OF 211(d) PROJECT

1970 - 1971

THIRD ANNUAL TECHNICAL REPORT
July 1, 1970 - June 30, 1971

AID/Section 211(d) Institutional Grant
University of Tennessee
AGRICULTURAL ECONOMIC ISSUES IN INDIA

I. SUMMARY IN TERMS OF OVERALL PROGRESS TOWARD GRANT OBJECTIVES

This grant was made to help the University of Tennessee strengthen its competency in the economics of agricultural development in India and other countries, and to establish this area of specialization as a legitimate and continuing component of the University's teaching, research, and public service functions. The University has undertaken, through research and graduate instruction especially, to:

1. Increase University capability to assist India and other developing nations in agricultural economics.

2. Increase capability and interest among agricultural economists to provide such assistance.

3. Create greater professional awareness of the international dimensions of agricultural economics.

4. Stimulate interest among agricultural economists in international service careers with private or public entities.

5. Encourage and help university students in preparing themselves for careers related to international agricultural economics.

6. Provide graduate students with opportunities to gain experience with, and make useful contributions to, research analysis bearing on important problems of India and other developing nations.

7. Increase interest in and knowledge about the agricultural problems of India by involving all staff members in the university with relevant competencies.

Grant activities are based in the Department of Agricultural Economics and Rural Sociology, and center around provision for an International Professor (Dr. David W. Brown) to spearhead the work and augment existing teaching and research capability, fellowships for a limited number of U. S. graduate students with international career interests, international travel

to enable research and other informal linkages with agricultural economists in India, and flexibility for other creative endeavors that would not be possible for the University to undertake through its resources alone. There will be some direct results of the grant endeavor in terms of improved technical backstopping of AID contract work in India, useful additions to the pool of research knowledge, and preparation of several alert young agricultural economists for international service careers. But the main hope and expectation is that the grant will generate curricular improvements, expanded faculty interest and expertise, and a pattern of creative interaction on campus and with professionals abroad that will afford sustained contributions to professional analysis and assistance work in India and elsewhere. Although improved teaching and research in agricultural economics is the main focus, reinforcement of efforts elsewhere in the Institute of Agriculture and the University to strengthen the international dimension is regarded as part of the International Professor's task.

Grant work during the first two years (FY 1969 and 1970) concentrated on setting the stage for more teaching and research related to India and international agricultural economics problems. Needs for improving curricula and course offerings were inventoried. Four new courses on international agricultural development and program planning were established. A Ph.D. major in the Economics of Agricultural Development and a minor in Rural Sociology were instituted. Closer interaction among students, faculty, returned team members, and others with international interests was generated. A Committee on International Agriculture was created as a vehicle for arranging seminars and other special activities to acquaint students with world agriculture problems and service opportunities. Contacts were established with agricultural economists in Bangalore, Coimbatore, and elsewhere in India. Problems of Indian agricultural development that could usefully receive 211(d) research attention were delineated. The Agricultural Library stepped up its acquisition of international development materials and began a special India collection. The first 211(d) Fellow completed the M.S. degree and Ph.D. course requirements, and four other students with previous overseas experience were selected for study and research under 211(d). Complementary progress elsewhere on campus--new course offerings related to development and area studies, creation of a Division of International Education, and improvement of special activities for foreign students--took place during the same period.

This past year (FY 1971) the focus turned toward the substantive endeavor itself--accelerated improvement of instruction, initiation of India-related research, intensified help to graduate students with international career interests, and exposure of larger numbers of students and faculty to information about LDC problems and service opportunities. The International Professor taught two new courses on program planning and transformation problems for the first time, and made a start on special teaching materials related to these that may have use in other institutions in the U. S. and abroad as well. Innovative changes were tried out in two courses on world agriculture and agricultural development. Five 211(d) Fellows, as well as four other American students in the Department

with international service interests, either began or continued their graduate study programs. All but one have had previous LDC experience, and they as a group have made very significant contributions on campus as sources of new insight, participants in seminars and analytical brainstorming sessions, and leaders in several activities aimed at broadening student and community interest in international development, including a new evening World Food and Fiber Production seminar series.

A Ph.D. dissertation by an AID Participant was completed and dealt with ways to improve regulated grain markets in Mysore State. The first 211(d) Fellow was in Mysore State between November 1970 and March 1971 to do field work for his dissertation study, in collaboration with agricultural economists at Mysore University of Agricultural Sciences. He is analyzing farming adjustment potentials in the Tungabhadra irrigation area and possible ways to make water use regulations more consistent with these, and is expected to complete this by fall 1971. By June 1971, one additional AID Participant from India and three other 211(d) Fellows were beginning thesis or dissertation studies having relevance to Mysore problems. A comprehensive University Self-Study exercise conducted during the year, combined with renewed Experiment Station emphasis, is resulting in sharper research focus in the Department on Tennessee rural development problems, a by-product of which may be ideas and methodology of relevance to India and other devleoping countries.

Expenditures during the first three years of the grant--from July 1968 through June 1971 were approximately $109,580.00. This leaves a balance of $90,420.00 for the remaining two years. The largest three components have been the International Professor's salary, graduate student stipends and fees, and travel. No equipment purchases have been made.

Looking ahead to the next two years, FY 1972 and 1973, it will be necessary to taper down the pace of new undertakings related to further build-up of insight into Indian problems, unless the grant is augmented or other avenues become available. Emphasis during FY 1972 will be on meaningful completion of the 211(d) Fellows' research studies; development of additional teaching materials on agricultural program planning and administration, with special reference to India; and enabling additional faculty in the Department to gain firsthand analytical experience in India. It would be desirable for the two remaining Ph.D. Fellows and at least two faculty members to go to South India for limited time periods to collaborate with agricultural economists there in mutually helpful fashion. But funding constraints, as well as current uncertainties about visa authorizations, could curtail or prevent this.

It seems certain that, by the end of the five-year grant period, 211(d) will have "seeded" several improvements in the Department and the Institute of Agriculture which will result in Tennessee being a better place for specialized education related to agricultural devemopment and a source of expertise that AID and other groups can usefully draw upon in the future. Anticipated outcomes include stronger and more flexible curricular offerings; more channels on campus for faculty-student technical interaction; more widespread attention to LDC problems in teaching and student

activities; a strong library; greater faculty interest in and ability to apply subject matter to LDC analytical problems; and closer communication with professionals elsewhere in the U. S., India, and other developing countries who are also concerned with operational problems of agricultural transformation. There has already been some increase in the number of inquiries from students and sponsoring institutions who are interested in the kind of graduate program that the Department might be able to arrange as an outgrowth of the 211(d) effort. Some meaningful research and teaching-material contributions will have been made, but the surface will just have been scratched relative to needs abroad and to what Tennessee could potentially contribute as an outgrowth of its previous India involvements and its domestic work with low-income rural people.

As part of the CUSURDI "package", Tennessee has recently proposed a 211(d) grant augmentation and extension to enable the build-up of analytical insight to be carried to fuller, more cohesive fruition. The focus would be more sharply on the special problems of disadvantaged farmers, and the change-agencies working with them, in India and other LDC's. The scope of possible faculty and student involvement would be broadened to include any department in the Institute of Agriculture which has relevant competency to offer. If there were no such grant renewal, some additional research contributions could be made in the future, but these would have to be incidental by-products of work with students on dissertations, individual faculty involvements abroad, etc., rather than a cohesive institutional thrust.

II. SPECIAL ACCOMPLISHMENTS DURING 1970-71

Several developments during the year in the Department and in the Institute of Agriculture represented further progress toward improved competency and interest in teaching, research, and service related to international development. Some of the highlights reported below stem directly from the grant and the activities of the International Professor and the 211(d) Fellows. Others are contributions by persons and resources not directly tied to the grant but which have been complementary to 211(d) work and, often, closely intertwined with it.

1. Teaching Improvements and Faculty-Student Interaction. Two courses which had been newly approved were taught for the first time in Summer 1970 by the International Professor. Agricultural and Rural Program Planning (9 students) was aimed at upperclassmen and graduate students in various fields who are interested in change-agency program design and implementation at operational levels. Agricultural and Rural Transformations (5 students) was an advanced graduate seminar aimed at helping students to bring concepts and analytical tools to bear on practical development problems, using a workshop approach.

Since that time, Dr. Brown has started to develop a comprehensive set of notes related to program planning that hopefully can be of use elsewhere in the U. S. and abroad in teaching and in-service training.

Dr. Badenhop (returned Tennessee/India Party Chief and marketing advisor) had nine students in his undergraduate World Agriculture and Trade this year, and 12 students in his graduate-level Economics of Agricultural Development. In both, he tried out some innovative changes, centering around clearer definition of teaching objectives and an individualized institution approach.

In some other agricultural economics and rural sociology courses, there was increased interest among students in subject matter applications to development situations. In part this was a reflection of the increased number of graduate students in the Department with LDC experience. These students were occasionally called upon to give reports based on their overseas experience, and several term papers on LDC-related problems were developed, some of which will provide the foundations for thesis studies.

Following through with discussions with the Dean of Agriculture last year about possible ways to acquaint undergraduates with international problems and work opportunities, the faculty-student Committee on International Agriculture organized a World Food and Fiber Production seminar series during the Winter 1971 term. Mainly intended to enable interested undergraduates to "rub elbows" with faculty and other students who had worked overseas, it turned out also to be an effective vehicle for broadening the technical horizons of those with LDC experience. Topics included general aspects of working abroad, the Green Revolution, forage production in the tropics, world protein resources, irrigation, and forest resource development. Twelve students and four professors in agriculture and forestry participated regularly, three other students took part occasionally, and four other professors contributed to certain parts. Students who desired to do so received one hour of special problems credit for their participation. The seminars were held evenings in faculty members' homes.

Reactions to the series were gratifying and several of the students wanted to continue on a bi-weekly basis during the Spring term, with the idea of "tapping" other resource persons on campus who could provide useful insight. This was done, with one of the 211(d) Fellows handling the arrangements and at least one faculty member coming to each seminar. This Spring series was held evenings in the U. T. International House so as to be more accessible to students on the main campus. Attendance ranged up to 30 persons. Presentations included second generation problems of the Green Revolution, collective farms in Russia, food technology and world hunger, and comparisons of agricultural development in Australia and India. The students who stayed with the series throughout the Winter and Spring were mostly returned Peace Corps Volunteers, but various others came to one or more sessions.

On the agricultural campus a number of special seminars and informal group sessions related to international development were held, drawing on both campus resource persons and special visitors. Those of special relevance to 211(d) objectives included:

Sept. 23	Discussions with Dr. Donald C. Taylor, A/D/C Associate based in Bangalore, about emerging agricultural economics research needs and activities in South India, and specific dissertation study plans by Tennessee students.
Oct. 9	Seminar on agrarian and economic development in Bolivia by Dr. Carlos Morales, visiting political economist from Bolivia, through arrangements made by the Committee on International Agriculture in cooperation with the U.T. Office of International Education and T.V.A.
Oct. 29	Report by Mr. R. Deverajan of Tamil Nadu on applications of his tour of U. S. cereal manufacturing industries to South India. Arranged by the Department of Food Technology.
Nov. 20	Faculty-student get-together in the home of Professor Frank Woods, featuring Dr. Barrett, Head of Forestry, on Venezuela and possible Tennessee activities there.
Jan. 28	Agricultural Economics seminar by A.N.K. Murthy, AID Participant, on his Ph.D. dissertation study, "Developing and Restricting Regulated Food Grain Markets in Mysore State."
Mar. 17	Seminar on new agricultural research and action programs in Malaysia by Mr. George McDowell, Agricultural Development Specialist for the Peace Corps/Malaysia. Arranged by the Committee on International Agriculture.
Apr. 29	Agricultural economics seminar by Dr. M. Srinivasan, Professor of Agricultural Economics at the Coimbatore Agricultural College and Research Institute, on "Changing Perspectives in Indian Agriculture in the Development Decades." Visited Tennessee under an A/D/C travel fellowship.
June 11	Committee on International Agriculture seminar on agricultural development, research, and universities in Australia, by Dr. L. J. H. Teakle, soil scientist and retired Deputy Vice Chancellor, University of Queensland.

In the various agricultural departments, student clubs, and faculty homes, there were also a number of informal exchanges that drew on the international experiences of such persons as returned AID contract team members and consultants, returned Peace Corps Volunteers, visitors to T. V. A., short-term AID Participants, and others.

Less tangible, but perhaps especially significant in terms of growth in international interest and insight on the agricultural campus, has been the increased amount of faculty-student interaction with the 211(d) Fellows and other students with previous overseas experience. Of the 45 graduate students in the Department this past year, six were foreign students with professional experience in their home countries, eight others were Americans who had been with the Peace Corps, and one was an American

who went to and returned from India under 211(d) auspices. Of these Americans, five were funded during the year under 211(d) fellowships (two at the M.S. level and three at the Ph. D. level), and four were under Experiment Station workships or assistantships. Six of these American and foreign students were new additions who started graduate work in the Fall or Winter term. LDC experience represented among students in the Department included India (5), Malaysia (1), Taiwan (1), Korea (1), Venezuela (3), Bolivia (1), Ecuador (1), Peru (1), Upper Volta (3), Kenya (1), Gabon (1), and Senegal (1).

Biographical sketches for all but one of these nine American "international" students in agricultural economics were appended to last year's report. The additional student is Thomas H. Lederer who began M. S. studies in January 1971 and who holds a University workship. He completed undergraduate work in agriculture at West Virginia University and served two years with the Peace Corps in Mysore State, India.

The returned Peace Corps Volunteers on the agricultural campus--8 in agricultural economics and five in other fields--have not only been a fresh source of grassroots insight in teaching and research, but have also perked up the interest of a number of faculty and fellow students in international development through contacts in classes, seminars, and various informal settings. This group, along with certain foreign students and professors with overseas experience, has formed heart of various special endeavors this past year, such as the World Food and Fiber seminar series. The RPCV's and their spouses have had quite an impact elsewhere on campus and in the community too. Some individual and group contributions include leadership in organizing the Knoxville Walk for Devleopment; active reinforcement of various international student activities; leadership in continuing the World Food and Fiber series during the Spring term; organization of an "Instant International Issues" discussion series; a number of special talks to university classes, student clubs, civic organizations, churches, and school assemblies; a presentation on international development to the State 4-H Club Conference; several radio and T.V. interviews on development and volunteerism; and an article for the Christian Science Monitor related to international service. These are some of the reasons why it is felt that affording American students who have such backgrounds, interests, and energies with opportunities to take further study is a very meaningful component of endeavors like 211(d) to strengthen university international dimensions.

2. Research Activities. Parker Cashdollar, 211(d) Fellow who completed an M.S. degree and Ph.D. course requirements by August 1970, was in Mysore State from November 3 to March 20 to do dissertation research field work, in association with the Agricultural Economics Department at the Mysore University of Agricultural Sciences (MUAS). The problem investigated was cropping adjustment possibilities in the Tungabhadra irrigation area and possible ways to modify water localization regulations to improve effectiveness of water use. This was an integral part of a study series in Tungabhadra being conducted by MUAS under the leadership of Dr. Donald C. Taylor, A/D/C Associate in Bangalore. Cashdollar's work entailed a survey of farmer resource constraints and cropping patterns

in one of the distributaries near Sindhnoor, and piecing together input-output information about "progressive" cropping possibilities from various sources, such as recent farm management studies, demonstration results, water utilization analyses, and judgements of agronomists and other specialists.

The survey was conducted with the help of two agricultural economics students, and Mr. Cashdollar himself spent much time "up country." MUAS established a special interdisciplinary advisory committee to help him get started with the work, and Dr. R Ramanna, Head of Agricultural Economics at MUAS took active interest in the project. Also very instrumental was the technical guidance provided by A/D/C's Dr. Taylor and various members of the Tennessee AID team. This experience seemed to work out to mutual satisfaction, with Cashdollar learning much about India and its agriculture in a relatively short period and at the same time making new inroads in information and analysis of interest to persons in Mysore.

Since his return to Knoxville, Mr. Cashdollar has been tabulating and synthesizing the information in preparation for the linear programming analysis that will form the heart of his study. It is expected that the dissertation will be completed by Fall 1971.

Dr. M. B. Badenhop was in Mysore from June 10 to September 5, 1970 as marketing consultant with the Tennessee AID team. He conducted an analysis of needs and action possibilities for improving the food grain marketing structure . . . a companion study to that conducted by him the previous year in Tamil Nadu. One of his recommendations was that Mysore Department of Agriculture establish a market development and research unit. While in Bangalore, Dr. Badenhop also helped set the stage for Cashdollar's research.

As a follow-up to this marketing work, A. N. K. Murthy, AID Participant, initiated and completed at Knoxville a Ph.D. dissertation study of possible ways to improve [illegible]ulated food grain marketing systems in Mysore State. Out of this study came ideas about more systematic planning of market locations needed to be done in light of changing production-consumption patterns, and things that could be done to make services offered at any one market more efficient and equitable. Dr. Murthy returned to Bangalore in June 1971, where hopefully he will be able to continue this line of analysis as an MUAS faculty member.

The International Professor was in India under 211(d) for three weeks in February and March 1971 to help backstop Cashdollar's research, to lay groundwork for the next two 211(d) Fellows who propose to do research in India, and to bring himself up-to-date on emerging agricultural development problems and programs. Most of this time was spent in Mysore State. Contacts with agricultural economists in USAID, Ford, Rockefeller, and A/D/C/ at New Delhi were also made. Enroute back to the U. S. short visits with persons concerned with action program planning in Bangkok, Kuala Lumpur, and the Hawaii East-West Center were made. See Attachment A for more details.

By Spring 1971, Noel Rebello, the other AID-India Participant in the Department, had begun his dissertation research, which will focus on key allocative questions and informational needs in the planning of local-action programs related to farmers. He will use the new district-level Small Farmers Development Agencies in Mysore State as case in point. Emphasis will not be so much on definitive empirical results as on creative ideas about how planners and decision-makers can do a more effective job of selecting and blending programs, drawing especially on agency experience in the Tennessee region. It is expected that Rebello's dissertation will be completed by December 1971.

Two M.S. theses undertaken in the Department this year dealt with Asian countries and carry analytical possible implications for India. In March 1971 Ti Teow Choo, A/D/C Fellow, completed a thesis on possible ways to generate more self-sustained income and employment opportunities in Malaysian land settlement programs. Review of innovative ideas from Israel and other countries was an important part of this study. S. G. Kim, AID Participant from Korea, will by Summer 1971 complete a study of possible ways to gauge price and production impacts of food aid programs, using secondary data.

Some informal help was provided by faculty and students in the Department to Richard B. Reidinger in the statistical analysis of village-level survey data from Northern India related to problems of using irrigation water effectively. Reidinger is a Knoxville native who was completing a Ph.D. dissertation at Duke University and who had done the India field work under a USAID P.L. 480 Trust Fund contract. While in Knoxville, he gave a seminar presentation, participated in several otherrs, and provided helpful background based on his Peace Corps and study experience to other students who are involved in India-related work. Dr. Reidinger will be returning soon to India as part of the California-Davis water technology program at IARI, and continuing contact with his work will be maintained.

As part of the University of Tennessee's comprehensive self-study exercise this year, a review was made of future research priorities for the Department. Partly reflecting the renewed Federal interest in more research and extension in this area, special attention was given to intensified analysis of rural development problems and remedial possibilities. Some current and proposed research areas that could produce conceptual and methodological insights of relevance to India and other developing countries include: analysis of T. V. A. impacts on income and employment in the region; factors associated with farm family migration and mobility; delineation of functional economic areas in Tennessee; a socio-economic base study of rural areas, as a basis for grouping them according to development potentials and assistance needs; identification of low-income Tennessee farmers, their resource limitations, and impacts of public policies on their living levels; analysis of changes that have taken place in the quality of life of rural families; community involvements and leadership patterns among disadvantaged rural groups; ways to improve efficiency of water supply, waste disposal, and other rural services; projections of future changes in Tennessee agriculture; analysis of changes in demands for farm supplies and distributor response to these changes; simulation

analysis of the effects of proposed industry on rural areas; and analysis of farming adjustment problems and potentials on the Ames Plantation, among Rapid Adjustment program participants, and in other groups.

The International Professor's main involvements with organized research this year, beyond the 211(d) work in India, have been as chairman (7 students) and member (10 students) of graduate students' advisory committees, in addition to assistance to several other students who have sought help. He has not carried on any formal research projects of his own, but has devoted considerable time to the assembly and review of information about change-agency planning and implementation problems in the U. S. and abroad, as a basis for development of educational materials related to decision-making and administration.

3. Other 211(d)-Related Contributions and Gains in Institutional Competency. In August 1970, the International Professor, at the invitation of the Agricultural Development Council, participated in a two-day conference of A/D/C/ Fellows at the University of Missouri. This focused on needed contributions by rural social scientists in Asia and the implications for graduate study programs of Asian students in the U. S.

The International Professor, through agreement between USDA's Foreign Economic Development Service and the University, has been involved in the planning and conduct of an AID-sponsored agricultural policies short-course for ministry officials and other leaders from several developing countries. This will take place in and near Washington during August 1971. Dr. Brown spent a day in Washington in September to help with the initial planning, and has made subsequent contributions through correspondence. During the short-course itself, he will be with the group for portions of two weeks as a resource person and leader of discussions related to agricultural modernization, problems of small farmers, and policy innovations. Reimbursement associated with this activity will be channeled directly back into the Department's work related to international development.

Dr. Brown is also being involved in the AID-sponsored A/D/C Research and Training Network workshop group related to agricultural administration. The aim is to develop a set of teaching materials related to operational program planning and implementation and, perhaps, to test these out in a pilot training course. Following an initial meeting in December 1970, there has been additional correspondence and exchange of materials, and a second workshop meeting is scheduled for September 1971. This is very complementary to the new courses at Tennessee that Dr. Brown is developing and to the Indian programs receiving analytical attention under this 211(d) grant. It appears that the RTN workshop will be both a source of additional stimulation and insight, and a vehicle for disseminating ideas and educational materials evolved at Tennessee to a wider audience.

For the American Agricultural Economics Association meetings at Southern Illinois this summer, Drs. Brown and Badenhop have been asked to handle the contributed papers section of the session on international development. Some advanced students in the Department may be involved in the selection and review process as a learning activity.

The special India section of the Agricultural Library has continued to grow through regular library acquisitions, as well as through materials sent by the Tennessee AID-India team, interested Indian counterparts, and other contacts. The Agricultural Librarian has taken a very active interest in this, and help to the 211(d) Professor in selecting materials has been provided by Messrs. Badenhop, Dickson, Skold, and Thorpe. University budget limitations somewhat curtailed or delayed new purchases during the latter part of FY 1971. However, this collection is being used increasingly by persons from various parts of the campus, and the Library Division is making a point of doing all it can to facilitate additional acquisitions.

Also, in the Agricultural Economics Reference Room, a special collection of statistical reports and country information materials related to world agriculture was organized this year.

The International Professor, as a Peace Corps Career Consultant, has continued to have correspondence with returning Volunteers who seek help in selecting appropriate institutions and fields for graduate study. One interesting by-product has been feedback from these persons about the action programs and problems that they have been working with. A frequent characteristic of these returnees--as well as international students who have been referred to the Department by foundations and others-- is that they want to take a cross-disciplinary program of study that blends together such fields as agricultural economics, behavioral sciences, administration, and technical agriculture, rather than concentrating on economic theory and research methodology. Some increased in graduate program flexibility have been instituted these past three years but--as is the case for most U. S. agricultural economics departments--the varying needs of action-oriented students bear further attention.

The Southeast regional office of the Peace Corps plans to sponsor a two-day conference in September 1971 at Atlanta for agricultural professors and deans from state universities and smaller colleges in the region. The purpose will be to provide information about agricultural development needs and emerging U. S. assistance roles abroad, as well as to stimulate more attention to things that could be done on campuses to "internationalize" course offerings and to prepare interested students for overseas work. The help of Professor Brown, as well as Professor Skold in Agronomy, has been sought in jelling ideas for the conference, and they probably will be participating as resource persons.

Other activities in which the International Professor was involved this year included: (1) Participation in the special Self-Study exercise at the Department level, (2) writing and editing the report of the campus-wide Self-Study Committee on University organization and administration, and (3) membership on the selection committee for the McClure Fellowships (annual awards given by Tennessee donors to students who have made outstanding contributions to international development and world affairs). Dr. Brown also "hosted" several visitors from developing countries who were on special study tours in the U. S. These visitors, while involving a fair amount of time, have in return proven to be quite a valuable source of insight about problems and activities in other countries.

In addition to Dr. Badenhop, two members of the Agronomy Department served as consultants with the Tennessee/AID contract team in Mysore State during the year. Three team members returned to Tennessee from India. In January, Dr. D. M. Thorpe, who had served as Tennessee's Party Chief in India for three years, returned to campus and is continuing part-time as Assistant Director of International Agricultural Programs. This brings the number of Institute of Agricultural staff and administrators at Knoxville and elsewhere in Tennessee who have had firsthand experience in India to about 20, and has resulted in a considerably greater pool of expertise available to students and others than was the case two or three years ago. Largely because of the emphasis of the contract work on technical agriculture, firsthand experience in India in agricultural economics is still limited to three persons--Drs. Badenhop, Brown, and Whatley.

Two of the graduate students who came to Tennessee as an outgrowth of contacts with the International Professor took jobs this year. . . both related to international needs. Anthony Griffin, who is still completing M.S. work in Agricultural Extension, was appointed as the University's Associate Director of International Student Affairs in September 1970. Michael Fuchs-Carsch, who has completed Ph.D. prelims, is joining a special research unit of the U. S. Department of Commerce in Washington in July. This group, under contract with AID, is studying the implications of demographic changes in selected countries for development assistance strategies. Fuchs-Carsch hopes to develop a dissertation out of his initial work, so this will afford an opportunity for some members of the Department to learn from, and contribute to, this line of work.

Elsewhere on the Knoxville campus, there have continued to be several developments in the international dimension of relevance to 211(d). An Asian Studies Program was instituted and includes a new interdisciplinary course series as well as a number of offerings in individual departments. A course sequence, Comparative and Development Administration, was taught for the first time. In economics, the several existing offerings related to international development and trade were augmented with a new addition--Theory and Practice of Economic Planning--and Dr. Walter C. Neale has continued to offer graduate seminar courses with much attention to India, rural problems, and socio-cultural considerations in economic development. The International House and foreign student orientation activities were expanded further. A special survey of foreign students on campus was conducted to provide more insight about how the University could improve the learning and social environment for them. The Divisions of International Student Affairs and International Education have continued to make a special point of helping interested students and faculty on the agricultural campus through such activities as circulating materials and making arrangments for interaction with speakers and visitors related to international affairs and development. Despite budget squeezes in the University and the current popularity of such issues as ecology, administrative support of these two programs has been maintained.

4. Involvement of Non-211(d) University Resources. While it is hard to separate out all supporting elements, some University contributions that have directly augmented the 211(d) work in FY 1971 include:

. . . Provision of office facilities, computer and duplicating equipment, and a good share of the supplies for the 211(d) Professor and the students with international career interests.

. . . Allotment of a significant portion of the time of one other professor--Dr. Merton Badenhop--for teaching courses related to international development and advising graduate student research in this area.

. . . Time and effort by additional professors in agricultural economics and other fields in helping guide course programs and research studies of the 211(d) Fellows and other "international" students, as well as to reinforce special seminar series and to acquaint visitors from India with their work.

. . . Financial help under Experiment Station and NSF auspices to enable five students in agricultural economics, one in agricultural extension, and one in agricultural engineering to complete graduate work consistent with their international career objectives.

. . . New acquisitions in the Agricultural Library, amounting this year to perhaps 150 new titles for the India collection and 400 others related to international development.

. . . Administrative time on the part of the Department Head and the Director of International Agricultural Programs in reinforcing the 211(d) work.

III. EXPENDITURES TO DATE

Grant expenditures during FY 1971 were approximately $52,997.00. This brings the total amount utilized under the Tennessee grant from July 1968 through June 1971 to about $109,580.00, leaving only about $90,420.00 for the remaining two years of the present 211(d) grant period.

Main reasons for the higher spending level during 1970-71, as projected in last year's report, were the larger number of graduate students under the program and the work in India by one 211(d) Fellow. No grant funds were used for equipment.

Grant expenses for international travel were for two India trips as follows:

Parker Cashdollar, 211(d) Fellow, November 3, 1970 - March 20, 1971, to undertake field research in cooperation with the Mysore University of Agricultural Sciences.

For visa, shots, airfare, unaccompanied baggage, stipend adjustment, living allowance, local transportation, interpreter and other incidental research items . . . $6,187.00

David W. Brown, International Professor, February 11 - March 9, 1971, to backstop Cashdollar's research, plan future 211(d)-MUAS cooperation, and learn more about emerging agricultural development problems and programs in Mysore and four other places enroute.

For visa, shots, per diem, local transportation $1,854.00

P.L. 480 Rupee funds were utilized for air transportation and India-based expenses in connection with both of these trips.

Further details of expenditures through June 1971 and projected patterns are shown in Attachment B.

V. PLANS FOR FY 1972 AND A LOOK AHEAD TO FY 1973

Remaining grant funds during the final two years will not permit embarking on any new ventures of large magnitude, such as involvement of additional students, collaborative research in India of a long-term nature, or bringing a visiting professor to campus. In fact, the pace of activity stemming directly from the 211(d) grant will have to be tapered down sharply during the final year. But considerable can be done to "cement" the foundations laid in the Department and the Institute of Agriculture so that the grant will have resulted in enduring improvements in teaching programs related to international agricultural development, expanded faculty interest and competency, and some new analytical insights into the kinds of problems being encountered in countries like India

Specifically, emphasis during FY 1972 and 1973 will be on:

1. Affording one or two additional faculty members in agricultural economics with opportunity for direct analytical experience in India and/or other developing countries.

2. Research by the five 211(d) Fellows that has special bearing on agricultural program analysis and design at operational levels in South India.

3. Generation of a pattern of closer exchange of ideas at the technical analytical level.

   (a) among faculty and students in the Department and other units of the University and

   (b) between persons in the University and professionals elsewhere in the U. S., in India, and other developing countries.

4. Development of educational materials stemming from the 211(d) and other work during the grant period, with special attention to problems of disadvantaged farmers, operational change-agency planning, and India.

The Cashdollar 211(d) study on ways to improve water localization in Tungabhadra and the Rebello (AID Participant) study on district-level informational needs for agricultural planning are expected to be completed by December 1971. If they so desire, the Agricultural Economics Department of the Mysore University of Agricultural Sciences will be encouraged to make use of the studies in further amplifying these lines of analysis and in developing educational materials for dissemination in India.

During FY 1971 the two M.S. degree 211(d) Fellows will be starting and completing their thesis studies in Knoxville. Robert Thurston is planning to focus on ways to improve informational feedback from target-groups and local-level personnel in programs related to agricultural modernization. This will entail review of innovative ideas from the U. S. and other countries, and will highlight Venezuela and India applications. Thomas Vollrath plans in his thesis study to evolve a practical analytical construct for determining whether "mechanization" on small farms makes sense, using situations in Upper Volta and India as case applications.

During the Summer of 1971, Glenn Ames will begin conceptualization and literature review for his Ph.D. dissertation study, which will focus on possible ways to help small farmers alleviate their credit repayment problems, with selected situations in Mysore especially in mind. This links to a proposed research thrust by agricultural economists at the Mysore University of Agricultural Sciences, and it would be mutually beneficial for Ames to spend several months there, starting about January 1972. But remaining 211(d) funds and the Departmental budget being very tight, the possibility of his doing field work for an extended time period in India seems to be ruled out, unless special funding from another source, such as a P.L. 480 Trust Fund contract, can be obtained. Also, despite the interest of MUAS in having Ames collaborate in this work, current indications that the Government of India may be clamping down on allowing more students to go to India presents another uncertainty. So it may be that Ames' research has to be done entirely in the U. S. or diverted to another country.

The other 211(d) Fellow at the Ph.D. level, George Smith, will start some "warm-up" work in his dissertation study during the Summer of 1971, but will not concentrate on it full-time until Spring 1972, when his courses and prelims should be completed. The general problem that he tentatively intends to investigate is the systematic planning and phasing of agricultural research and extension programs in the dryland areas of Mysore. This relates to the accelerated attention that India and Mysore are now giving to dryland farming adjustment possibilities. The contribution that Smith can most usefully make will be pinpointed more precisely through correspondence in months to come. As with Ames, whether and the extent to which it will be possible for Smith to do research for an extended period in India remain uncertain for both funding and GOI-policy reasons.

Drs. Brown and Badenhop will serve as major advisors to these students, and other professors in agricultural economics, agricultural extension, agronomy, and economics will be involved as committee members. Although the research results themselves will represent only modest inroads into the whole spectrum of problems needing attention, it is anticipated that there will be important by-products. These include: demonstrating how analytical techniques and lessons learned from other countries can be brought to bear on change-agency problems of India, establishing a pattern of communicative interchange between Tennessee and Indian professionals, and providing additional faculty members with at lease indirect experience in applying their expertise to LDC problems.

In addition to teaching his two courses and advising these and other graduate students, the International Professor will concentrate this coming year on completing a cohesive set of teaching materials on the planning and implementation of "grassroots" agricultural transformation programs, with special attention to problems of choice and strategy associated with helping disadvantaged farmers of India. To the extent that this is complementary to 211(d) grant objectives, he will do this in concert with the A/D/C RTN workshop group on agricultural administration, since this appears to be not only a helpful source of analytical insight but also a useful vehicle for disseminating such materials and ideas. Dr. Brown will also provide initiative in boiling down and synthesizing results stemming from the 211(d) student research, as well as keep on the alert for research and action program ideas from Tennessee and other U. S. universities that have "spinoff" value for substantive or methodological application to South India. Using the student research projects as a point of departure, he will endeavor to generate more faculty-student interac on at the technical-analytical level on problems of concern to change-agencies in India. One possible avenue is an informal "brainstorming" series on the agricultural campus, in addition to continuation of the Committee on International Agriculture seminars and other activities.

If funds and other elements permit, the hope is that it will somehow be possible to stretch the remaining grant funds to enable one or more Departmental faculty to go to South India and perhaps other places to "get his feet wet" in LDC problems for a period of 4-6 weeks. If under 211(d) auspices, the intent would be neither to take on the role of a consultant nor, at the other extreme, simply to be "visiting fireman" who has no focus or particular contribution to offer. Instead, the idea would be to learn as much as possible about one or more problems related to his specialty (as well as to backstop any Tennessee students who may be in India) and to follow through with a think-piece for using in teaching or in stimulating more systematic analysis of the problem area explored. The particular person(s) selected will depend on several factors--relevance of specialty to the overall 211(d) endeavor and to emerging problems in South India; willingness to deal with applied problems; and genuine interest in making subsequent contributions to the University's international dimension (weaving LDC applications into courses, advising foreign students, participating in "international" seminars, etc.)

Some of the above activities will extend into the fifth year of the present grant, FY 1973. During that final year, unless additional outlets are found, it will be necessary to phase down the level of new analytical attention to India and other LDC's. Direct grant work would center around the International Professor and the remaining two 211(d) Fellows.

If a 211(d) augmentation and extension does come to be, the plan would be to undertake comprehensive analytical and information-building thrusts related to the unique problems of disadvantaged farmers in India. The work would be built around two organizational clusters--continuation of the agricultural economics-rural sociology component, and complementary contributions by persons in other units of the Institute of Agriculture who have special capabilities and/or experience to offer. The International Professor would be retained full-time under 211(d), various other professors would make contributions on a part-time or short-term basis, and additional graduate students would be involved.

If funding from 211(d) to enable such a comprehensive thrust does not become available, there will still be valuable and enduring contributions resulting from the present grant, as noted in the first section of this report. And there would still be an effort to build up more insight related to disadvantaged-farmer problems insofar as this can be done through dissertation studies of foreign students on the agricultural campus, occasional faculty consulting assignments abroad, contacts with visitors from developing countries, and other ad hoc means. But whether this could be done in very comprehensive fashion, or have focus on India, without some sort of special funding help is very doubtful.

SUMMARY OF INDIA TRIP
David W. Brown, International Professor, Feb. 11-Mar. 9, 1971

Feb. 11-14 Flew from Knoxville to Bangalore via most expeditious route.

Feb. 15-28 In Bangalore and other parts of Mysore State.

...Reviewed progress of Parker Cashdollar's 211(d) research study and helped pinpoint remaining fact-gathering needs.
...Spent three days in the Tungabhadra irrigation area with Cashdollar to become acquainted with the study site and to obtain additional information about cropping possibilities and water constraints.
...Visited several times with Dr. Ramanna (Head of Agricultural Economic at Mysore University of Agricultural Sciences) and Dr. Donald Taylor (A/D/C Associate) about future research plans and useful ties to 211(d) student studies. Also explored possible utilization of Tenn. computer facilities to reinforce MUAS agricultural economics research
...Reviewed program materials and visited with administrators and technicians (in MUAS, Mysore Department of Agriculture, Tenn./AID contract team and others) about recent changes in Mysore agriculture, emerging problems, and plans for new program emphases.
...Obtained materials for the Tennessee-India library collection.
...Participated in three seminars on program organization and administration with Dr. A. T. Mosher and officials from various Mysore agencies.

Mar. 1-2 In New Delhi.

...Met with Dr. W. E. Hendrix, USAID, about analytical needs and possibl P.L. 480 trust fund arrangements for research in India.
...Met with Dr. A. M. Weisblat (A/D/C), Dr. Clayborne Gilpatric (Rockefeller), and Dr. Joseph Ackerman (Ford) about emerging ag. econ. need and activities in India.
...Obtained program reports and overview materials for the Tenn.-India library collection.

Mar. 3 Flew to Kuala Lumpur with between-plane stopover in Bangkok.

...Visited with Dr. David Parbery and other members of the Asian Development Bank team, who are working with the Thai Accelerated Rural Development Department.

Mar. 4-5 In Kuala Lumpur, Malaysia.

...Met with Dr. T. F. Weaver (A/D/C Visiting Professor), Mr. Leo Moss (Peace Corps Country Director), and Raja Muhamad Alias and associates (Federal Land Development Authority) to learn more about new program ideas and coordination approaches of relevance to teaching at Tennessee and analytical work on India problems.

Mar. 6 In Honolulu.

...Met with Dr. Nicolaas Luykx (Director, East-West Center Food Institute to learn more about their plans and to touch base on plans for the A/D/C RTN workshop on agricultural administration teaching materials.

Mar. 6-9 Flew from Honolulu to Knoxville with two-day personal stopover in Tucson.

ACTUAL AND PROJECTED EXPENDITURES UNDER THE PRESENT GRANT

	Expenditures to Date			Projected Expenditures		Projected 5-year Total
	FY 1969 & 1970	FY 1971	Subtotal	FY 1972	FY 1973[c]	
Personnel[a]: Salaries	41,727	22,200	(63,927)	23,100	22,000	109,027
Fringe Benefits	3,107	1,739	(4,846)	1,850	1,760	9,456
Graduate Fellows:						
(No. on board)	(1)	(4-5)		(5-4)	(2-1)	
Stipends	6,978	19,402	(26,380)	17,900	9,200	53,480
Tuition	877	4,755	(5,632)	5,260	1,560	12,492
Travel, U. S. & abroad	3,538	3,738	(7,276)	5,900[d]	450	13,626
Other[b]	356	1,163	(1,519)	850	550	2,919
Sum of All Items	56,583	52,997	(109,580)	54,880	35,540	200,000

[a]Includes the International Professor and part-time support of one secretary.

[b]Includes special phone calls, postage, materials; student research items in India; some computer use.

[c]Composition of FY 1973 expenses very tentative, depending on whether other funds become available.

[d]Assumes one 3-month student research assignment, and 1 6-weeks faculty support assignment, in India. Plans may need to be modified.