

PILOT EXTENSION PROJECT
95768

PILOT EXTENSION PROJECT-FINAL REPORT

APRIL 1967-JUNE 1970

University of Agricultural Sciences, Bangalore
and University of Tennessee, India Agricultural Programme, USAID

PREFACE

The Agricultural University plays a significant role in agricultural development through agricultural research, agricultural education and agricultural extension.

Dr. K. C. Naik, Vice-Chancellor, University of Agricultural Sciences, Bangalore in his welcome address at the First Convocation in December 1966 set forth that the University of Agricultural Sciences is determined to keep the closest possible touch with farmers and farming practices of the State and thus be able to develop educational programmes which will be of maximum educational service to people of Mysore State. He also stated, that some pilot projects were taken up to serve as a solid base for a State-wide extension programme, avoiding the pitfalls of overlapping the functions of existing agencies.

Within this frame of reference, the University of Tenn/USAID planned the Pilot Extension Project for demonstrating the application of a new technology and conducting extension work more effectively. The simultaneous development of a Field Extension Service along with teaching and research is unique to the University of Agricultural Sciences and is recognised as a progressive and forward step in agricultural university development. The Pilot Extension Project was first established on April 1, '67 with the financial support of the USAID-UT India Agricultural Programme. It was originally sanctioned for one year and later it was extended for another period of two years upto June 30, '70, for an expanded purpose.

This report is the third and final report of the Project. It briefly summarises the work of the entire period. This was operated not only as a joint venture of the University of Agricultural Sciences and University of Tennessee, India Agricultural Programme USAID, but also as a cooperative endeavour with other state agencies.

The experiences gained in this Project have been utilised for the phased development of field extension work by the university. This report is for those who are interested in the agricultural development as well as improvement in application of knowledge through agricultural extension. It is hoped that this report would be of some interest to those concerned with agricultural universities and their extension education services.

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Director of Extension
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University Extension Service

Extension Phase of the University

The Vice-Chancellor of the University of Agricultural Sciences, Dr. K. C. Naik, recognises the importance of the University as a service oriented organisation for the people of Mysore State and the nation. His speeches and leadership clearly outlines the role of agricultural universities.

The following quotation summarises the thinking of Dr. K. C. Naik :

" The Agricultural University plays a significant role in agricultural development in the spheres of agricultural research, agricultural education, and agricultural extension.

In the words of Dr. James A. Perkins, 'The acquisition of knowledge is the mission of research ; the transmission of knowledge is the mission of teaching ; and the application of knowledge is the mission of public service '.
(Extension)

The University of Agricultural Sciences is founded on this concept. It builds a body of new and practical knowledge in agriculture ; it provides a more purposeful education to agricultural students and it enables practical application of science and technology to farming for the benefit of the farmers and the nation "

Statutory provisions

According to Section 4 (c) of the Act, the University is responsible to undertake extension education work for the benefit of the farming community of the State of Mysore. Section 20 states that the Director of Extension is a full time officer responsible for planning and executing the extension programmes based on the results of research.

The first Statutes framed under the Act, further elaborate the nature of extension work to be undertaken by the University. Statute 8 refers to the Extension Education Council which has the responsibility to consider and make recommendations on all matters pertaining to the extension education work in the State.

Statute 25 prescribes the following as the duties of the Director of Extension.

1. Prepare yearly programmes and budget needs for the education of cultivators and other non-students in connection with the extension schemes ;

2. Supervise off-campus programmes of the University dealing with the agricultural cooperatives, rural youth programmes, short courses for cultivators, training of non-students etc. ;
3. Cooperate with the Directors of Instruction in developing courses and in teaching students in the various aspects of extension education ;
4. Direct the development of information materials such as publications, films, etc., for use in all phases of the extension work ;
5. Be responsible to coordinate all agricultural extension education work in the state with the assistance and guidance of the Extension Education Council. To this end it shall be the responsibility of every member of the teaching and research staff engaged in any form of extension education work to keep the Director of Extension informed of all such activities involving conferences or correspondences.
6. Be responsible to the Vice Chancellor in the exercise of powers and discharge of duties under the Act.

With this frame of reference, the Director of Extension pursues certain activities of which the Pilot Extension Project occupied a significant place.

Objectives

An agricultural university with strong research programme is bound to be the main spring of new knowledge. If this knowledge is to flow to the points where it is field-tested and ultimately utilised, there should be appropriate channels. The university extension organisation is being developed with this end in view. It has a two-fold objective—first of providing as continuously as possible, new, dependable, profitable and timely information for extension use, second, of devising ways and means for progressively improving the quality and effectiveness of extension work.

Functions

In order to achieve these objectives, the University extension service performs the following functions:

- i) Undertaking field trials of new findings ;
- ii) Establishing early demonstrations on farmers' fields ;

- iii) Training professional men and progressive farmers in new farm technology ;
- iv) Serving as the primary source of agricultural information ;
- v) Stimulating research and enriching teaching.

Programmes

At present the Directorate of Extension has the following programmes in pursuance of the above functions.

- i) Providing agricultural information through simple literature like folders, fact sheets, brochures and other mass media like feature articles, success stories and news releases.
- ii) Advisory service through subject-matter specialists and supporting teaching and research staff ;
- iii) Organising training programmes for farmers, farm youth and farm women in agriculture.
- iv) Providing field guidance through extension guides and subject-matter specialists.

Field Extension Education Programme

With an object of developing a sound field extension education programme, a Pilot Extension Project was launched with effect from April 1, 1967 for a period of one year, at the first instance. The Project concentrated its attention on the popularisation of high yielding varieties of food crops. This Project was technically and financially supported by the UT/USAID India Agricultural Programme, Bangalore.

Subsequently the Project was extended for a period of two years with expanded activities and with particular emphasis on Farm Management. It came to an end on June 30, 1970 with the taking over of the Project by the University.

Based on the results of the Pilot Extension Project the Board of Regents of the University approved the establishment of an Extension Education Unit at Dharwar during the year 1969-70 and also continued the existing Pilot Extension Project at Hebbal as an University Extension Education Unit with effect from July 1, 1970.

Integration

The University of Agricultural Sciences fully recognises the importance of integration of teaching, research and extension, if the University is to be effective in providing educational service to the people of Mysore State. Continued progress has been made in this direction and there is growing recognition by the staff of the significance of integrated and cooperative team work between the three aspects—Research, Teaching and Extension. Thus, when the extension arm of the University is on the field, the entire university is providing the support.

Developing an Extension Service

The considered views of several committees, institutions and individuals with regard to development of an extension education programme in the agricultural universities reveal a wide consensus.

Extension Education, Essential

The concept of agricultural universities rests on the bedrock of agricultural research with a mission of acquiring new knowledge, agricultural education with a mission of transmitting new knowledge, and agricultural extension with a mission of applying new knowledge on farmers' fields. The University has therefore an integrated approach through a balanced development of research, teaching and extension education. The university cannot afford to do anything less than this if it should serve as a valuable instrument in rapidly modernising the farm occupation.

An agricultural university with a strong research programme, is bound to be the main-spring of new knowledge in agriculture. If this new knowledge is to flow to the points where it could be field-tested and ultimately utilised, there should be some effective channels. It is in this background that activities like extensive field-trials of new research findings, early demonstrations for illustrating the practicability of new practices, wider dissemination of agricultural information among those engaged in agricultural development as well as farming communities, and training of professional functionaries and progressive farmers, become important.

Legislation

The enabling Act of the University of Agricultural Sciences Bangalore places the responsibility for extension education in agricultural sciences on the University. According to Article 4 (c) of the Act, the University should undertake extension of agricultural sciences to the rural people of the State. Further, according to Article 20, the Director of Extension should be a wholetime officer responsible for planning and implementing extension programmes based on the results of research. The first Statutes of the University further spell out the extension responsibilities of the university. The Academic Council and the Board of Regents have considered the overall purpose and organisation of the university extension service.

Cummings Committee

An excellent summary of the distinctive features of the agricultural universities was made by a committee headed by Dr. Ralph W. Cummings in 1962 in the following terms :

- (i) The agricultural university recognises a responsibility and is responsive to the needs of the cultivators, in contrast to being only a seat of learning and scholarship. It assumes a responsibility for working towards the economic development as well as the improvement of the living standards of the people of the State.
- (ii) The chief medium through which the farmers derive the benefits of progress in agricultural research and education, under the agricultural university, is the extension organisation of the university which is, for that purpose, fully integrated with the teaching and research organisations.

This ensures a smooth and effective flow of the results of research and the benefits of the training programmes to the farm population, and in return, ensures easy transmission of the problems of the farmers to the research staff so that they can be tackled effectively.

- (iii) The territory of the agricultural university in respect of agricultural and related sciences includes the entire State in keeping with the principles and responsibilities Stated above.

Education Commission

Many expert committees concerned with agricultural education have unequivocally set out the responsibilities of agricultural universities with regard to extension education. The Education Commission, for instance, under the chapter "Education for Agriculture" (para 14.22) states:

"The agricultural universities should be entrusted with responsibility for the research facilities and programmes of agricultural development and for extension work which provides the necessary link between new elements of technology developed through research and its application to farm practice. This may be begun by entrusting responsibility for research immediately and that for extension progressively through a phased programme. These programmes can be expanded as staff and other resources permit. In their extension work the universities should cooperate fully with the supply, the service and other programmes and activities of agricultural department".

Government of India

The Union Ministry of Food and Agriculture is clear in its ideas as to the role of agricultural universities in respect of extension education. In its communication dated 28th June 68 to the Agriculture Production Commissioners the Ministry states (item 8) that "The States may also consider the advisability of attaching *extension wings to the research centres for entrusting them with extension work of nearby blocks areas*. This step appears necessary for enabling the research staff to undertake and identify the practical problems in their region, for reducing the time lag between scientific discovery and its field application, and for enabling the scientists to observe, assess and evaluate the effectiveness of the advice given by them in actual practice".

Fourth Plan Working Group

The sub-working group on man-power requirement for agriculture, concerned with IV Plan proposals, in its report (para 2.23) makes this statement: "It is felt that assignment of blocks or districts to colleges and universities for extension work would not only benefit the farmers by providing them the advice and guidance of higher qualified specialists but also improve the quality and content of education being imparted. The Universities and Colleges should also be able to maintain a line of communication with farmers, which would enable the research programmes undertaken by them and accelerate the field application of their discoveries. The staff requirement of Colleges and Universities should be proportionately enhanced if teaching institutions are provided with the opportunity and avenue for extension work".

State Representatives Agree

The summary record of the main conclusions of the meeting of the State Agricultural Production Commissioners 1968 also emphasises the point that agricultural universities should undertake the extension work in these terms. "It was emphasised by many that research was the main stay of the new agricultural strategy evolved and put into operation during the last few years. The concept of concentrating research, education and preliminary extension in agricultural universities also found favour".

ICAR Visiting Team

The ICAR visiting team to the University of Agricultural Sciences (1968) Bangalore also felt as follows: "The University may develop cooperative relationship and procedures with the departments of agriculture and animal husbandry which serve as the basis for a significant extension education responsibilities in future. For this purpose, there is need for strengthening extension education organisation of the university at various levels".

First All India Conference on Agricultural Education

In the general session of this conference held at University of Agricultural Sciences, Bangalore on October 24, 69, Dr. H. R. Arakeri, Director of Agriculture, Mysore State explained the gap which is existing in the extension activities at the district level and according to him "Field demonstrations and district trials should be organized by the university so as to convince the departmental officials and the farmers on new research findings".

The conference further recognised and recommended that "The University Extension Organisation should take up adaptive research leaving supplies and service part of extension and regulating measures of inputs to the State Government".

Ford Foundation

According to the report of "Outside Review Team on Plant Protection in India" during March 1970, the Ford Foundation states "The activities of an extension service are essentially educational by which information from research is disseminated to the cultivator. The organisation of the service at the University of Agricultural Sciences, though relatively small has nevertheless a well conceived operational programme both in the field and at the campus. This augurs well for the future".

In the report on "Power Aspects of Agricultural Development in the Tungabhadra area, Mr. Aristides Macris, Ford Foundation consultant remarked that "Mysore initiated an extraordinary reform when it established in 1964 a University of Agricultural Sciences to which it assigned the responsibility of organising and operating a technical programme for agriculture combining research with academic teaching and extension education. Seven more states in India have established similar universities. The decision to assign to

high-level scientific institutions the task of providing technical leadership to agriculture is fully justified in view of the extensive and ever growing role that science and technology play in agriculture both as a vital sector of the economy and as a mode of life for the majority of the State's (and Nation's) citizens. The important role of the Universities of Agricultural Sciences in the modernization of Indian agriculture is recognised and thoroughly described in the Education Commission Report (1966). The reform, by linking research with farm practice will ensure that the research programme is geared to the production of farm innovations which are adapted to local conditions. It also promises to raise the technical level of extension work through the University's programme of generating, testing and confirming new agricultural knowledge.

"It is important for the university specialists (in both extension and research) to have direct access to the villages and individual farms. For this purpose the university should be assisted to establish and operate a pilot extension project to serve as a laboratory for testing both farm practices and extension techniques. The pilot project would employ 10 farm advisors (or field extension workers) to serve one or two taluks. The project would help the university to develop practical solutions to real problems of the society.

The pilot project should test and demonstrate measures for developing a dynamic technical service for agriculture. Important among these measures is the use of highly qualified agriculturists in the field. The ten farm advisors in the project should be university graduates appointed as members of the university teaching staff. The development of the educational system in Mysore State and the establishment of the agricultural university make it possible to employ graduate agriculturists for reinforcing the field extension service. In the absence of sufficient numbers of fully qualified agriculturists, extension work has been conducted mostly by middle-level technicians, who are expected to play a similar role in the foreseeable future. However the effectiveness of agricultural extension (and the related programmes of research and teaching) will greatly benefit if graduate agriculturists are added to the field extension force".

Memorandum of Understanding

Initial Field Work

In order to fulfill the extension obligation of the university and also to make an educational contribution in meeting the food crisis, a bold venture was contemplated in December 1965. This was developed by the Vice Chancellor of the University, Professor Vernon E. Ross, USAID Advisor in Extension and the Field Director of Oxfam. Tungabhadra Project area was selected to put this programme into action, in February 1966. It was a joint venture of the University, State Departments of Agriculture, Community Development and Co-operation.

OXFAM supplied 5300 tons of fertilizers on Rupee payment. The campaign ultimately resulted in a total coverage of 13,700 acres of high yielding crops in Tungabhadra Project and Bangalore areas. This provided an excellent opportunity to the university to illustrate the use of various procedures and techniques of extension education.

The work that began with the contacting of rural leaders, group discussions, night meetings and demonstrations, was expanded into field days, farm visits, and educational tours. This was further supported with mass communication media like the special extension literature, publications, feature articles, success stories and release of press reports. All these provided a unique, rich experience in conducting extension work to achieve quick results.

This venture of popularising hybrid crops in Tungabhadra Project area and around Bangalore, caught the imagination of many people. It was appreciated not only by the average farmer of these regions, but also the farmers elsewhere in the State. This programme also attracted the attention of the administrators and policy makers in the state of Mysore. Besides, some of the authorities of the Government of India, USAID Advisors and others interested in agricultural development in the country also acclaimed this programme as one of the most significant ventures in conducting extension education work. As a result the Government of India made an offer of 5000 tons of fertilizers to the State of Mysore for initiating similar programmes.

The Pilot Extension Project in Bangalore district came into existence in this background. This project was supported financially and technically by the USAID, University of Tennessee / India Agricultural Programme. The Project at the first instance was put into operation from 1st April 67, on the basis of an agreement.

MEMORANDUM OF UNDERSTANDING

between

The University of Agricultural Sciences, Bangalore

and

The University of Tennessee/India Agricultural Programme/USAID

Subject: A project entitled "The Development and Operation of a Pilot Extension Organisation for Bangalore District, Mysore State".

The above referred project is proposed by Dr. D. M. Thorpe, Chief of Party and Prof. Vernon E. Ross, Agricultural Extension Advisor to the University of Agricultural Sciences, under the University of Tennessee/India Agricultural Programme.

This agreement witnesseth :

1. That the University of Agricultural Sciences (UAS) recognises the need for testing further, certain extension techniques and methods used in the OXFAM Project for the Tungabhadra Project area and in the hybrid maize work around Bangalore to evaluate their suitability in synthesizing the extension organisation of the UAS.
2. That the proposed project under the supervision of the Director of Extension, Mr. R. Dwarakinath and the U. S. Technician would provide the needed guidance to properly evaluate the organisation for possible adoption on a Statewide basis.
3. That the UAS does not now have the field staff and supporting equipment and supplies and that funds are not in the budget for such a project.
4. That USAID through the University of Tennessee/India Agricultural Programme, will provide funds (a) to appoint 11 extension guides (field workers) and one extension leader; (b) to purchase 11 motor cycles and one jeep for transportation; and (c) to bear the cost of operating and maintaining the vehicles for a period of one year beginning 1st April 67 and ending 31st March 68.
5. That the UAS will make available the services of the five subject matter specialists to train the extension guides and assist with the programme.

6. That the UAS, through the Director of Extension and his staff, in cooperation with a U. S. Technician will provide the needed supervision to carry out the Project in an effective manner.
7. That the Project will cover the district of Bangalore so as to provide a sufficiently large area to appraise how this type of organisation would function on a State-wide basis.
8. That the Project will have as its central objectives the providing of effective leadership in extension education by developing an action oriented programme designed to train and assist the personnel of the Department of Agriculture and Community Development. The proposal does not seek to replace the existing organisation in the field.
9. That the Project work shall be along the lines which Mr. B. N. Sundara Sastry, Mr. K. Thimmarayappa and Mr. G. Halappa, Extension Guides, have functioned this past year. This means that the Extension Guides will function as trainers and catalysts in developing the action programme.
10. That one extension guide will be provided per taluk plus an extension leader for the district, total of twelve positions.
11. If the Project is successful, it is presumed that the UAS will take over the responsibility of the work at the end of the first year and expand it to other districts as finances and trained personal permit.

(Sd.) Dr. K. C. NAIK
For the University of
Agricultural Sciences

(Sd.) Dr. D. M. THORPE
For the University of Tennessee
India Agricultural Programme, USAID

Purpose

The Pilot Extension Project In Bangalore district was started with a three-fold objective :

1. To demonstrate the effective application of the new technology of crop production in respect of high yielding crops.
2. To illustrate the more effective strategy of extension work built around good demonstrations and a wider educational use of such demonstrations.
3. To forge ways and means of coordinating the extension efforts of the university with those of other agencies already existing in the field .

Continuation of the Project

A proposal for continuation and future development of the Pilot Extension Project for Bangalore district and the establishment of extension programmes in five strategic areas in Mysore State was developed by Prof. M. Gist Welling, Extension Advisor and Deputy Chief of Party and the Director of Extension R. Dwarakinath at the end of the first year.

Objective

To assist the University of Agricultural Sciences in further development of the Pilot Extension Project in extension organisation and programme expansion on a scale sufficiently large enough to demonstrate State-wide applicability.

Justification

The extension activities of the UAS under the original one year project had been limited in scope to the establishment of improved practices in the production of food grain and vegetable crops. The accomplishments achieved during the first year have provided observation, experience and local support for the development of (1) a more comprehensive extension educational programme, and (2) cooperative working relationships and coordination of programmes with other agricultural agencies.

It is proposed to expand extension work in the Bangalore district to include extension programmes essential in agricultural development in the district and in Mysore State as a whole after pre-testing and demonstration in the pilot district. More specifically the expanded work will include :

1. Whole farm demonstrations involving crop and livestock combination designed to maximise net income, systems of multiple cropping, soil and water management, fertilizer use and adoption of improved practices.
2. Initiation of extension work in animal husbandary.
3. An educational programme on the utilisation of new crops such as maize, in the production of livestock products.
4. Introduction of youth work to test and evaluate methods for general adoption.
5. Development of a consumer education programme on the use of hybrid maize, new varieties of paddy and vegetables in cooperation with other agencies concerned with human nutrition.
6. Test and evaluate supporting informational services (mass media publications, meeting and visual aids).
7. Test and evaluate methods of providing specialist services in support of extension work.
8. Development of a pattern of organisation, administration and supervision applicable in an expanded extension programme.

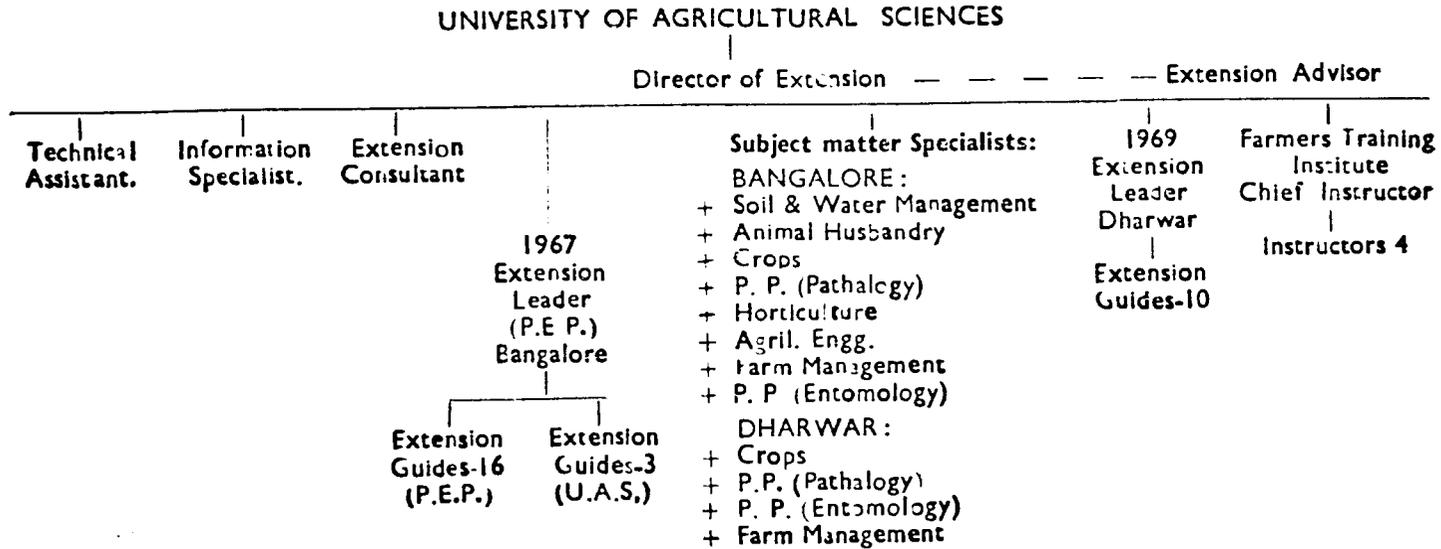
Area of operation

The area of operation was in all the 11 taluks of Bangalore district during the year 1967-68. Later when the project was continued for another two years, the area of operation was expanded to the neighbouring two districts of Kolar and Tumkur with 8 taluks. The following 8 taluks in addition to all the 11 taluks in Bangalore district were added to the Pilot Extension Project.

Kolar District		Tumkur District
1. Kolar	4. Sidlaghatta	7. Tumkur
2. Malur	5. Chickaballapur	8. Koratagere
3. Chintamani	6. Gouribidanur	

In all, the project had 19 taluks in the districts of Bangalore, Kolar and Tumkur.

The Director of Extension has a small organization in this early stage of development as per the chart below.



On conducting field extension work the operational unit consists of one extension leader and a set of extension guides. This unit is supported by the extension subject matter specialists, farmers training institute and the administrative group. As may be seen from the chart above, the hierarchical levels in the organization have been deliberately reduced to the minimum. This is done with the purpose of minimising the delays and distortions in communication, avoiding diffused distribution of responsibility and thereby increasing the over-all efficiency.

The functions performed by those that are directly connected with the Pilot Extension Project and those who provide the support are given in the following pages. The names of the staff working in the directorate of extension is given in appendix— I.

1. Extension Leader

- i) To be in direct administrative charge of the Pilot Extension Project Extension Education Unit on behalf of the Director of Extension.
- ii) To be responsible for the formulation and implementation of the total technical programme pursued in the Project.
- iii) To provide supervision and guidance to the extension guides in the Project.
- iv) To coordinate the Project work with the other units in the Directorate as well as other agencies.
- v) Any other assignment made by the Director of Extension.

2. Extension Guides

- i) To lay out field-trials of new findings as per overall performance of the Project.
- ii) To establish early demonstrations consistent with the plan of work in the Project.
- iii) To put the demonstrations to extension education use, through several extension methods and techniques.
- iv) Identifying and communicating field problems that require research attention.

- v) Assisting and conducting training programmes for professional workers and progressive farmers.

3. Extension subject matter specialists

- i) To organise training programmes for extension personnel and progressive farmers in their subject matter areas.
- ii) To assemble and process the available research data in respect of their subject matter studies for purposes of formulating specific extension recommendations.
- iii) To attend farm calls and make field visits as members of the farm advisory unit of the university and thus providing on-the-spot assistance to farmers.
- iv) To work in collaboration with the university research and teaching staff in respect of their subject-matter.
- v) Any other function assigned to them by the Director of Extension.

4. Information Specialist

- i) Processing Research information for extension use.
- ii) Designing and developing information material useful in all phases of extension work.
- iii) Collecting material for developing success stories, case studies etc., through visits to farmer's fields, research stations etc.
- iv) Preparing material for use through mass media, radio and newspapers for supporting extension work.
- v) Organising exhibitions at the state level and other levels in support of extension work.
- vi) Any other assignment given by the Director of Extension.

5. Extension Consultant

- i) To receive, process and reply letters received from farmers on technical issues, in consultation with the subject matter specialists.
- ii) To receive and respond to the requests received on the telephone for information and assistance on technical matters.

- iii) To receive and assist farmers visiting the Directorate of Extension for consultation and guidance.
- iv) Collecting and classifying information of technical nature in consideration of its current and future utility.
- v) Acting as the convenor in respect of professional activities, excluding those assigned to others, in the Directorate of Extension.
- vi) Any other assignment given by the Director of Extension.

6. Technical Assistant

- i) Assisting the Director of Extension in the preparation and implementation of technical programmes.
- ii) Assisting the Director of Extension in evaluating the programme and personnel.
- iii) Assisting the Director of Extension in preparation of reports and budgets.
- iv) Assisting the Director of Extension generally in office management.
- v) Any other assignment given by the Director of Extension.

Thus the organisation of the Pilot Extension Project is conceived and developed so as to be adequately effective, though small in size. The functions are defined clearly enough to avoid ambiguity and too wide a dispersal of responsibility. In the three and a quarter years of operation, the organisation has proved its soundness. It has served as a basis for further expansion of University Extension Services.



Dr. Olson, Chief of Agricultural Development, USAID,
Dr. K. C. Naik, Vice-Chancellor and Dr. D. M Thorpe, visiting
demonstrations in Pilot project area



ICAR visiting team observing a demonstration plot



Mr. Carrol Streeter, American journalist interviewing a farmer



Mr. Leonard J. Saccio, Minister Director USAID observing a demonstration plot



Mr. G. V. K. Rao,
Development Commissioner, with Father, Paul an early demonstrator



Mr. M. Gist Welling, Extension Advisor, briefing the press on
University extension work



A group of press representatives observing a Hybrid Maize crop



Press representatives involved in a discussion with a progressive farmer - Mr. Pinto



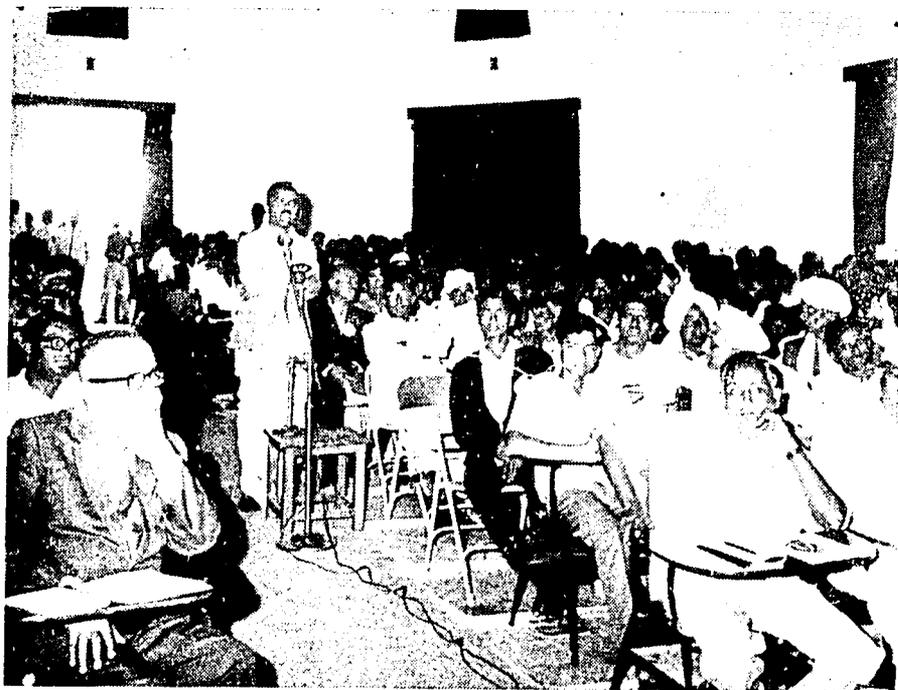
Representatives of Press In a Mexican Wheat plot of Mr. Annadanappa



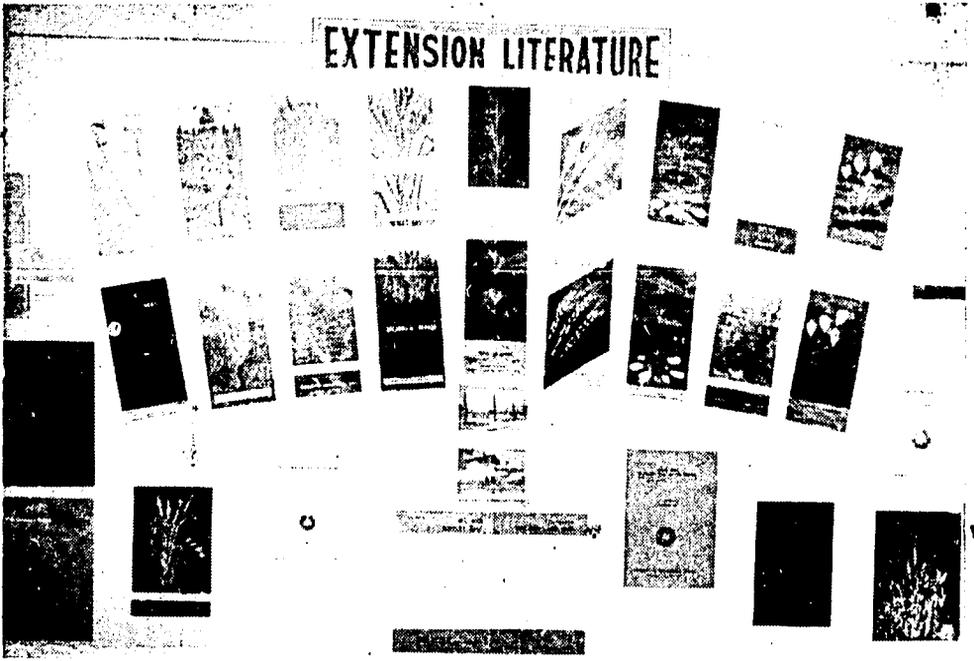
Press representatives appreciating a Purna Ragi crop



Farmers Day – a group of farmers observing a Mexican Wheat Crop at the University Research Station



Farmers Day – Farmers involved in a discussion



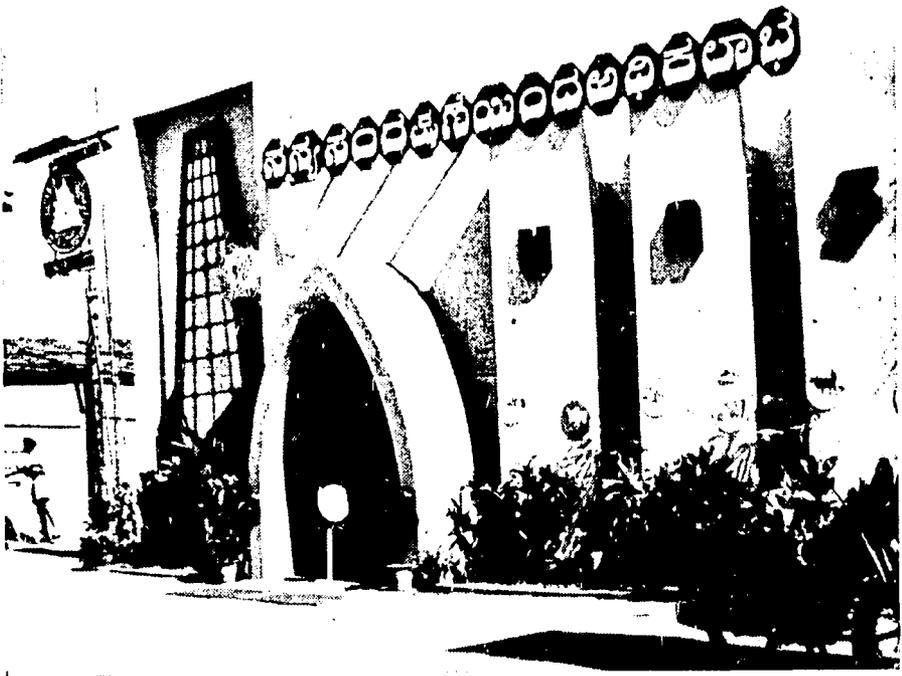
Extension Specialist assisting Extension Guide



An Extension Guide on motorcycle



Extension guides and specialists evaluating demonstrations



University pavilion at the Congress Exhibition



Mr. Ramakrishna an early demonstrator



Pintos are proud of their Hybrid Jowar Crop



University took over the Pilot Extension Project from July, 1, 1970

Operation of the Project

The Pilot Extension Project was operated with the main objective of providing educational assistance to farmers and other agencies in the field. The major effort is to make available the results of the research directly through the extension specialists and extension guides to the farmers and other agencies interested in farm development.

For this purpose the extension guides who work with the farmers on the farms were kept continuously abreast of research findings through bimonthly meetings at the university. At this time the problems of the farmers were brought to the attention of the specialists and research staff for solution. This close linkage between the source of knowledge and the immediate application of knowledge is the basis of success of the Project.

During the operation, the Project was manned by Mr. P. Hanumappa, extension leader and nineteen extension guides under the administrative leadership of Mr. R. Dwarakinath, Director of Extension. Guidance and support was provided in its operation by Dr. D. M. Thorpe, Chief of Party and Prof. M. Gist Weling, Deputy Chief of Party and Extension Advisor to the University of Agricultural Sciences, under the University of Tennessee/India Agricultural Programme. The financial support to this programme for the duration of the demonstration Project was furnished by USAID.

This project was initiated for one year from April 1, 1970 and later extended upto June 30, 1970 with expanded activities. The important feature was the advanced stage of extension work in respect to *whole Farm Demonstration and Multiple Cropping Programme*.

Crops Selected

The project focussed attention on certain selected crops in respect of which, specific techniques of production were employed. Mexican Wheat and IR-8 paddy were added to the list of selected crops in the later years. Crops selected for the Project were :

- | | |
|-----------------|------------------|
| 1. Hybrid Malze | 5. IR-8 Paddy |
| 2. Hybrid Jowar | 6. Hybrid Bajra |
| 3. Purna Ragl | 7. Mexican Wheat |
| 4. T-65 Paddy | 8. Vegetables |

Trials

Several trials of the prospective crop varieties were conducted during the project period. In this sphere of activity, attention was given to S 927 and S 929 ragi, IR 8 paddy, composite maize, hamsa ragi, soybeans, lime application on acidic soils, weedicides and fertiliser trials on wheat.

Early Demonstrations

The demonstrations on the selected crop varieties were laid out by the extension guides in different villages. All the demonstrations were laid in the fields of volunteer farmers. The purpose behind the early demonstrations is to introduce and popularise the new idea of practice. These demonstrations attracted attention and subjected to critical observation of the progressive elements. Simultaneously, these demonstrations provided very good opportunities for training the local extension functionaries and farm leaders. They in turn would enable a rapid spread of the recommended practice.

Farmers Volunteer

From the very beginning, a simple strategy of extension work was followed in this Project. The extension guide usually arranged group meetings bringing together willing farmers to discuss the possibility of adopting high-yielding crops in their respective areas. These meetings were mostly informal night meetings, where the new ideas were given full and frank consideration. A couple of farmers generally, volunteered to try the new ideas. These became the early demonstrators.

Establishing Demonstrations

The extension guide lost very little time from that point onwards. He took the earliest opportunity of working out the details of the demonstrations with the concerned farmers and establishing the demonstrations with field operations attended by him. Such personnel supervision in establishing the demonstrations had a two-fold benefit. One, the farmers came to recognise the extension guides as a practical and hard-working individual. Second, the extension guide had an excellent opportunity of ensuring the use of inputs and timely operations and also of making local modifications of recommendations wherever warranted.

Educational Use

After the establishment of the demonstrations, the extension guide put them to wide educational use which may be broadly grouped into

three categories. Firstly, informal group discussions were generated in the community to focus the attention of other farmers on the new crops and practices. This helped not only in widening the area of awareness of the local community but also in removing those doubts and misgivings that would have otherwise loomed large in their minds. Secondly, local field visits were organised for the purpose of enabling more farmers to observe the demonstrations and to make their own critical appraisals. Thirdly, extensive field trips were organised helping progressive farmers from other areas to come and observe the demonstrations and to have discussions with local farmers. This enabled the visiting farmers to become innovators in their own villages through whom the extension guide expanded the recommended practices in the new areas.

At Farmers' Cost

Other considerations were also there in this strategy of extension work. None of these large number of demonstrations established were linked with attractions like subsidies, grants or loans. All these demonstrations were set up entirely at the cost of the concerned farmers. The implication of this is that extension worker was required to have adequate technical competence to persuade the farmers to invest their resources in the unknown venture. It also meant that the farmers would examine the recommendations very critically and would agree to try them only when they were regarded as practically feasible.

Bunch Demonstrations

Another important consideration was the manner in which the numerous demonstrations were set up by the extension guides. It was recognised that it would be highly advantageous to have a large number of demonstrations in a bunch rather than spreading them too thinly over the area. The idea is that when the farmers find successful demonstrations of the new crops or techniques in large numbers, they are more likely to be convinced rather than when they see one or two isolated demonstrations which may be regarded as freak achievements. This move has also been responsible in securing wider acceptance for the new practices.

Oxfam, GOI Help

With the launching of this Project two other programmes also coincided. OXFAM which had associated with the University in the

previous year in a similar programme in the Tungabhadra Project area came forwarded to supply 10,000 tons of high-grade fertilizer mixture. As a part of this, 2000 tons of fertilizers were received during August 1967 and distributed to several taluk societies. Another 4000 tons came during June 1968. Similarly, Government of India also made a special allotment of 1515 tons of ammonium sulphate in support of the extension work by the university in Bangalore district.

Co-operative Effort

The success achieved in the Pilot Extension Project was a result of a joint venture. The university provided leadership in the educational aspects of introducing and popularising high yielding crops in the district of Bangalore. The university extension staff have through various extension methods and techniques established sound demonstrations, conducted field trials and provided opportunities of training for extension functionaries and progressive farmers. They formulated recommendations and introduced varieties of crops and techniques of farming, that have a place in the project area. The extension specialists of the university have supported the field extension work through their association in the implementation of the programme.

The State departments of agriculture, community development and co-operation provided valuable leadership in further expanding the benefits of this educational work, ensuring timely supplies and providing field services, so essential for a developing agriculture.

A working group consisting of the University Director of Extension, State, Joint Director of Agriculture, State Joint Registrar of Co-operative Societies and the Managing Director of the State Marketing Co-operative Society, which was primarily concerned with the utilisation of OXFAM fertilisers has also indirectly benefitted the Pilot Extension Project.

Continuous field guidance to Extension guides

The Director of Extension, extension leader and subject matter specialists gave continuous guidance to the extension guides during their visit to the fields. Further, the extension guides also brought their doubts and problems to the university and received the required solutions from the concerned specialists.

Continuous Inservice Training of Extension Guides

The fortnightly meetings convened, many times served as continuous inservice training for extension guides. In some of these meetings, a specialist would speak of specific topic of current importance followed by discussions. These meetings also provided an opportunity for the Director of Extension to develop among the staff a philosophy of educational service, and dedication to helping the farmer to help himself. This attitude of sharing in the knowledge to help another is a characteristic of Land Grant College concept of United States of America and is the basis of effective educational service to society, everywhere.

Evaluation of Demonstrations

A novel method was adopted in the Project for evaluating the demonstrations laid out by the extension guides. The extension guides and specialists were involved in the evaluation. Each extension guide was asked to name the 3 best demonstrations of his area in the season. A team of judges consisting of specialists and the extension guides visited these demonstrations and evaluated them in the score card specially developed for the purpose. (Appendix II).

The main purpose of involving the extension guides in this programme was to provide an opportunity for them to evaluate individually each aspect of the demonstration. By this means they learned the planning, conducting and educational use of the demonstrations.

In 1968-69 and 1969-70 such a learning experience was provided to the extension guides in evaluating each others work and selection of the extension guides who had laid out the best demonstrations and used them effectively in teaching.

Mobility

A distinctive feature of the Pilot Extension Project was the mobility made possible through the use of motorcycles provided to each extension guide. They were thus able to cover a larger area and provide educational service to more farmers, also they were able to supervise the demonstrations which were laid out, through timely visits.

The motorcycles made it possible to ensure wider use of technical ability. The lack of mobility is a limiting factor in educational service to farmers in India.

The extension leader and the specialists were provided mobility through the availability of a van. This van was used to provide transportation for supervisor and specialists visits to the guides and other transport needs to support the field staff. This transport was also useful for organising farmers visits to demonstration farms.

Freedom to Plan

The Extension Guides enjoyed the freedom to plan their educational programme with the farmers in the taluk. The Extension Director, extension leader and specialists provided guidance, counsel and encouragement to the extension guides. Reports were kept to a minimum and targets were not the criteria of the success of the staff. The simple technique created a sense of responsibility and desire to be creative and achieve through individual initiative.

Jurisdiction

The jurisdiction of the Pilot Extension Project was limited to the area around that of the Main Research Station, Hebbal. Each guide was assigned a taluk in which he would work with freedom to select the farmers where demonstrations were to be conducted. The guide was able to select the area in which he would work and when he could maximize the use of his technical ability as well as the resources in the taluk. This gave the extension guide a sense of responsibility to use his own initiative.

Dharwar Extension Unit

With the initial success seen in the Project, the Board of Regents of the University in their meeting held on 4th September 69 approved the establishment of the first Extension Education Unit financed by the UAS around the Regional Research Station, Dharwar. This Unit came into operation with the shifting of 3 subject matter specialists from Hebbal to Dharwar late in the year. These specialists did bench work studies on the Agriculture situation in the taluks to which the Extension Guides were to be assigned. Later on the recruitment of extension guides took place during November 69. The induction training for new extension guides was conducted at Hebbal from 25th November 69 to 24th December 69, (See Appendix III). The extension guides were assigned to their respective taluks for work from January 70. The Unit was added with one more subject matter specialist subsequently.

Initiating Extension Education work Around University Research Stations.

It is recognised that the University of Agricultural Sciences, Bangalore has a responsibility, according to the Act, to undertake the extension of agricultural sciences to the rural people of the State.

Various commissions and committees which had dealt with the subject of agricultural universities have consistently recommended that the extension education should be a necessary part of the responsibility of these universities.

With the Pilot Extension Project as the basis, the university now intends to initiate the extension education work around the regional and other important research stations in the State. This is consistent with the recommendation of Union Ministry of Food and Agriculture vide their communication dated 28th January '68 to the Agricultural Production Commissioner. For this purpose, units are proposed to be put into operation around the several university farms in a phased manner.

Overall plan

In fulfilment of the provisions of the Act and Statutes a broad pattern has been approved both by the Board of Regents on 13th March 1968. Accepting this pattern in principle a provision has been made in the University Budget for the year 1969-70.

1) Dharwar	One Unit	1969
2) Raichur (TBP area)	One Unit	1970
3) Bangalore (existing)	Two Units	1970
4) Mandya	One Unit	1970
5) Mudigere	One Unit	1971
6) Bijapur (Dry farming)	One Unit	1971
7) Bhadra Project	One unit	1970

Each of these units will consist of one extension leader, five extension subject matter specialists in the required fields of specialisation, ten extension guides and a small office staff.

The long term pattern of university extension organisation on the field is visualised below :

University Research Station	Attached Districts	Taluks	Extension Leaders	Subject Matter Specialists	Extension Guides
1. HEBBAL	1) Bangalore	11			
	2) Kolar	11			
	3) Tumkur	10			
		<u>32</u>	2	5	32
2. DHARWAR	4) Belgaum	10			
	5) North Kanara	11			
	6) Dharwar	16			
	7) Bijapur	11			
	<u>43</u>	3	5	48	
3. RAICHUR	8) Bidar	5			
	9) Gulbarga	10			
	10) Bellary	8			
	11) Raichur	9			
	<u>32</u>	2	5	32	
4. MUDIGERE	12) Chitradurga	9			
	13) Shimoga	9			
	14) Chickmagalur	7			
	15) South Kanara	8			
	<u>33</u>	2	5	33	
5. MANDYA	16) Coorg	3			
	17) Mysore	11			
	18) Hassan	8			
	19) Mandya	7			
	<u>29</u>	2	5	29	
			<u>11</u>	<u>25</u>	<u>174</u>



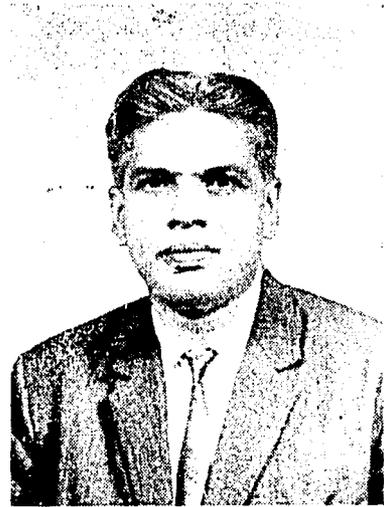
Dr. D. M. THORPE
Chief of Party USAID



Dr. K. C. NAIK
Vice Chancellor



Mr. M. GIST WELLING
Extension Advisor



Mr. R. DWARAKINATH
Director of Extension



Mr. P. HANUMAPPA
Extension Leader



Mr. A. SESHADRI IYER
Information Specialist



Mr. K. R. GANAPATHY
Technical Assistant



Mr. R. SIMHADRI
Asst. Crop Specialist



Mr. D. K. PATIL
Asst. Plant Protection Specialist



Mr. B. Chandrasekhara
Asst. Plant Protection Specialist



Mr. M. Vishakantaiah
Asst. Plant Protection Specialist



Mr. A. R. Srinivasaiah
Asst. Agri. Engineering Specialist.



Mr. V. C. Hittalmani
Chief Instructor F.T.I.



Mr. K. T. RAMACHANDRA
Extension Consultant



Mr. T. Chayapathy
Instructor F.T.I.

D



Mr. D. S. Channegowda



Mr. N. Gangareddy



Mr. E. Yellappa



Mr. D. G. Hemagriyappa



Mr. B. S. Basavalah



Mr. G. R. Gopala Reddy



Mr. T. Gopala Rao



Mr. K. Thimmarayappa



Mr. S. P. Ramalah



Mr. B. Krishna Murthy



Mr. H. Huliurappa



Mr. K. G. Srikanteswara Das

Accomplishments

In a statement in the July 1970 issue of Participant Journal Dr. K.C. Nalk, Vice Chancellor of University of Agricultural Sciences, Bangalore, indicated that the Pilot Extension Project had successfully accomplished its main purpose of demonstrating an effective strategy of extension work.

“Communication of the technology to practising farmers and training of the farmers and personnel are the duties of the University Extension Directorate. The organic link between teaching research and extension helps also to ensure that there is a two-way flow from the farmer to the research worker and the class room, and from the research worker and the class room, and from the research laboratories and teaching departments back to the farmer. The extension work has already established the value of this university as an effective service-oriented organisation. A hybrid maize project in Tungabhadra area and a Pilot Extension Project on high-yielding varieties in Bangalore district—both undertaken by the university during 1966-68 have promoted an ultimate coverage of about 13,000 and 24,000 acres, respectively. Adopting newer techniques and methodology these projects have made it possible for our field extension guides to educate more farmers in a shorter time and produce a significant impact on the process of transformation from the traditional into modern farming than by the conventional methods in vogue, so that the farmers have begun to appreciate this new channel of service, in which they have developed faith and confidence.”

Objectives and their fulfilment

1. To demonstrate the effective application of new technology of crop production,

The Pilot Extension Project has demonstrated the effective application of new technology of crop production. The summary of demonstrations indicates the application of technology on the farm by the farmers as a result of the educational work of the extension guides.

The link between the research station and the farmer has been shortened in the Pilot Extension Project area and the problems of the farmers were brought to attention of researchers during the bimonthly training meetings of extension guides at the University of Agricultural Sciences. The direct and continuous two way flow of information between the university and

the farmer has contributed to effective application of new technology. This is recognised by the farmers that agricultural leadership and university as a basic principle and criteria for an effective extension service in India.

2. To illustrate a more effective strategy of extension work built around sound demonstrations and wider educational use of such demonstrations.

The development of extension programme around good demonstrations on the farms and the use of these demonstrations as teaching situations has been successful. Learning by doing, rather than by telling has developed the necessary attitudes, skills and ability so that farmers can accept and apply the latest technology. The establishment of demonstrations at farmers cost has convinced other farmers of the soundness of the recommended practices and has helped to extend information and its application. The close supervision by the extension guides resulted in successful demonstrations.

The extension guides and other extension staff members also learned by doing, under the overall supervision of UT/USAID technician and the immediate supervision of the staff of Directorate of Extension. This learning experience has resulted in a staff capable of continuing the project under supervision of university.

Prof. M. Gist Welling, Extension Advisor and Deputy Chief of party Tenn/USAID said : "The Extension Director recognised the importance of development of a competent staff through active involvement in the direction and operation of the Pilot Extension Project. This resulted in a smooth *transition* to the university as it should be with the UT/USAID working themselves out of a job as planned.

The Rockefeller Foundation

The special report from the Rockefeller Foundation a *Partnership to Improve Food Production in India* gave due credit to agricultural development in the Pilot Extension Project area. The work of Prof. Vernon Ross Tenn/USAID, along with K. A. Jalihal and J. Sreenivasa Murthy of UAS extension service in their initial demonstration work with the Ramakrishna brothers in maize production is highlighted. Also the report depicts the results of the extension work of UAS as technical information is taken to farmers such as Ramakrishna and the Pinto's of Mysore State by the extension guides on motorcycle or through radio and news media.

3. To forge ways and means of coordinating the extension efforts of the University with those of other agencies already existing in the field.

The Pilot Extension Project pointed out the need for coordinating the efforts between the university and other agencies already existing in the field. Perhaps the outstanding accomplishment in this area was the development of joint recommendations on high yielding varieties by the University of Agricultural Sciences and State Department of Agriculture. The recommendations jointly developed were published as joint publication of the University of Agricultural Sciences and the State Department of Agriculture. This first publication was in 1969, followed by a revision in 1970. Wide use has been made of these publications.

In 1970, the same procedure was used in developing a joint publication on horticulture crops between the University and State Department of Horticulture.

A draft memorandum of understanding between the University of Agricultural Sciences and the Department of Agriculture has been the basis of objective discussions which have led to mutual understanding between both agencies

The Directorate of Extension had meetings of agricultural extension officers, Blok development officers, Presidents of taluk board to a joint meeting at University of Agricultural Sciences to explain the work being done in the Pilot Extension Project. The same procedure was used in the establishment of Extension Education Unit in the Dharwar area.

Short term training programmes were given to agricultural extension officers. A list of these training events are given in the Appendix IV.

4. Whole farm demonstration involving crops and livestock combination designed to maximize net income.

Whole farm demonstrations were initiated by the extension guides in each of the 19 taluks of the Project, after training in farm management by the extension farm management specialist and Tenn/USAID advisor in farm management Dr. Estel Hudson, each of the guides developed a complete farm plan with a farmer in his assigned taluk. This training and actual experience is the basis for an expanded educational programme with farmers in farm

management. The records kept by cooperating farmers under the supervision of the extension guides will provide practical information on farm operations for continued expansion.

The soil test crop response correlation trials established after training course conducted by Tenn/USAID advisers, Dr Robert Polner and Dr. Bill Bishop in the 19 taluks demonstrated the value of fertilizers in crop production and at the same time provided training the guides in laying out and conducting field trials.

5. Initiation of Extension Work in Animal Husbandry.

A position of the extension specialist in animal husbandry was established based on request of farmers in Bangalore district who were interested in more information on dairy management. This position is relatively new and the first step undertaken was a general study of problems of dairy, poultry and livestock. Material has been collected for the preparation of fodder as silage, cultivation of fodder grasses as well as breeding, feeding, and management of dairy animals.

The development of the Animal Science Department will give added and needed support to field extension staff.

6. Introduction of Youth Work to test and evaluate methods for general adoption.

The Rural Youth Seminar conducted at University of Agricultural Sciences, February 4-6, 1970 by Director of Extension was the basis for a proposal for the establishment of Pilot Youth Project, similar to the Pilot Extension Project. Financial support from USAID has not been obtained for this much needed demonstration project which is recognised by the Mysore State Director of Youth, Government of Mysore, University of Agricultural Sciences and participants in the Seminar.

7. Development of Consumer education programme on the use of hybrid maize, mexican wheat, new variety of paddy and vegetables in cooperation with other agencies.

The introduction of new varieties in the Pilot Extension Project created interest in the use of these varieties at field days at the university. Food products from maize, mexican wheat were demonstrated. Also men and

women participating in the farm training, short courses were introduced to new products by the demonstrations given by the home economics staff. The demonstrations in the villages by the Farmers Training Institute were arranged for and supported by the extension guides. This educational activity has created interest and resulted in the establishment of a Mobile Nutrition Unit to conduct nutrition demonstration by utilising new crop varieties in the villages. This is a part of the endeavour of Directorate of Extension and Wheat Associates of America.

The Bakery Training School, also a joint venture of the Extension Directorate and the Wheat Associates of America is an outstanding demonstration of the use of wheat in bakery products. The importance of this educational activity has increased due to the production of Mexican Wheat in the Pilot Extension Project area and in Mysore State.

8. Test and evaluate supporting information services. (Publications Mass media, Radio, Visual aids, etc.)

Information activities of the Directorate of Extension are designed to support the field Extension work, Farmers Training Institute and farm advisory service. The information service covers a wide range of activities; feature articles, press releases, question and answer columns in newspapers, extension folders, brochures, fact sheets and radio programmes.

The following feature articles were issued during the period.

1. Purna Ragi -- An Irrigated Crop
2. Hybrid Maize as a Rainfed Crop -- Rao's Experience
3. Let us Grow Better Maize
4. Coconut Milk Extender -- An easy Technique in Livestock Improvement.
5. Diamphos -- A Compound Fertilizer
6. OXFAM Mixture
7. Grow Mexican Wheat for High Yields
8. Cultivation of Knol Khol
9. Potato -- A Vegetable and Food Crop
10. Lime Requirement of Acid Soils in Bangalore District
11. Higher Yields of Bengal Gram from Annigeri No. 1.
12. Maize has Come to Stay in Bangalore

13. Hebbal Kabbu — A New Sugarcane Variety
14. Are Your Maize Yields Low ?
15. Tomato
16. Plant Protection — A Paying Proposition
17. Groundnut — An Important Oilseed Crop
18. Hamsa Ragi
19. Hybrid Maize — A Dryland Crop
20. Amber — A New Maize Variety
21. Mexican Wheat — Winter Crop for Bangalore Areas
22. Sweet Potato -- A Subsidiary Food Crop
23. Onion — An Important Vegetable Crop
24. IR-8 Paddy — Its performance in Bangalore District
25. Plant Protection — A Problem on Vegetable Crops in Bangalore District
26. Cabbage — A Winter Vegetable
27. IR-8 Paddy — A Good Summer Variety
28. Cultivation of IR-8 Paddy
29. Water in Farming
30. New Groundnut Varieties
31. Fertilizers for Dryland Ragi
32. Hybrid Maize — A Dryland Crop
33. Sprinkler Irrigation
34. Cultivation of Cotton
35. Cultivation of Chillies
36. Silage - A preserved green fodder

Press releases

1. Yellow Disease on Sugarcane
2. Fifty Quintals of Paddy per Acre
3. Attention - Potato Growers
4. Diseases on Jowar
5. New Diseases on Hybrid Maize
6. Diseases on Potato
7. Zinc may limit your crop yields
8. Black ants not a menace on areca

The following extension folders were issued during the period.

1967-68

1. Hybrid Maize	(English)	
2. Hybrid Jowar	-do-	
3. Taichung-65 Paddy	-do-	
4. Hybrid Bajra	-do-	
5. Purna Ragi	-do-	
6. Hybrid Maize	(Kannada)	(Revised)
7. Hybrid Jowar	-do-	-do-
8. Taichung-65 Paddy	-do-	-do-
9. Hybrid Bajra	-do-	-do-
10. Purna Ragi	-do-	-do-

1968-69

11. Hybrid Maize	-do-	-do-
12. Fertilizer Ready Reckoner	-do-	-do-
13. Fertilizer Reach Reckoner	(English)	
14. Mexican Wheat	(Kannada)	
15. Potato	-do-	
16. Potato	(English)	
17. Hamsa Ragi	(Kannada)	
18. Hamsa Ragi	(English)	
19. Fact sheet-Fertilizer for Dryland Ragi	(English & Kannada)	

1969-70 (Folders Revised)

20. Purna Ragi	(English)
21. Purna Ragi	(Kannada)
22. Fertilizer Ready reckoner	(English)
23. -do-	(Kannada)
24. Hybrid Maize	(Kannada)
25. Hybrid Maize	(English)
26. Hybrid Jowar	(—do—)
27. Hybrid Jowar	(Kannada)
28. Mexican Wheat	(English)
29. Mexican Wheat	(Kannada)

New folders

- | | |
|----------------|-------------|
| 30. IR-8 Paddy | (Kannada) |
| 31. IR-8 Paddy | (English) |
| 32. Chillies | (Kannada) |
| 33. Cabbage | (Kannada) |
| 34. Cabbage | (English) |
| 35. Tomato | (Kannada) |
| 36. Tomato | (English) |

Brochures

1. High yielding varieties-Package of practices
2. Plant Protection Pays (Kannada)
3. New Farm Techniques-1968
4. Plant Protection pays (English)
5. New Farm Techniques-1969
6. Package of practices for high yields
7. Dry Farming - A mimeographed material,
8. Cultivation Practices for Vegetables

Other items

- + One question and answer column was started in 1968 in Prajavani daily to be published on every Monday and another question and answer column was started in 1969 in Samyukta Karnataka-daily to be published on every monday.
- + A substantial number of programmes on A. I. R. have been arranged covering a wide range of subjects.
- + Exhibits were developed on the following themes.
 - High yielding crops.
 - Plant protection pays.
 - Dry farming.

These exhibits were used in the Congress Exhibition held Bangalore every year.

PHYSICAL ACHIEVEMENTS (1st April 67 to 30th June 70)

	Progress during		Progress during		Progress during	
	1967-68		1968-69		1969-70	
	No.	Farmers	No.	Farmers	No.	Farmers
Discussion meetings	1359	18316	1025	15291	2786	35988
Training programmes	157	4906	325	4828	500	9767
Field days, Field visits	412	3472	655	9029	990	15526
Demonstrations		<i>Acres</i>		<i>Acres</i>		<i>Acres</i>
Hybrid Maize	1327	2858.18	449	329.25	436	558.26
Hybrid Jowar	99	35.24	90	83.11	92	91.11
T.65, IR-8 & Kusuma Paddy	281	321.36	37	43.22	227	253.24
Purna Ragi	499	473.22	326	487.22	603	849.06
Vegetables	90	102.00	30	22.36	103	188.03
Dryland Ragi	600	405.03	121	452.10	40	76.03
Hybrid Bajra	—	—	21	22.38	13	8.29
Mexican Wheat	—	—	183	153.00	431	320.09
General Coverage						
Hybrid Maize	—	1051.10	—	4700.00	—	3491.00
Hybrid Jowar	—	96.30	—	299.00	—	231.10
T-65 & IR-8 paddy	—	340.10	—	33.00	—	548.20
Purna Ragi	—	1440.30	—	1999.00	—	1287.15
Hybrid Bajra	—	—	—	163.00	—	33.00
Mexican Wheat	—	—	—	126.00	—	404.00
Vegetables	—	—	—	45.00	—	684.30
Dry land Ragi	—	9470.00	—	1597.00	—	3693.00

Extension Studies

Several studies of practical interest to the extension workers were taken up at the Directorate of Extension in collaboration with the teaching and research staff of the University of Agricultural Sciences, during the period of operation of the Pilot Extension Project. Some of the studies were conducted within the Pilot Extension Project area and some others were in outside areas. In both these studies, the staff of the Pilot Extension Project were involved in collecting, processing and analysing the data.

The important studies conducted are as follows :

1. Some observation on the performance of IR-8 paddy in the monsoon of 1967.
2. Soil acidity as a problem of productivity in Bangalore district.
3. Some problems of plant protection on vegetables in Bangalore district.
4. An appraisal of the quality of waters in Bangalore district for Irrigation.
5. A study on the performance of hybrid maize in dry land 1967.
6. Prospects of cultivation of mexican wheat in Bangalore district.
7. A study on the performance of hybrid maize in dryland 1968.
8. A study on the performance of Hamsa ragi in PEP
9. A survey on the utilization of fertilizers in PEP.
10. Underground water survey work in Tumkur, Chitaldurg and Hassan districts.
11. A study on the soil property in relation to drought.
12. A study on the expand Plant Protection schedules.

APPENDICES

7. Extension Guides

- | | |
|--|--|
| 1) Mr. B. S. Basaviah
(12-6-67 to 30-6-70) | 1) Mr. N. Prabhu
(2-6-67 to 11-4-69) |
| 2) Mr. D. S. Channegowda
(6-3-69 to date) | 2) Mr. B. Aswathiah
(8-6-67 to 30-1-69) |
| 3) Mr. T. Gopala Rao
(2-6-67 to date) | 3) Mr. M. K. Sashikumar
(1-4-67 to 21-3-69) |
| 4) Mr. R. Gangadhara Tilak
(19-3-69 to date) | 4) Mr. C. Channankalah
(5-6-67 to 11-4-69) |
| 5) Mr. N. Ganga Reddy
(6-3-69 to date) | 5) Mr. H. B. Ramachandraiah
(1-5-67 to 17-1-68) |
| 6) Mr. G. R. Gopala Reddy (6-3-69 to date) | |
| 7) Mr. H. Huliyaappa (14-6-67 to date) | |
| 8) Mr. D.G. Hemagiriappa (6-3-69 to date) | |
| 9) Mr. H. C. Kariyah (12-6-67 to date) | |
| 10) Mr. M. S. Krishna (1-6-67 to date) | |
| 11) Mr. B. Krishna Murthy (7-3-69 to date) | |
| 12) Mr. K. Lakshmana Raju (6-3-69 to date) | |
| 13) Mr. S. P. Ramaiah (2-6-67 to 30-6-70) | |
| 14) Mr. B. S. Sundara Sastry (1-4-67 to date) | |
| 15) Mr. B. L. Shankarappa (5-3-69 to 31-8-70) | |
| 16) Mr. A. Sreenivasulu (7-3-69 to 30-6-70) | |
| 17) Mr. K. G. Srikanteswara Das (6-3-69 to date) | |
| 18) Mr. K. Thimmarayappa (1-4-67 to date) | |
| 19) Mr. E. Yellappa (6-3-69 to date) | |

FARMERS TRAINING INSTITUTE

Chief Instructor

- 1) Mr. J. Srinivasamurthy (11-12-67 to 6-4-69)
- Mr. V. C. Hittalmani (7-4-69 to date)

Instructors

- 1) Mr. T. Chayapathi (17-2-68 to date)
- 2) Mr. K. T. Ramachandra (7-8-68 to 31-10-69)
- 3) Mr. K. M. Jayaramiah (24-1-68 to date)
- 4) Mr. C. H. Goud (8-8-68 to 15-12-69)
- 5) Mr. G. Somasekarappa (5-1-70 to date)

EVALUATION OF DEMONSTRATIONS — SCORE CARD

1. Name of the Extension Guide :		
2. Type of demonstration :		
3. Village :		
4. Date of sowing :		
	Maximum Marks	
I. Planning (20 marks)	marks.	obtained.
i) Was the demonstrator selected in an extension meeting?	5	...
ii) Were the responsibilities of the demonstrator clearly explained?	10	...
iii) Was the site selected representative to the area and accessible?	5	...
II. Conducting demonstration (50 marks)		
i) Were the skills taught to the demonstrator? (e.g: application of fertilizers, sowing, planting spraying of chemicals etc.,)	5	...
ii) Were the following operations done under your guidance	...	...
a) Measurement of plot and calculation of inputs	10	...
b) Sowing/planting	10	...
c) Application of Fertilizer	10	...
d) Top dressing of fertilizers	10	...

(iii) How many visits other than the above were made by you (to identify pests and diseases, water requirements etc.,) 5 ...

III. Use of Demonstrations (30 marks)

a) Were the farmers invited to observe the demonstration at the time of sowing / planting? 10 ...

b) Were the farmers invited to observe other important operations? 10 ...

c) Was the demonstration discussed in subsequent night meetings? 10 ...

Total 100 ...

Date :

Name of the Evaluator

Note: The marks obtained has to be noted in ink clearly and totalled at the end.

**TRAINING PROGRAMME FOR THE NEWLY RECRUITED
EXTENSION GUIDES**

(37 working days)

1. Objectives :

- * To enable the newly recruited Extension Guides to develop an understanding of the University Extension work
- * To enable them to develop proper skills in establishing and utilizing demonstrations in selected crops
- * To enable them to understand the package of practices in respect of selected crops
- * To enable them to learn the maintenance of various records, reports, and registers

2. Overall programme:

- A 10 days ... Practicals and class room work
- B 14 days ... Village stay with the experienced Extension Guides In Pilot Extension project, Bangalore
- C 2 days ... Attending meeting of Extension Guides
- D 8 days ... Practicals and Class-room work
- E 1 day ... Meeting of Taluk Board Presidents and Block Development Officers
- F 1 day ... Meeting with Research and Teaching staff
- G 1 day ... Departure to their respective taluks

Daily schedule :

- 8.00 A M to 12.00 Noon — Practicals
- 12.00 Noon to 2.00 P.M. — Lunch Interval

- 2.00 P.M. to 3.00 P.M. — Class-room (First Session)
 3.00 P.M. to 4.00 P.M. — Class-room (Second Session)
 4.00 P.M. to 6.00 P.M. — Learning of motorcycle

4. (a) Common Skills :

1. Seed treatment
2. Drill sowing
3. Selection of yoke
4. Dibbling
5. Fertilizer mixing
6. Fertilizer calculation per row or per hill
7. Fertilizer placement
 - i) Drilling - Drill draw tube
 - ii) Band placement
8. Top dressing
9. Preparation of spray fluid
10. Actual spraying/dusting
11. Interculturing
12. Earthing-up
13. Identification of pests and diseases
14. Estimation of yield
15. Selection of seed
16. Germination test
17. Preparation of raised seed bed
18. Use, care and maintenance of plant protection appliances

(b) Special Skills :

- | | | |
|--------------|---|---|
| Cotton | — | Seed preparation and treatment |
| Chilli | — | Ring method of application of fertilizers |
| Hybrid Jowar | — | Harvesting for ratoon crop. Application of Endrin granules. Thinning and removal of side shoots and dead hearts |

Hybrid Maize	--	Removal of side shoots and dead hearts. Application of Endrin granules. Determining harvesting stage in the field
Wheat	--	Seed treatment for smut control Shallow sowing Drilling fertilizer across seed rows. First irrigation at crown root initiation stage
Ragi	---	Mixing of 5.1 lime and Ceresan for blast control
Paddy	---	Seed selection (Mixing 5.1 lime and Ceresan for blast control) application of granular insecticide
Potato	---	Seed selection, preparation and treatment of seed Dibbling of seed pieces Storing of tubers

5. Practical classes

1. Opening Examination
2. Raised seed bed nursery
 - a) Raised seed bed preparation (25'x4;x'½')
 - b) Fertilizing the seed bed
 - c) Sowing of Seeds
 - d) Watering the beds
 - e) Seed treatment
 - f) Selection of seed
3. Opening furrows for Hybrid Maize and Hybrid Jowar
 - a) Making furrows of 2' and 1½'
 - b) Calculation of fertilizers for each row or each plot
 - c) Fertilizing the furrows with Sadde or hand
 - d) Seeding – dibbling and drilling
4. Top dressing of fertilizers in Hybrid Maize, Hybrid Jowar and Paddy
 - a) Calculation of fertilizers for each row or each plot
 - b) Method of mixing fertilizers
 - c) Method of applying fertilizers
 - d) Covering or incorporating fertilizers

5. Preparation of spray fluid
6. Estimation of yield
7. Use, care and maintenance of plant protection equipments
8. Identification of pests and diseases
9. Identification of deficiency symptoms in case of Hybrid Maize and Hybrid Jowar
10. Reclamation of Alkaline and saline soils
11. Conducting one discussion meeting
12. Conducting one training programme
13. Conducting one field-day
14. Conducting one field-visit
15. Learning of motorcycle
16. Maintenance of motorcycle
17. Final Examination

6. Class room discussions

1. Opening Examination
2. Agro-climatic conditions of the area
3. Purpose of extension work
4. Strategy of university extension work
5. Package of practices of high yielding varieties and vegetables
6. Insects and diseases in respect of high yielding varieties and vegetables
7. Dryland fertilization (dry-farming practices)
8. Soil and water management
9. Fertilizer requirement of high yielding varieties
10. Problems of alkalinity and salinity
11. Multiple cropping
12. Whole farm demonstrations
13. Use of information material in agricultural Extension work
14. Use of audio-visual aids in agricultural extension work
15. Method and result demonstrations
16. Educational use of demonstrations
17. Discussion meetings
18. Field-days and field-visits
19. Final examination

7. Assignments

1. Reading the latest booklet on high yielding varieties - Package of practices
2. Writing diary every-day
3. Writing log book for 10 days during village stay
4. Filling up 2 - 3 demonstration cards - village stay
5. Filling up one fortnightly report
6. Accounting of petrol and repair bills

8. Village stay with the experienced Extension Guides of Pilot Extension Project, Bangalore 14 days - terms to be attended during village stay

- a) Observing the work of the existing Extension Guides in Pilot Extension Project - two page note may have to be submitted by each trainee
- b) Participating in two discussion meetings
- c) Participating in two training programmes
- d) Actually laying out two demonstrations
- e) Arranging and participating in one field-day
- f) Arranging and participating in one field visit
- g) Observing the maintenance of records and registers
- h) Observing the maintenance of forms and reports

Note: The experienced Extension Guide is requested to allow the new Extension Guide to write the log book, diary demonstration card, petrol bills and fortnightly report, for 10 days during their village stay.

9. Daily schedule of training (23 working days)

First day

- | | |
|----------------------------|--|
| 11.00 a.m. to 12 Noon p.m. | a) Welcome - Specialists of the Directorate of Extension.
b) Plans and procedures of this training programme - P. Hanumappa |
| 2.00 p.m. to 3.30 p.m. | Opening Examination (Theory)
-M/s. R. Simhadri and B. Aswathiah |
| 3.30 p.m. to 5.00 p.m. | Opening Examination (Practicals)
-M/s. B. Aswathiah, M. Vishakantalah and M. H. Delvi |
| 5.00 p.m to 6.00 p.m. | Learning of motorcycle |

Second day
 8.00 p.m. to 12.00 Noon
 2.00 p.m. to 3.00 p.m.
 4.00 p.m. to 5.00 p.m.
 4.00 p.m. to 6.00 p.m.

Practical No. 1

Raised seed bed nursery - Paddy
 M/s. B. Aswathaiah and T. Chayapathi
 a) One bed of $25' \times 4' \times \frac{1}{2}'$
 b) Fertilizing the bed
 c) Seed treatment
 d) Sowing the bed
 e) Watering the bed
 - Mr. R. Dwarakinath
 Purpose of Extension work
 Demonstrations - method, result and Bunch
 - J. Srinivasamurthy

Third day
 8.00 a.m. to 12.00 Noon
 2.00 p.m. to 3.00 p.m.
 3.00 p.m. to 4.00 p.m.
 4.00 p.m. to 6.00 p.m.

Practical No. 2

Opening furrows for Hybrid Maize and Hybrid Jowar - M/s. B. Aswathaiah and K. M. Jayaramaiah
 a) Making furrows $2'$ & $1\frac{1}{4}'$ apart
 b) Calculation of fertilizers for each row each plot
 c) Fertilizing the furrows with sadde or hand
 d) Dibbling seeds
 Package of practices (Hybrid Maize)
 Mr. P. Hanumappa
 Package of practices (Hybrid Jowar)
 - Mr. B. Aswathaiah
 Learning of motorcycle

Fourth day
 8.00 a.m. to 9.00 p.m.
 8.00 a.m. to 12.00 Noon
 2.00 p.m. to 3.00 p.m.
 3.00 p.m. to 4.00 p.m.
 4.00 p.m. to 6.00 p.m.

Practical No. 3

Strategy of university Extension work
 Mr. R. Dwarakinath
 Opening furrows for Mexican wheat
 - M/s. B. Aswathaiah and C. H. Goud
 a) Opening furrows''
 b) Fertilizing the furrows with sadde or hand
 c) Seeding
 Disease of H. Jowar and - Mexican wheat
 - M/s. R. Simhadri and Mr. M.H. Delvi
 Strategy of University Extension work
 - Mr. R. Dwarakinath
 Learning of motorcycle

Fifth day**Practical No. 4**

8.00 a.m. to 12.00 Noon

a) Preparation of spray fluids-M/s M.H. Delvi and M Vishakantaiah

2.00 p.m. to 3.00 p.m.

b) Actual spraying -

3.00 p.m. to 4.00 p.m.

Soil and water management in B.C. Soils-
Problems of alkalinity and salinity

- Mr. B. S. Puttaswamy Gowda

4.00 p.m. to 6.00 p.m.

Learning of motorcycle

Sixth day**Practical No. 5**

8.00 a.m. to 12.00 Noon

Identification of pests and diseases

1. Pests and diseases on Hybrid Maize and
Hybrid Jowar2. Pests & diseases on Mexican wheat and
Chillies

3. Pests & diseases on other crops

-Ms. M.H.Delvi and M. Vishakantaiah, Each
trainee to collect 10 specimens each of
the affected insect pests and diseases on
the above crops by taking them to heavily
infested plots

2.00 p.m. to 3.00 p.m.

Insect pests on Hybrid Jowar and Mexican
Wheat - Mr. M. Vishakantaiah

3.00 p.m. to 4.00 p.m.

Package of Practices on Mexican Wheat

- M/s M. H. Delvi and Mr. R. Simhadri

4.00 p.m. to 6.00 p.m.

Learning of motorcycle

Seventh day**Practical No. 6**

8.00 a.m. to 12.00 Noon

Top dressing of fertilizers for Hybrid Maize.
Hybrid Jowar- M/s. B, S. Puttaswamy Gowda
and K. M. Jayaramlaha) Calculation of fertilizers for each row or
each plotb) Top dressing Hybrid Maize, Hybrid Jowar
and Paddyc) Using local method for covering fertilizers
in case of Hybrid Maize and Hybrid Jowar

2.00 p.m. to 3.00 p.m	Package of practices - Vegetables - Mr. A. Seshadri Iyer
3.00 p.m. to 4.00 p.m.	Package of practices - Ragi - Mr. K. N. Mallanna
4.00 p.m. to 6.00 p.m.	Learning of motorcycle
Eighth day	Practical No. 7
8.00 a.m. to 12.00 Noon	Identification of pests and diseases (cont'd) - M/s. M. H. Delvi and M. Vishakantiah
2.00 p.m. to 3.00 p.m.	Fertilizer requirement of high yielding varieties - Mr. B. S. Puttaswamy Gowda
3.00 p.m. to 4.00 p.m.	Package of practices - Vegetables - Mr. A. Seshadri Iyer
4.00 p.m. to 6.00 p.m.	Learning of motorcycle
Ninth day	Practical No. 8
8.00 a.m. to 12.00 Noon	Field visit to Hybrid Maize, Hybrid Jowar and other high yielding varieties plots grown by farmers in the neighbouring area. The defects usually committed by farmers are to be explained and the method of overcoming such defects - M/s P. Hanumappa and B. Aswathiah
2.00 p.m. to 3.00 p.m.	Discussion on field-days and field-visits -Mr. K.T. Ramachandra
3.00 p.m. to 4.00 p.m.	Multiple Cropping - Mr. R. Simhadri
4.00 p.m. to 6.00 p.m.	Learning of motorcycle
Tenth day	Practical No. 9
8.00 a.m. to 12.00 Noon	Identification of deficiency symptoms in respect of Hybrid Maize and Hybrid Jowar - Dr. K.S. Krishna Sastry.
Afternoon	Open
Eleventh day	
10.00 a.m. to 4.00 p.m.	Attending meeting of Extension Guides at Hebbal Campus.

4.00 p.m.

Departure for village stay with the experienced Extension Guides in Pilot Extension project, Bangalore

Twelfth day

Village stay with the experienced Extension Guides in the Pilot Extension Project, Bangalore

Thirteenth day

Attending meeting with Extension Guides
- Mr. P. Hanumappa

Departure

Fourteenth day

Practical No. 10

8.00- a.m. to 12.00 Noon

- a) Seed preparation and treatment to cotton.
- b) Ring method of application of fertilizers to chillies.

2.00 p.m. to 3.00 p.m.

Package of practices - Cotton

3.00 p.m. to 4.00 p.m.

Pests on cotton

4.00 p.m. to 6.00 p.m.

Learning of motorcycle

Fifteenth day

Practical No. 11

8.00 a.m. to 12.00 Noon

- a) Harvesting of ratoon Jowar crop
- b) Application of Endrin granules for Jowar
- c) Thinning and removal of side shoots of Jowar

2.00 p.m. to 3.00 p.m.

Package of practices - Chillies

3.00 p.m. to 4.00 p.m.

Discussion on chillies

4.00 p.m. to 6.00 p.m.

Pests on Chillies

Sixteenth day

Practical No. 12

8.00 a.m. to 12.00 Noon

Visit to saline and alkaline areas and show them the method of reclaiming the same

2.00 p.m. to 3.00 p.m.

Package of practices on Potato

3.00 p.m. to 4.00 P.m.

Diseases on Potato

4.00 P.m. to 6.00 P.m.

Learning of motor-cycles

seventeenth day

8.00 a.m. to 12.00 Noon

2.00 p.m. to 3.00 p.m.

3.00 p.m. to 4.00 p.m.

4.00 p.m. to 6.00 p.m.

Eighteenth day

8.00 a.m. to 12.00 Noon

2.00 p.m. to 3.00 p.m.

3.00 p.m. to 4.00 p.m.

Nineteenth day

8.00 a.m. to 12.00 Noon

2.00 p.m. to 4.00 p.m.

Twentieth day

8.00 a.m. to 12.00 Noon

2.00 p.m. to 4.00 p.m.

Twenty-first day

Twenty-second day

Twenty-third day

Practical No. 13

Visit to cotton and chillies plots grown by farmers in the area and explain the defects noticed and also the method of overcoming such defects --

Pests on Potato

Diseases on Cotton

Learning of motorcycle

Practical No. 14

1. Mixing 5 : 1 lime Cereson dust for blast control on ragi and paddy.
2. Application of Granular insecticides to paddy
3. Treatment of potato seeds
4. Dibbling of seed pieces

Maintenance of records and registers
do

Practical No. 15

1. Removal of silk in Hybrid Maize
 2. Storing of potatoes
- Final Examination — Theory

Final Examination — Practical
Departure formalities

Meeting of the Presidents and Block Development Officers

Meeting with the teaching and research personnel

Departure to their respective Taluks

**TRAINING PROGRAMMES CONDUCTED BY
DIRECTORATE OF EXTENSION**

Topic	Location	Participants
1. High yielding varieties and Multiple cropping	Doddaballapur	AEO's, VLWs, progressive farmers.
2. do	Bangarpet	do
3. Rice Production Trg. Programme	Bangalore	AEO's
4. Conducting Production - cum-Demonstration and Charcha-mandals.	Nelamangala	AEO's, VLWs
5. do	Ramanagaram	do
6. do	Channapatna	do
7. do	Chintamani	do
8. Trg. programme on High yielding varieties and multiple cropping	Bangalore	Gramasevaks
9. Conducting Production-cum-Demonstration and Charcha-mandals.	Vemagal (Kolar)	AzO's, VLWs
10. Training on wheat cultivation and Production-cum-Demonstration	Tumkur	AEO's, VLWs, Progressive farmers.
11. do	Hoskote	do
12. do	Koratagere	do
13. do	Kolar	do
14. do	Channapatna	do
15. do	Devanahalli	do
16. do	Anekal	do
17. do	Chickballapur	do
18. do	Nelamangala	do
19. do	Doddaballapur	do
20. do	Bangalore North	do
21. do	Kanakapura	do
22. do	Ramanagaram	do
23. do	Siddalaghatta	do
24. Annual Field Days	Bangalore	do

	Type of training programme	Location	Participants
25.	Training on high yielding varieties and multiple cropping	Bangalore	Gramasevaks
26.	do	Bangalore	do
27.	Training on high yielding varieties crops	Chintamani	Vidyapeet Participants
28.	Training on high yielding varieties of crops	Mandya	AEO's, VLWs, Spts. of Dept. of Agri.
29.	Training on high yielding varieties and multiple cropping	Mangalore	do
30.	do	Dhadesugur	do
31.	do	Bellary	do
32.	do	Shimoga	do
33.	Training on Rural Youth	Bangalore	Dist. Planning and Youth Welfare Officers.
34.	Visual Aid Training	Bangalore	AEO's of Belgaum and Raichur
35.	do	Bangalore	do
36.	Short course on high yielding varieties and multiple cropping	Bangalore Bangalore	Gramasevaks Gramasevaks
37.	Fertilizer requirement for high yields	Bangalore	Asst. Manure Development Officers
38.	Training on cash crops and high yielding varieties of crops	Bangalore	Trainees of Canara Bank
39.	Dist. Level Trg. Programme on high yielding varieties	Bangalore	AEO's, VLWs, Progressive Farmers.
40.	Training on high yielding varieties and multiple cropping	Byramangala	Gramasevaks
41.	Sub. Divisional Level Trg. programme on high yielding varieties	Bangalore	AEO's, VLWs, Progressive Farmers.
42.	Training programme on high yielding varieties	Kanakapura	Gramasevaks
43.	Sub. Dn. Level Trg. Programme on high yielding varieties	Doddaballapur	do
44.	Training programme on high yielding varieties	Bangalore South	do

DEMONSTRATION RECORD

- 1 Crop/variety.....Demonstration area..... acre/Hectare
- 2 Purpose
- 3 Village/Taluk.....Farmer.....
- 4 a) Soil Sandy
 Loamy
 Clay
 Others (specify)
- b) Irrigation Dry
 Tank
 Well
 Canal
- c) Soil tested-Yes/No Water tested-Yes/No
- 5 Date of sowing/transplanting.....
- 6 Manures and fertilizers type Qty.Plot Date of application
- a) Farm yard manureCart loads
- b) N. Fertilizerskgs
i) Basal Dose kgs
ii) Top dressingkgs
iii) Others kgs
- c) P. fertilizerskgs
- d) K. fertilizers kgs
- e) Mixtureskgs
- 7 Pests and diseases observed Extent of occurrence Control measure
Date Name of pest/Disease Severe/Mild/Slight adopted
- 8 Harvest-Date Grain per plot kgs. Grain per acre ... kgs.
Straw per plot.....kgs. Straw per acre...tons
- 9 Educational use made
Date Type of activity. No. of persons Involved
- 10 Causes for low yield and deviations from recommended practices if any

Extension Guide

ANNUAL EVALUATION OF EXTENSION GUIDES

Year _____

Code _____

Self/Supervisor

 NAME

 PERIOD

GUIDE LINES

This evaluation is for assessing the capacity and performance of the Extension Guides. It also spells out the various components that contribute to the efficiency in extension work. Further, it helps to identify the strong and weak points of the Extension Guides.

It is intended that this evaluation is conducted at two levels - first by the Extension Guide himself, and second by the Supervisors separately.

Both the tangibles and intangibles are included in this evaluation. In respect of the former, the assessment should be based on actual verification of facts, like examination of demonstrations selected at random, checking of the records, observation of the Extension Guide in action. In respect of the latter, however, the assessment should be based on as rational as possible.

RATINGS : A-Excellent, B-Good, C-Satisfactory

1. BIO-DATA

1.1 NAME

1.2 Father's Name

1.3. Date of birth

1.4. Place of birth

1.5. Familiar Region or district

1.6 Formal education

1.7. Special education and Training

1.8. Date of joining service

1.9. Date of joining the present post

From	To	Employer	Position	Place
------	----	----------	----------	-------

1.10. Details of service upto date.

1.11. Distinction in service, if any

1.12. Remarks

	2. PERFORMANCE		
	No.	Farmers	Effectiveness
2.1. Educational efforts put in			
i) Group meetings			
a) Night meetings	.....	.....	A/B/C
b) Other meetings	.....	.....	A/B/C
ii) Individual contacts	.....	.....	A/B/C
iii) Demonstrations established			A/B/C
a) Hybrid Maize	.....	.....
b) Hybrid Jowar	.....	.....
c) Taichung-65/IR-8 Paddy	.....	.....
d) Purna Ragl	.....	.....
e) Vegetables	.....	.....
f) Mexican Wheat	.....	.....
iv) Trials established			A/B/C
a) Ragl (specify)	.....	.....
b) Paddy	.....	.....
c) Fertilizers	.....	.....
d) Any others (specify)	.....	.....
v) Field days	.....	.....	A/B/C
vi) Field Visits	.....	.....	A/B/C
vii) Any other (Specify)	.....	.....	A/B/C
	Overall assessment A/B/C		

Remarks

	X	Y	X	Y	X	Y
No.	Acres	No.	Acres	Farmers	Assessment	

2.2. Results achieved

Crop/Practice

a) Hybrid Maize	...	...	...	...	...	A/B/C	A/B/C
b) Hybrid Jowar	...	...	...	...	...	A/B/C	A/B/C
c) Taichung-65/IR-8 Paddy	...	...	...	...	...	A/B/C	A/B/C
d) Purna Ragi	...	...	...	...	...	AB/C	A/B/C
e) Vegetables	...	...	...	...	...	A/B/C	A/B/C
f) Mexican Wheat	...	...	...	...	...	A/B/C	A/B/C
g) Any others (Specify)	...	...	...	...	...	A/B/C	A/B/C

Overall assessment A/B/C

(X) with reference to the monthly reports sent

(Y) progress not included in the report but later found to be the results of your efforts.

Remarks

2.3. Maintenance of records

i) Diary	A/B/C
ii) Monthly report	A/B/C
iii) Demonstration cards	A/B/C
iv) Log book	A/B/C
v) Notes on meetings	A/B/C
vi) Notes on work	A/B/C
vii) Technical papers (circulars information materials etc.,)	A/B/C
viii) Other papers	A/B/C
ix) Maintenance of motorcycle	A/B/C

Overall assessment A/B/C

Remarks

2.4 Returns furnished

	Completeness	Promptness
i) Diary	A/B/C	A/B/C
ii) Monthly report	A/B/C	A/B/C
iii) Advance tour programme	A/B/C	A/B/C
iv) Petrol Bills	A/B/C	A/B/C
v) Special reports	A/B/C	A/B/C
Over-all assessment		A/B/C

Remarks

2.5 Working efficiency

(The Directorate assumes that the extension workers have made night halts in villages when the exigencies of work required. It does not subscribe for a particular number of night halts in a month or year. Regarding leave the degree of efficiency should be evaluated with reference to the planned way of utilizing earned leave during leave period or for exigencies of situations).

- i) No. of working days (previous month) A/B/C
- ii) No. of days on field work (previous month) A/B/C
- iii) No. of night halts (previous month) A/B/C
- iv) Leave used (C.L./E.L) A/B/C
- v) Habits of field work A/B/C
(last 10 days)

Overall assessment A/B/C

Remarks

3. Job Techniques

3.1 Thoroughness in work :

- i) Does he analyse and understand his task ? A/B/C
- ii) Does he think ahead and plan his work well ? A/B/C
- iii) Does he put his plans to work systematically ? A/B/C
- iv) Does he follow up the work initiated ? A/B/C
- v) Does he build upon past work ? A/B/C

Overall assessment A/B/C

Remarks

3.2 Technical standing

- i) Is he well up in the briefings he receives ? A/B/C
 - ii) Is he in the habit of reading any technical literature ? A/B/C
 - iii) Does he make careful observations of a Technical nature ? A/B/C
 - iv) Does he discuss technical aspect with farmers ? A/B/C
 - v) Does he raise technical issues with the specialists ? A/B/C
 - vi) Does he subscribe to any technical journal or is he a member of any professional association ? A/B/C
- Overall assessment A/B/C

Remarks

3.3. Knowledge of working situations

- i) Is he aware of the local peculiarities relative to farming ? A/B/C
- ii) Does he know the 'farmers mind' in his area ? A/B/C
- iii) Is he familiar with the local leadership ? A/B/C
- iv) Does he have contacts with the local organisations ? A/B/C
- v) Is he aware of the local power structure ? A/B/C
- vi) Does he select right men and groups to work with ? A/B/C

Overall assessment A/B/C

Remarks

3.4. Extension ability

- i) Does he have a clear and comprehensive knowledge of how 'extension' works and what its limitations are ? A/B/C
- ii) Does he choose and use his extension methods carefully ? A/B/C
- iii) Does he watch the diffusion of practices ? A/B/C
- iv) Has he recognised the points and causes of resistance, if any ? A/B/C
- v) Does he employ any teaching aids ? A/B/C
- vi) Does he use the leadership effectively ? A/B/C
- vii) Does he maintain good working relations with people ? A/B/C
- viii) Does he maintain good working relations with Extension staff? A/B/C
- ix) Does he recognise the area of his ineffectiveness? A/B/C
- x) Can he converse with the farmers in their own style (terms)? A/B/C

Overall assessment A/B/C

Remarks :

3.5. Personality traits

- | | |
|--|-------|
| i) Sincerity and dependability | A/B/C |
| ii) Capacity for hard and tenacious work | A/B/C |
| iii) Resourcefulness | A/B/C |
| iv) Originality and application of his own Ideas | A/B/C |
| v) Initiative and leadership | A/B/C |
| vi) Co-operative attitude | A/B/C |
| vii) Balance in views | A/B/C |
| viii) Pride in his profession | A/B/C |

Overall assessment A/B/C

Remarks :

APPENDIX VII

THE UNIVERSITY OF AGRICULTURAL SCIENCES, BANGALORE

University Extension Service

Extension Education

- * A statutory responsibility of the University
- * Seeks to supplement and complement existing efforts
- * Endeavours to provide a continuous flow of technical information to the field
- * Endeavours to progressively upgrade the extension work, qualitatively

Many things to do in Agricultural Development

- * Extension
 - * Teaching
 - * Research
- } University of Agricultural Sciences
- * Development
 - * Supplies
 - * Services
 - * Regulations
 - * Policy
 - * Farm Organization
 - * Marketing

Room for more extension workers

	Clientele per extension worker
* Israel	157
* Greece	403
* Japan	728
* Taiwan	1698
* India	2696

Source C. W. Chang 1963

Functions

- * Conducting field trials of research findings
- * Establishing early demonstrations
- * Training extension functionaries and progressive farmers
- * Serving as the primary source of farm information
- * Stimulating research and enriching teaching

Activities :

- * Field Extension Work
- * Farmers Training
- * Farm advisory work
- * Extension information service

Field Extension work**Purpose :**

- * To demonstrate practical application of new technology
- * To illustrate a more effective strategy of extension work
- * To coordinate university extension efforts with other agencies

Extension Guide

- * Selected and trained
- * With specific plans
- * Develops need based programmes
- * Has ample mobility

Extension process

- * Holds night meetings
- * Establish demonstrations
- * Uses demonstrations
- * Trains functionaries
- * Influences adoption

Back stopping

- * Research new Information
- * Extension Leader supervises
- * Farmers training Institute trains leaders, specialists field support
- * Extension information service - literature

Mobility

- * More area covered (Square miles)
- * Extensive use of limited man power
- * More farmers contacted
- * Increases operational time (work per day)

Farmers Training

Purpose :

- * To train farm leaders
- * To achieve multiplier effect
- * To supplement other extension efforts

Through :

- * Production-cum-demonstration meetings
- * Ten day courses
- * Three month courses

Farm advisory service

Purpose :

- * Support field extension functionaries
- * Cater to the needs of advanced farmers
- * Processing research information for extension use
- * Training extension functionaries and farm leaders

Through:

- * Farm and home visits
- * Training session
- * Correspondence
- * Phone calls
- * Attending farmers visits
- * Assist teaching and research

Extension information service

Purpose:

- * Validated information
- * Information in precise terms
- * Practical information
- * Information, timely

Provided in presentable and readable manner

To sum up

- * Field work — Through Extension Guides and extension specialists
- * Farmers Training — Through Institutional and peripatetic training programs
- * Advisory work — Through extension specialists supplemented by teachers & researchers
- * Extension Information — Through simple, timely and practical literature and broadcasts

Distinctive features

- * Provides educational input
- * Mobility — Ensures larger coverage at lower cost
Ensures wider use of scarce technical ability

Immediate, dependable specialist support

- * Continuous, on-the-job staff training shortens the gap between research and farmers
- * Demonstrations at farmers' cost

PRESS REPORTS

INDIAN EXPRESS MONDAY OCTOBER 23, 1967—WEEK BY WEEK CHALLENGES :

Numbers alone do not, of course, matter. When the scales are set, sincerity of purpose far outweighs mere quantity. Proving this truism are eleven dedicated men of the extension wing of the University of Agricultural Sciences, Bangalore, on whose broad shoulders have fallen the challenging task of converting the whole district of Bangalore into the "Hybrid" way of thinking.

It was the heartening work turned out by these eleven men which a group of newsmen saw in the Bangalore South talk on Sunday. This is a small number compared to the enormity of the task involved, but they are not deterred. They started the job six months ago, but these extension guides have accounted for as many as 1,893 demonstrations under high yielding varieties over a wide area of about 17,000 acres.

But this is just a pilot extension project. Its object is to introduce, popularise, and demonstrate high yielding crop varieties like hybrid maize, hybrid jowar, hybrid bajra, IR-8 and Talchung-65 paddy and Purna and other varieties of ragi.

Extraneous names these, but what do they mean in simple, layman's terms? Hybridisation, plainly put, is a process of crossing two different strains of any grain with a view to "marrying" the most productive aspects of both of them. It is for ragi that a hybrid seed has not been found yet, though 'improved' seeds have been evolved after constant research and experimentation.

Hybridization projects have clicked in a big way in respect of all other grains, notably in the case of maize, paddy and jowar; helping in an appreciable increase in their yield.

Showpieces of modern farm techniques

Over 1,850 demonstration plots covering about 17,000 acres of land in Bangalore South are like an "open book" to prove that the application of new technology in agriculture can yield maximum results.

The University of Agricultural Sciences, Hobbal, six miles from Bangalore, is operating an extension service in Bangalore District with the assistance of the United States Agency for International Development. The aid is about Rs. two lakhs.

A group of pressmen who went round some of the demonstration plots on Sunday saw what both individual and institutional efforts could do to increase the yield of paddy, ragi, maize and bajra.

The University has deployed 11 Extension Guides to work in this project. The object is "to introduce, popularise and demonstrate high-yielding crop varieties such as hybrid maize, hybrid jowar, hybrid bajra, IR-8, Taichung-65 paddy, Purna and other varieties of ragi."

The project was set in motion on April 1 and has succeeded in establishing a number of demonstration plots. With the launching of this project OXFAM has again helped with 10,000 tons of fertilizer on rupee payment. Similarly, the Government of India has supplied 1515 tons of ammonium sulphate.

The Directorate of Extension provides advice to farmers on problems of a special nature. A group of specialists act as liaison between research and field work.

The University also launched a special programme in the Tungabhadra Project area last year for popularising high yielding varieties of food crops.

BIG YIELD

A progressive farmer, Ramiah of Venkataramaswamy's Farm, Mysore Road, has put the modern farming techniques to good use by raising a huge quantity of purna ragi on a small plot. The average investment from sowing to reaping the harvest was Rs. 250. One acre was expected to yield 12 to 15 quintals of ragi as

against the normal yield of 8 to 10 quintals.

Purna ragi, another high yielder under irrigated conditions, has been tried at the Amruth Mahal, an industrial complex. About 25 acres of land has been brought under this variety. This important food crop is grown on 24.33 lakh acres in the State.

The Ashirvanam Estate and the Savan Darbar Ashram Estate have proved that modern farm techniques are quite beneficial in large-scale operations.

The Ashirvanam Estate, run by a group of Christian missionaries, has used the University aid to raise hybrid maize, hybrid jowar, and Taichung-65 paddy.

The Savan Darbar Ashram, near Kengeri has raised hybrid maize, IR-8 paddy and Taichung-65 paddy by using hybrid seeds and fertilizer. This ashram is providing food for over 50 persons besides giving them spiritual solace.

At the Amruth Mahal Estate within the Khoday Industrial complex, hybrid crops have been raised under rain-fed conditions. The maize crop was standing six feet high and had already yielded an over-sized "corn-crop". Pressmen also visited another small farm run by Mr. Varadarajan.

Mr. R. Dwarakanath, Director of Extension, and Dr. D. M. Thorpe, Chief of USAID, conducted the press party round the farms.

Silent Revolution in Agriculture

From Our Correspondent

BANGALORE, Oct. 22.

A silent revolution in agriculture has been taking place for the past six months, thanks to the research done at the centre of the University of the Agricultural Sciences in Bangalore. A special wing of the extension service organisation of the university supplies the technical know-how to the farmers direct.

The revolution is seen in the luxuriant growth of hybrid varieties of maize, jowar, bajra, Taichung paddy, and purna ragi that have been grown on fields where nothing was produced before.

The owners ascribed their success to the extension services and the timely supply of inputs by the Agricultural University, financed by the U.S. Agency for International Development to the tune of nearly Rs. two lakhs.

Pressmen from Bangalore who went on a tour of the areas around the city where the new varieties had been introduced saw the standing crops which were ripening into the harvest stage, the stalks bending under the weight of the grains, the yield of which is estimated to be double that of any conventional yields, in some cases even more.

Dr. D. M. Thorpe of USAID in Bangalore, with a party of technical experts from the U.S. stationed in New Delhi who have come here accompanied the Pressmen.

Dr. R. Dwarakanath, Director of Extension Services of the Agricultural Sciences University, who took the party on this tour, said eleven extension guides were working on the project. They were in constant touch with the farmers and gave them technical and other assistance.

The officers have established 1,683 demonstration plots covering 17,000 acres.

At a plot in Mr. Venkataramanswamy's farm on the outskirts of Bangalore we saw a field where purna ragi under both irrigated and rain-fed conditions were raised.

The farmer said that the variety introduced by the extension services was satisfactory in giving the promised quantity of increased yield.

At Ashirvanam estate there were demonstration plots of hybrid maize, hybrid jowar, and Taichung-65 paddy.

At another plot a farmer had raised jowar off season. But there was not much grain in the ears of the stalks, as birds had fed on them.

He was the only farmer who had raised the crop out of season and as there were no other standing crops all the birds swooped down on his farm.

New techniques are being tried at the Savan Durbar Ashram farm near Kengeri. The 115-acre farm is owned by the ashram.

Varsity plan brings lands under plough

BANGALORE, Nov. 11

Thanks to the pilot extension project undertaken by the University of Agricultural Sciences in Bangalore district, hundreds of gravel lands have been converted into high-yielding agricultural lands.

The USAID is providing technical and financial assistance for this project. Over a dozen experts from U.S., headed by Deputy Chief Mr. M. Gist Welling, are now helping in the development of agriculture in Mysore State. Eleven extension guides, who are provided with motor bicycles, are working in the eleven taluks of Bangalore district.

The project was started in April 1967. Up to Oct. 31 last, nearly 2,000 discussion meetings were held, in which 27,837 farmers participated. The number of training programmes conducted was 347, with 9,732 farmers participating. The number of demonstrations in different variety of foodgrains was hybrid maize 1,669; hybrid jowar 112; taichung-65 paddy 303; purna ragi 719; hybrid bajra 45; and dry land ragi 721.

A party of newsmen from Bangalore were taken round some of the farms around the city for a study of the extension education work of the University, by a team of University officials and USAID, on Sunday, led by Mr. Dwarakanath, Director of the extension.

The yield in hybrid maize in these farms was as high as 24 quintals per acre, and in ragi 12 quintals per acre, which is nearly three times the yield under traditional methods.

Mr. Pinto's farm near Kumbalagode, on Mysore Road, has an extent of nine acres. Farming was a new profession to Mr. Pinto, who spent most of his time in Kenya, East Africa. After his return to India, he purchased the plot in March 1967. But he had to make a "thousand trips" during the next eight months to get power supply.

He started his farming opera-

tion in March 1968 and started growing Hybrid maize and Purna ragi in three acres with the technical knowledge provided by the University. The first harvest yielded him 19 quintals of hybrid maize and 11 quintals of ragi per acre.

Encouraged by this, Mr. Pinto extended his hybrid maize cultivation to another plot during the second harvest. This time, the per acre yield of hybrid maize was 22.5 quintals and in ragi 12 quintals.

Mr. Pinto has a point when he stressed the commercial banks should lend money to farmers at concessional rates.

During the second harvest, Mr. Pinto has also grown "Hansa ragi," (white variety ragi) which is yet to become popular with sophisticated urban masses.

Ashram's venture

Ashirvanam estate, on Mysore Road, which is being run by a Christian religious institution, has brought 150 acres under cultivation, of the total of 250 acres.

Father Paul is in charge of agricultural operations in this estate. By adopting new technology, this farm has raised several crops of hybrid maize, purna ragi, Taichung-65 paddy and hybrid jowar since Dec. 1968. Now they have amber maize, hybrid raton jowar, hybrid maize, purna ragi and Mexican wheat.

About 100 persons are working in this farm.

The Amruth Mahal Farm, on Kanakapura Road, owned by Mr. K. N. Srihari, well-known industrialist, has an extent of 800 acres.

During the last three years the area of cultivation was gradually increased with the adoption of dry farming, contour farming and adoption of best knowledge in farming has resulted in higher returns. At present the farm has 350 acres of hybrid maize, 100 acres of Cauveri ragi under rainfed conditions. Cultivation of paddy and wheat has been taken up recently

Magic appeal of Mexican wheat

By A Staff Reporter

BANGALORE, Jan. 13—The Indian University of Agricultural Sciences, which has already made a mark in the short span of its life, today afforded a preliminary glimpse of the revolutionary changes going on in the countryside quietly aided by the university extension services. In the five-hour annual conference held here, the Doddaballapur taluk of Bangalore district wheat raised this reporter that...

It has promised them a bigger profit.

Both Mr. Muthuswaraop of Maddur and Mr. T. G. Lakshminarayana of Talagere said Mexican wheat was the latest craze among the farmers.

To the Bangalore press corps who tried of the city's abundance like the traditional hospitality of the farmers was a welcome relief.

Dr. D. M. Thomas and Mr. G. S. Welling of USAID, accompanied the press party.

The extension officials of the IAS led by Director Devarajiah took the press party round half a dozen plots of progressive farmers who have for the first time taken to Mexican wheat—the latest strain to catch the imagination of farmers after burning their fingers by experimenting with hybrid maize.

Price factor

A talk with the sons of the soil has all the more convinced this reporter that it is the price factor that provides the acute solvent incentive to the farmer in adopting newer varieties, however attractive may the other inputs. They confessed that they would date grow even the most complicated variety of crop if the Government assured them an economic price for their produce. It is the failure price of maize that forced the more enthusiastic farmer to give it up in desperation—in the face of continuous imports from abroad deplete commission from the Planning Commission. In the light of this, it is to be seen to what extent the good-intentioned promotional work of the IAS in the sphere of Mexican wheat and the more recent soybean would succeed.

Anyway, Mexican wheat, at least for the time being, appears to have caught the imagination of the farmer—thanks to the pioneering work done by the university, aided by the IAS. So much so, the acreage under the Mexican wheat has shot up from a mere 1000 to over 2000 in just two years. The IAS authorities are sure that there would be a spurt in the cultivation of this crop given a steady price. The ruling price is about Rs. 100 a quintal.

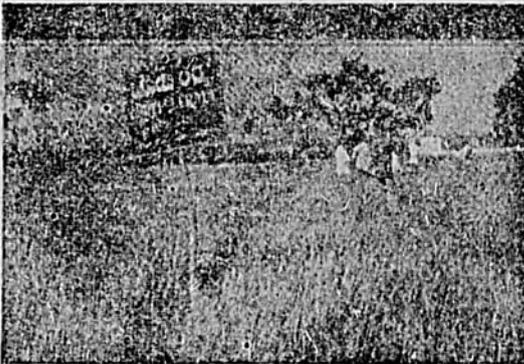
Almost every farmer met by the press party was unanimous in extolling the services rendered by the university staff and the USAID. Mr. Jalappa, the youthful president of the taluk board who accompanied the press party, was bubbling with enthusiasm and pride about the achievements of his taluk in the cultivation of wheat with the help of the IAS.

Fat profits

The first visit was to the five-acre wheat farm of Mr. B. T. Anjanayya. Closely cross-examined, he disclosed that he was sowing only 500 lbs. of seed in an acre. Most of the benefits of the IAS since he exchanged ploughs against tractors had the cost of cultivation of both main and wheat would be the same while the latter yields a higher price. He also revealed that wheat was well suited to the winter season. If the thirty acres continued (this is very much doubtful, by everybody) he is sure to get a total profit of about Rs. 2000.

The IAS extension work on Mexican wheat began with just 13 demonstration plots in 1947 and within two years they were able to establish over 400 such plots in Bangalore, Tumkur and Kolar districts.

The plots of Mr. Muthuswaraop and Mr. Paramaswaraop on the foothills of the Nandi hills were a treat to the eyes. They have given up ragi, the staple food of the area, in favour of this crop since



Farmers take to new wheat in big way

By A Staff Reporter

BANGALORE, Jan. 13

Long rows of lush-green stalks of Mexican wheat greeted a group of Bangalore pressmen when they visited several fields in Doddaballapur Taluk this morning.

There was a standing ovation to the green revolution that is quietly taking place in the country side.

The morning talk across vast stretches of green-wheat-filled fields was as instructive as refreshing.

The visit had been arranged by the University of Agricultural Sciences here to afford farmers a glimpse of the work being done in the Mexican wheat among farmers.

Introduced just about two years ago, the Mexican wheat is a new high-yielding crop, with several strains like Safed Lerma (Red Lerma, Kankani Saha and Lerma Rajo) is already proving popular.

Mr. T. R. Lakshminarayana of Talagere, is not a traditional farmer. Yet encouraged by the British promise held by the revolutionary extension committee about the farm from his talk to extension staff here, that year, he had sown Mexican wheat in a 50-acre plot.

PLEASED

Mr. Muthuswaraop, a progressive farmer of Maddur, described the newly introduced Mexican wheat as a boon to the farmer without which it would have been difficult to tackle the food problem.

He and many others (whose farms produce varied crops) were pleased with the performance of the new wheat. They were hopeful of a big yield this crop is yet to be harvested and were eager to continue their cultivation next year also.

Mexican wheat is being tried in Bangalore District for the first time on a large scale. Nearly 3000 acres of land have been brought under it this year, as against only about 50 acres last year. This fact alone indicates its popularity, especially in view of the fact that Bangalore District is not traditionally a wheat-growing area.

It may be too early to assess the extent of its impact in the district (all the five farmers who showed their crop to pressmen being tried out in the taluk for the first time). But the university authorities do not have a shadow of doubt about its success as it has already proved successful in other areas and the research on it so far has been extremely encouraging.

Mr. B. T. Anjanayya of Doddaballapur has sown the Safed Lerma and Chandi Lerma varieties on a five-acre plot. The Safed Lerma has grown to a height of about three feet in just about two months.

ADVANTAGES

Mr. Paramaswaraop, an aged agriculturalist of Maddur, had sown the Lerma Rajo variety last year with a yield of about 14 quintals per acre. This year he switched over to the Safed Lerma variety which is steadily

growing in the popularity, since he could not secure seeds of the Lerma Rajo. (The University authorities, however, said that he was advised to switch over to the Safed Lerma strain, as the other was not suitable.) Mexican wheat has distinct advantages over the traditional one. Being quick-yielding, can be grown, three a year. (The Safed Lerma matures in between 80 days and 100 days), no winter crop can be grown in winter and it yields many crop seasons. Its yield is estimated at about 18 quintals per acre and is said to fetch about Rs. 100 per quintal. It is being grown on a large scale in the northern parts of the State.

Though the farmers of Doddaballapur Taluk are satisfied with the crop, they demand that more facilities be provided to introduce it on still a larger scale. Mr. Jalappa, President of the Taluk Development Board told pressmen that the Government should ensure a reasonable price to the farmers since the cost of cultivation was going up. It was also necessary that the price should not be lower than other crops at subsidized rates.

Mr. R. Devarajiah, Director of Extension IAS, who accompanied the press party, remarked: "We are providing subsidies on the basis of our own knowledge and it is being raised up to Rs. 7500. The Government is not yet in a position to do so."

Visitors to Pilot Extension Project

1. Mr. Joseph N. Green, Washington, U.S.A.
2. Dr. David F. Christenson & Dr. Herbert Smith, Illinois, U.S.A.
3. Mr. Peter Cole Adams & Mr. Herbert Moore, Australia.
4. Mr. Sydney G. Fish, Australia.
5. Mr. James Howard, Regional Director, OXFAM.
6. Mr. John Staley, OXFAM representative, Bangalore.
7. Dr. Schultz, University of Chicago, U.S.A.
8. Dr. Baird & Dr. House, Rockefeller Foundation, U.S.A.
9. Dr. Pollock, Dr. Padal & Mr. Stambergh of USAID, New Delhi.
10. Mr. G. V. K. Rao, Development Commissioner, Bangalore.
11. Mr. Allen J. Ellendor, U. S. Senator.
12. Major & Mrs. Acworth, OXFAM, England.
13. Mr. Bengal Shiva Rao, Journalist.
14. Dr. D. V. Reddy, Extension Commissioner, Government of India
15. Staff Course Participants (Joint Directors and Deputy Directors of Agriculture of six States)
16. Miss T. Padmasini Asuri, Regional Home Economist, Government, of India, Bangalore.
17. Dr. John P. Lewis, Minister-Director, USAID, New Delhi.
18. Dr. H. C. Smith, Vice-President, Graduate Studies and Mr. Anderson of University of Tennessee, U.S.A.
19. Twenty four I.A.S. Probationers.
20. Mr. Alex Dickle of USAID, Washington D.C., U.S.A.
21. Mr. Guy Hunter, Ford Foundation Consultant, New Delhi.
22. USAID Advisors, Bangalore.
23. Dr. Cochrane, U.S.D.A. Washington, U.S.A.
24. Dr. Russe. O. Olson, Chief, Agricultural Development, U.S.A.I.D. New Delhi.

25. Mr. Floyd Barnett, Superintendent of Schools, Texas, U.S.A.
Mr. Herb Riggs, Principal, MC Kinley High School,
New Mexico, U.S.A.
Mr. Glen F. Fray, Director of Elementary Schools, Gowd. U.S.A.
Mr. Albert R. Dobal, Principal, Junior High School,
Westifield, New Jersey, U.S.A.
26. Dean Pendergrass, University of Tennessee, U.S.A.
27. Mr. Taylor & Mr. Wilkinson, OXFAM, England.
28. Mr. Oliver A. Bauman, Deputy Food & Agricultural Officer, U.S.A.I.D.
New Delhi.
29. Glen C. Holm, Agricultural Education Adviser, Branch Chief,
New Delhi.
30. Mr. Andy Renshaw, USAID, Washington, U.S.A.
31. Mr. Scott Station, Executive Director, Council for U.S. Universities.
32. Mr. B. Boynton, FAO, Rome.
33. Dr. Mervin Smith, Assistant Dean and Co-ordinator, International
Affairs, Ohio, U.S.A.
34. Twentyfive U.S.A. Officials from New Delhi.
35. Representatives from all the leading newspapers, Directorate of
Publicity and All India Radio.
36. Mrs. Kagal of Span, USIS.
37. Mr R. J. Ramsey, USAID.
38. Dr. Staley of OXFAM.
39. Mr. Looty of Swiss Co-operative Mission.
40. Agricultural Officers of Canara Bank.
41. Mr. Collins and Miss Arya.
42. Mr. A. J. Macris (Greece) and Mr. Harrison, FAO Specialists.
43. Dr. Donald Green, Ford Foundation.
44. Mr. Morley of USIS and Mr. Miller,
Minister Councillor USIS, New Delhi.
45. Dean Vernon Darter and Mr. Ben Douglas of
University of Tennessee.

46. Mr. Kirkly of OXFAM.
47. I. A. S. Probationers.
48. Dr. D. M. Thorpe, Chief of Party, Univ. of Tenn /U.S.A.I.D. Bangalore.
49. Dr. K. C. N. ik, Vice-Chancellor University of Agriculture Sciences, Bangalore.
50. Mr. TIEL of USAID / Delhi.
51. Mr. Savant Minister for Agriculture, Maharashtra along with Dy. Minister and two Vice-Chancellors of Maharashtra Agriculture Universities
52. A. P. Jain, Chairman, Irrigation Committee, Delhi.
53. Prof. Shilier, University of Oregon, USA.
54. Delegates of the All India Conference on Agril. Education.
55. Mr. Leonard J. Saccio, Minister-Director USAID/New Delhi.
56. Mr. John H. Boulware, Agril Attache, US Embassy, Delhi.
57. Dr. Joseph Hutchinson, Cambridge, England.
58. Reporter of " Illustrated Weekly of India ".
59. Dr. Lewis H. Dickson, Director, International Agricultural Programs University of Tennessee.
60. Representatives of USA Contract Universities In India.
61. Representatives of the Seminar on Research in Extension held at U.A.S.
62. Dr. Joseph Matthews, Asst. Administrator, International Extension Programs, Federal Extension Service, USDA.
63. Shri Dharma Vira, Governor of Mysore.
64. Dr. John Ewing, Director of Research, University of Tennessee.
65. Mr. & Mrs. Carroll P. Streeter, Agricultural Journalist, USA.
66. Mrs. M. Gist Welling, Wife of Deputy Chief of Party.