TRANSFER OF TECHNOLOGY PROGRAMMES OF CPCRI FOR COCOA DEVELOPMENT

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Introduction

CPCRI has started research and extension activities in late 1970's for cocoa development. Technologies pertaining to cocoa are generated as per the needs of farmers and other clientele. The demand for CPCRI technologies has been very high among the farming community and other clientele. Some of the important transfer of technology programmes are, training programmes, Front Line Demonstrations, Farm Advisory visits, Interface programmes, Group discussions, Exhibitions, Kisan melas, Publications etc.

Technology

Technology is defined as application of scientific knowledge for solving problems in particular field. It is also defined as application of knowledge to meet the wants of people. The technology should have practical purpose and easy to use.

Definitions of technology transfer

The term technology transfer can be defined as the process of movement of technology from one entity to another (Souder *et al.,* 1990; Ramanathan 1994). The transfer may be said to be successful if the receiving entity, the transferee, can effectively utilize the technology transferred and eventually assimilate it (Ramanathan, 1994). The movement may involve physical assets, know-how, and technical knowledge (Bozeman, 2000). In a very restrictive sense, where technology is considered as information, technology transfer is sometimes defined as the application of information into use (Gibson and Rogers 1994).

Technologies available at CPCRI Regional Station, Vittal for cocoa development

Some of the promising technologies which are available at this station are, high yielding hybrids/clone of cocoa, pruning and training technology for seedlings and grafts of cocoa, vermicomposting with cocoa wastes, integrated nutrient management in cocoa, integrated pest and disease management in cocoa, post harvest processing in cocoa.

Clients/ Target group

CPCRI has been changing its research and extension activities as per the demands of following target groups: Farmers, Self Help Groups, Agricultural/ Horticultural Officers, Scientists from other Institutes, Agro- processors and College/ School students.

Transfer of technology programmes

Technologies are transferred through various extension methods. One way of classifying the extension methods is according to their use. In other words, whether they are used for contacting people individually, in groups or in masses. Based upon the nature of contact, they are divided into individual, group and mass-contact methods.

a. **Individual-contact methods:** Extension methods under this category provide opportunities for face-to-face or person-to-person contact between the farmers and the scientists. These methods are very effective in teaching new skills and creating goodwill between farmers and the scientists.

b. **Group-contact methods:** Under this category, the rural people or farmers are contacted in a group which usually consists of 20 to 25 persons. These groups are usually formed around a

common interest. These methods also involve a face-to-face contact with the people and provide an opportunity for the exchange of ideas, for discussions on problems and technical recommendations and finally for deciding the future course of action.

c. **Mass contact methods:** Scientist has to approach a large number of people for disseminating new information and helping them to use it. This can be done through mass-contact methods conveniently. These methods are more useful for making people aware of the new agricultural technology quickly.

Important extension-teaching methods under these three categories are listed below. A brief description of some of the extension methods which are commonly used are given below.

a. Individual contact

Farm and home visit: Farm and home visit constitute the direct or face-to-face contact by a scientist with the farmer or the members of his family. During these visits, information is exchanged or discussed. The visits may be to get acquainted with the problems of the farmers, or to organizational purposes. Such visits provide an opportunity for a two-way communication.

Phone call: used to request specific subject-matter information and to facilitate other teaching activities.

Office call: Typical visitors are seeking an answer to a current problem, technical advice or information.

Personal letter: aimed at conveying some information related to agriculture and helps in transferring basic ideas between scientists and farmers.

E mail: A system for transferring messages from one computer to another, usually *via* a network so that both the sender and receiver communicate their messages. It requires computer literacy.

b. Group contact

Training programmes: The term training refers to the acquisition of knowledge, skills, and competencies as a result of the teaching of vocational or practical skills related to agriculture. Training is conducted either at the institute or at the farmer's field. Training programmes for the farmers are conducted with the financial assistance from Directorate of Cashew nut and Cocoa Development, Kochi, Ministry of Agriculture, Government of India. Trainings are conducted for technical staff, agricultural/ horticultural officers, Self Help Groups etc. based on the need and request.

Method demonstration: It is used to show the technique of doing things or carrying out new practices, e.g. mother tree/seed pod selection, nursery pratices, taking a soil sample, grafting technique, pruning, bordeaux mixture preparation etc. This method is usually used for group of people.

Consultancy Visit: A multi-disciplinary team of scientists visit farmers' fields and give professional advice for solving some problems related to cocoa cultivation.

Agriculture Information Centre: Provides information related to agricultural technologies in the form of folders, charts, models, specimens, photographs, CDs, etc. Technologies pertaining to Arecanut and Cocoa are displayed the form of folders, charts, models, specimens, photographs, CDs, etc

Demonstration plots: "first-line demonstrations," conducted by researchers on the farmers' fields to show how production can be increased per unit of area and per unit of time. These demonstrations usually include the system of multiple cropping and the use of high-yielding varieties, along with the best package of practices. CPCRI has established 96 Front Line Demonstrations in farmers' gardens of 1 ha each in 8 taluks during 2003-04 with the financial assistance from DCCD, Kochi. Grafts of high yielding cocoa clones were distributed and the farmers were trained on scientific cultivation practices including pruning, training and balanced application of manures and fertilizers. These plots serve as model plots for other farmers to follow this system.

Group discussions: All the farmers cannot be contacted by scientists individually because of their large number. It is convenient and feasible to contact them in groups. This method is commonly

known as group discussion. It is used to encourage and stimulate the people to learn more about the problems that concern the community through discussion. It is a good method of involving the local people in developing local leadership and in deciding on a plan of action in a democratic way.

General meetings: These are usually held for passing on certain information to the people for future action. Scientists give lectures to the people on certain pre-selected items of work, such as organizing on farm training, field day etc.

c. Mass contact

Field days: are used to convince the farmers and to provide them with an opportunity of seeing the results of new practices, demonstration skills, new implements etc. and to give them an idea regarding the suitability and application of these things in their own area.

Kisan mela: is organized to disseminate the technological advances and encourage the farmers to adopt new technologies in agriculture and allied areas for boosting agricultural production and their export. To disseminate latest technological knowledge of agriculture and allied sectors. To motivate farming community to adopt new technologies.

Exhibition: is a systematic display of information, actual specimens, models, posters, photographs, charts etc. in a logical sequence. It is organized for arousing the interest of the visitors in the things displayed. It is one of the best media for reaching a large number of people, especially illiterate and semi-illiterate people. Exhibitions are used for a wide range of topics, such as demonstrating improved irrigation practices, soil conservation methods, showing high-yielding hybrids, new agricultural implements etc.

Printed matter (literature): newspapers, magazines, bulletins, leaflets, folders, pamphlets and wall news-sheets are another set of mass media for communicating information to a large number of literate people. They are used for communicating general and specific information on a programme of technology or a practice. Small folders, leaflets and pamphlets are used to give specific recommendations about a practice.

Radio: is a mass medium of communication and can reach a large number of people at any given time involving the least expense. Scientists use the radio for communicating information on new methods and techniques, giving timely information about the control of crop pests and diseases, weather, market news, etc. For this purpose, talks, group discussions, folk-songs, dialogues and dramas are usually organized.

Television: is one of the most powerful media of communication. It has come into vogue only in the recent years. It combines both audio and visual impact and is very suitable for the dissemination of agricultural information. It is more useful in teaching how to do a specific job. A beginning has been made in India for using this medium for development programmes since 1967, and it is expected that its use will become more extensive in the coming years.

Motion-pictures (movies): are an effective tool for arousing interest among the people, because they involve seeing, hearing and action. They are the most suitable medium for drawing bigger audience. A film show can be followed by a discussion with the villagers.

Transfer of technologies through media

CPCRI Technologies are transferred through various means. The important means are given below.

- **Folders:**

  Soft wood grafting in Cocoa (English, Kannada),

  Pruning and canopy management in Cocoa (English, Kannada)

- **Technical Bulletins:**

  Cocoa cultivation practices (English, Kannada, Malayalam, Tamil, Telugu)

  Calendar for Cocoa (English, Kannada and Hindi)

  Cocoa planting material production (English)

- **Training Manual:**

  Market-led production strategies for Cocoa

- **Books:**

  Cocoa

  Profile on Kannara cocoa collections

- **E-media:**

  CDs

  Website: www.cpcri.gov.in

  email: cpcrivtl@gmail.com

- **Magazines/Journals:**

  CPCRI Newsletter (Quarterly)

  Indian Journal of Plantation Crops, Kasaragod

  Annual Report of CPCRI

Conclusion

CPCRI has been doing research and extension activities for cocoa development since 1970s. The transfer of technology efforts of CPCRI are noteworthy as the technologies have reached many farmers across states. Now, the demand for cocoa is nearly 30,000 tonnes of which the present domestic availability is only about 40 percent. Hence, in order to bridge the gap between demand and supply, co-ordination is highly indispensable. The strong linkage among different agencies *viz.,* Central Plantation Crops Research Institute (CPCRI), Directorate of Cashewnut and Cocoa Development (DCCD), State Agricultural Universities (SAUs), Central Arecanut and Cocoa Marketing & Processing Cooperative Ltd. (CAMPCO), Cadbury India Pvt. Ltd., Departments of Horticulture, Farmers Organizations and Self Help Groups (SHG's) is highly essential to strengthen transfer of technology programmes for cocoa development.

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