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A Case Study :

Development of technology kit for communication empowerment of women extension trainers (WETs)

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A total of 12 Technology kits were developed within a span of two years and the respective kits were multiplied for sharing within the project centres. The printed materials were distributed to all State Agricultural Universities and Home Science Colleges for their wider use. Keeping in view the functional dimensions of the Technology Kits it is recommended that these may be commercialized for use in technology transfer activities.

The print materials included booklet, pamphlet, leaflet, calendar etc. The electronic media included slide sets, audio cassettes, video cassettes and instructional CDRom. The video cassettes included actual or outdoor shooting of process or procedure with narration and background music. The instructional CDRs included textual content, still photographs, video clippings and audio recording. Validation of content, graphic illustrations and narration in audio-video cassettes and CD Rom was an ongoing process and the validation was carried out by the peer group and experts. The communication materials thus developed were packaged in a folding type carry bag.

Over the last three decades, the Extension Scientists have strived hard to develop a variety of communication materials for equipping the extension agents with new information and skills and helping them to mobilize action in development programmes and activities. In this direction, the communication materials suitable for women extension trainers (WETs) or women field functionaries remain to be scanty. In the present era when we are witnessing and experiencing communication revolution in our day-to-day life, the WETs who are concerned with improvingthe quality of life of rural families can not lag behind in their communication ability. They must have an access to a variety of communication materials to improve the communication scenario while working with their target groups.

In this direction, it must be remembered that the visibility of television, video, computers and other communication materials are becoming a symbol of development, modernization and progress among rural families. It is therefore, essential to modernize the communication deliverables for communication empowerment of WETs for enhancing their communication skill and enabling them to build cognitive empowerment of their target groups. It is with these considerations that the extension component of All India Coordinated Research Project of ICAR made an attempt to develop Technology Kits that contained communication deliverables.

Concept of technology kit:

The concept of technology refers to technical method of achieving a practical purpose and kit refers to a collection of related materials packaged together for personal use. Therefore, the concept of Technology Kits under the project pertained to developing communication deliverables on selected topics that pertained to farm and homestead practices. The kit contained print materials like booklet and leaflet and audiovisual materials like audio cassette, video cassette, slides, photographs and instructional CDRs. All the materials contained in the kit were in English as the right of ownership was with ICAR. After

submitting the kit to ICAR during annual AICRP meeting, the Extension Scientists of the project translated the text of print materials and the narration in audio and video cassettes in vernacular languages for its wider use with rural clients. While some of the topics were region specific, the other topics were of general nature that had wider applicability for transfer of technologies/scientific information.

The idea behind this packaged kit was to facilitate the communication empowerment of the women extension trainers who could use the materials for self-paced review of technology/technical information contained in a variety of print and electronic media. The trainers could also conveniently carry the kit to the field situation for instructional purpose and the relevant material could either be used independently or in combination for imparting instruction.

Justification for developing technology kits:

There is no denial of fact that the WETs of Home Science technologies have limited access to communication resources that are suitable for use with the target groups in the rural sector. In reality they need more of such materials because they deal with clients who suffer from constrained situations like low literacy, low exposure to media and time constraints. Therefore, in order to overcome these barriers and to have an access to a variety of communication materials an intensive and innovative exercise was undertaken to develop the Technology Kits. Such user-friendly communication materials are not available with any organization or institution and therefore, by developing these technology kits, a contribution was made to strengthen the communication scenario in Home Science. In all, 12 Technology Kits were developed as per appended list in Annexure 1.

Annexure I:

Titles of technology kits:

- Sun drying of vegetables
- Safe water good health
- Nutrient retention while cooking
- Soya bean- miracle bean of nutrition
- Banana fibre based micro enterprise
- Household storage of paddy
- Family food security through pest control measures
- Scientific storage of wheat
- Household storage of paddy
- Versatile neem for domestic use
- Safe water good health
- Nutrients that promote and protect health

Objectives of developing technology kits:

– To use development research as a mean for packaging communication resource materials in a Technology Kit.

– To strengthen horizontal flow of communication of WETs and two-way communication flows between WET and the target group for technology transfer and subsequent adoption of the packaged technologies.

– To enhance communication empowerment of WETs for transfer of technologies/technical information and enable them to build cognitive empowerment of the target group.

– To facilitate in creating effective communication environment in reaching out to destiny for transfer of packaged technologies to target groups.

Methodology used for developing technology kits:

The methodology used for designing content of print and electronic media was based on horizontal communication model. The objective behind this was to develop coherent and sophisticated resource materials that will contribute to cognitive and communication empowerment of WETs. The assumed pre-condition for inclusion of electronic media in the kit was that users of the technology kit have access to electronic equipment and possess skill in handling the equipment.

Selection of communication materials:

The communication materials were meticulously selected by keeping in view the diversified background of the users. These included print media like booklet, leaflet and pamphlet and electronic media like audio cassette, video cassette, slide sets and instructional CDRom. The methodology used for developing print and electronic media differed and accordingly, both have been explained under appropriate headings.

Designing of instructional message for print media:

The message creators (the AICRP scientists) designed the content of instructional message for the topic that was assigned to them. Designing of message for the print media was the most critical exercise and included the parameters like innovative title of the topic, newness of message, simplicity in sentence construction, logical sequence of the content, content load, continuity of thought process, the environment of message dissemination and the user group of message. The message creators enjoyed ample freedom to develop receiver-friendly message on the topic by moving from simple to complex, easy to

difficult and concrete to abstract message. The content of the message was confined to knowledge, comprehension and application in order to improve cognitive learning and attain a high degree of homophily between the message creator and the user.

The designed message for print media included an introduction, instructional text, boxed or bold capsule message relevant to the text, variations in font size and colour of heading to differentiate the component of the text, different styles of bullets to highlight sub-points and a brief summary.

Production of electronic media:

The electronic media developed for the Technology Kit included slide sets, audio cassette, video cassette and instructional CDRom. The messages that were designed for print media made it easy to develop the content of electronic media. The audio cassette was developed based on the narration of textual content along with background music. The slide sets were prepared by including textual and still photographs. The video cassette was developed by including outdoor or actual shooting on process or procedure of a practice with inclusion of narration and background music that was incorporated after shooting and editing the video film. The instructional CDRom was primarily based on the textual content, still photographs, video clipping and audio recording that were already developed for other electronic media. Animation was also added to increase the attention span of viewers and to sustain interest in self-paced instruction. All these electronic media formed the software that required the hardware component for its production and use.

The dimension of hardware was given adequate importance under the project. Since the production of electronic media is governed by equipment and technical training, both of these components were given highest priority under the project. All the necessary audiovisual equipment needed for preparing communication materials were provided to each AICRP centre for its maximum use. The AICRP Scientists were given ample opportunity through training to gain mastery in handling available equipment for developing electronic media. This included training in videography which covered the aspects like storyboard writing for video shooting, sound recording and editing for developing video cassettes. Training was also imparted to Scientists on computer-based graphic designing for print media and instructional CDRom.

Designing of graphic illustrations:

The graphic illustrations included tables, sketches, diagrams, photographs, bullets and variations in colour and size of font. These illustrations were used as supportive material to compliment the text. The tabular information was further highlighted with use of different colour or visuals to increase effectiveness and also to draw attention of readers. Different colours were used inside the boxes to place salient messages.

Editing of instructional materials:

The blue print of the print message was rigorously reviewed by the peer group to minimize the external factor of message alterations by technical experts. Any irrelevant message not appropriate to the topic or not relevant to the user was deleted. The graphic illustrations like tables, photographs, sketches and diagrams etc. were reviewed for visual clarity, appropriateness and complimentary characteristic of visuals to the text.

Validation of communication materials:

Validation by peer group:

Validation was an ongoing exercise which was carried out throughout the development phase. The message creators shared the materials with fellow scientists during unit and annual meetings of AICRP. The group members shared views on load of content, simplicity-complexity dimension of message, sequential flow of information, abstractness of boxed or capsule message, clarity of visual elements and graphic illustrations in print media; adequacy in narration and appropriateness of background music in video cassettes and an overall effectiveness of communication materials in the Technology Kit.

Validation by experts:

The opinion of experts was also sought for validation. The experts judged the technical quality of message and coherence between supportive illustrations and the text in print media, and visual clarity of graphic illustrations. The audio cassettes were judged for adequacy and clarity of narration. The video cassettes and CDRs were also judged for appropriateness in presentation of message, graphic illustrations and visual clarity. Based on opinion of exerts the communication deliverables were modified prior to multiplication of print media and other software.

Packaging of communication materials:

The idea behind the Technology Kit was to conveniently package the communication materials for ease in carrying and transferring technology to a varied group of learners. For this purpose, a folding type bag was specially designed with flaps for keeping different types of software. The bag has a handle which makes it

convenient to carry and a locking system for safety of all the materials. The outer cover of the bag has the title of the kit, the project title as extension component of All India Coordinated Project on Home Science, name of funding agency as Indian Council of Agricultural Research, New Delhi and the year of developing the kit.

Salient achievements and recommendations:

However, the achievements that can be narrated with reference to the development of Technology Kits are as under:

– development of 12 Technology Kits within a span of two years;

– multiplying the communication materials of Technology Kit of a project centre with other centres;

– translating the English version of the print and electronic media into vernacular language for making the instructional material user-friendly in respective States;

– distributing the printed material of the kit to all Home Science Colleges in the country, to all SAUs and KVKs for communication empowerment of WETs.

– sharing the printed materials of the kit with development organizations for rural women for wider use of technical information. The electronic media could not be shared due to its high cost of production.

Based on these achievements the recommendations that emerged could be highlighted as under:

– The Technology Kits may be used for communication and cognitive empowerment of women extension trainers (WETs), subject matter specialists (SMS) and other grass root level women field functionaries.

– The communication environment of transfer of technology programmes may be enhanced with use of relevant communication material contained in the kit.

– Small sampled field trials on formal and non-formal group of learners may be conducted by selecting the appropriate research design to determine the effectiveness of individual materials contained in the kit.

– A link may be established with relevant organization for commercialization of Technology Kits for increasing the utilitarian value of communication materials by a larger number of users.

Conclusion:

The communication scenario of those who are concerned with improving the quality of life of rural families must keep pace with changes in communication technologies. However, a weakness exists and relevant communication materials are not available to those who deliver scientific information to a varied group of technology users. In view of this, an attempt was made to develop Technology Kits that contained print and electronic media. These communication deliverables were developed through a rigorous exercise of message designing and complimenting message with supportive graphic illustrations. The functional quality of the technology kits directed its use by WETs for technology transfer and for increasing their communication empowerment. It is recommended that these kits may be multiplied for their wider use on focused target groups.

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