the farmers for widespread and continuous use. After just 3 years, by 1979, the insecticide was made useless as the bollworms had developed resistance. We ourselves can vouch for similar events in the case of the onion caterpillar, Spodoptera exigua. Pyrethroids recommended against the pest in the mid-1970's are known to be useless presently, even at very high dosages.

Therefore, the conclusions we could arrive are:

(a) Pyrethroid insecticides are very useful, and very safe to mammals.

(b) Their propensity to induce resistance, and multiple resistance in insects is far more dangerous than their usefulness.

(c) Continuous and indiscriminate use of them has proved to lead to a course of no-return.

(d) Therefore, it is best to reserve their use for "emergency only" applications, where other conventional insecticides had failed.

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SLIDE-VIDEO PRESENTATION AS AN INSTRUCTIONAL AID FOR INSERVICE AND FARMER TRAINING

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The role of both the Sri Lankan agricultural extension worker and the farmer is fast changing due to rapid advancement in agricultural technology. The performance of the farmers and the extension workers strongly influence the economic growth of the country. Thus their capacities to effectively fulfill their roles must be increased by systematic training. To equip them with the necessary knowledge, skills, abilities and attitudes effective training is needed. Agricultural extension personnel must devote more time and effort to introduce new techniques to the farmers and to better their means of land utilization.

Effective training programmes utilize audio-visual media to provide the learner with a wide perspective of

the concepts tought. The recent improvement of media facilities for training programmes in the Department of Agriculture, has made it possible to use training materials as an integral component of the training programmes. To design training materials for instruction there needs to exist a participatory approach involving research, extension, training and media production personnel within the Department of Agriculture. The training materials should be produced according to clearly defined objectives so that the trainer could use them more effectively.

More information on the range of audio-visual materials that could be effectively used in Sri Lanka is needed. It is probably not the best solution to go through a catalogue which lists the latest audio-visual equipment. The Department of Agriculture in Sri Lanka has been particularly fortunate in possessing a fairly well developed organizational structure and facilities for media production. But unfortunately very few theoretical concepts in communications have ever been utilized to produce the media presentations in support of the on-going communication activities.

There is no doubt that some form of audio-visual to support and supplement the conventional training can be of considerable benefit to the learner. Film is a possibility but it is very expensive, it is inflexible in both operation and change, and production time is long. Video production could be a better alternative to a film, but the major problem here is the lack of recording equipment and trained personnel in the department to carry out such production. However, the technique of slide-video presentation probably could provide a practical substitute for the production of instructional video films.

Slide-video presentation is basically a synchronized sound and slide presentation which is recorded on videotape. It has all the visual characteristics of a synchronized slide-sound presentation. The television medium is used in this case to present it more conveniently and with more sleekness. A viedoicassette recorder-recorder is much easier to operate than a combination of slide projector, tape recorder and screen. This technique attempts to utilize existing resources in the deparatment for systematic production of instructional video material as an aid for agricultural training with the least dependence on outside resources. Personnel in the Department of Agriculture are capable of producing and using the slide-video presentation at a low cost with simplicity and a high degree of adaptability.

Advantages of Slide-Video Technique:

A slide-video presentation can be produced within a short period of time. Compared to motion pictures, slide-video production is easier and less expensive. Slides could be quickly processed and developed locally and assembled in sequence for presentation much faster than a film. The slide-video medium has the potential for being optically and acoustically provocative to both audience and producer. Because it can be designed based on specific objectives in nearly any subject area, slide production can utilize a wide range of existing and newly produced pictoricals that could be incorporated into the content of presentation. Slides can be made from illustrations from books and magazines by copying the original.

Limiting the visuals only to slides helps to eliminate the transportation of very delicate video equipment for recording purpose to distant areas. On the other hand, the production of slides can be done with the available equipment and personnel within the Department of Agriculture. Slides can capture and illustate real life situations with real people without having to create a setup or to use or train actors or the participants to provide the drama often essential for a film or video.

Production of a Slide-Video Presentation:

Success with an intructional medium demands careful planning and a realistic approach. It cannot be a casual activity. Developing a technique of visual presentation requires organized institutional support as well as equipment, material and skilled personnel, and only then it can be sustained as an integral component of an instructional system.

For the production of slide-video presentations as an aid for in-service and farmer training, it is logical and appropriate to place the production responsibility in the "Audio-Visual Unit" of the Department of Agriculture.

It is important that the three main divisions within the department "Research", "Extension" and "Training" course together to identify the subject matter and the learning tasks of slide-video presentations at the very first stage of the production. This can be brought about by having the "topic selection" for slide-video presentation incorporated as an item in the agenda of the "Regional Technical Working Group Meeting." The role of the working group is one of diagnosis of needs and prescription of the tasks to be performed as well as allocation of resource assistance. The

structure and format of the presentation has to be determined by the audio-visual specialist. When the production and sequential arrangement of a slide set are completed, it will be transferred onto a video cassette which can be played back with the equipment available at the in-service training centres. The "Farm Broadcasting Unit" could cooordinate the transfer of visuals and addition of voices and other sounds onto a video tape. Since the Farm Broadcasting Unit works with the television production institutions in the country, this unit can use the electronic visual production facilities available outside the Department of Agriculture for adding sound and voices. The operation involved at this stage will require additional financial funding to pay for the cost incurred.

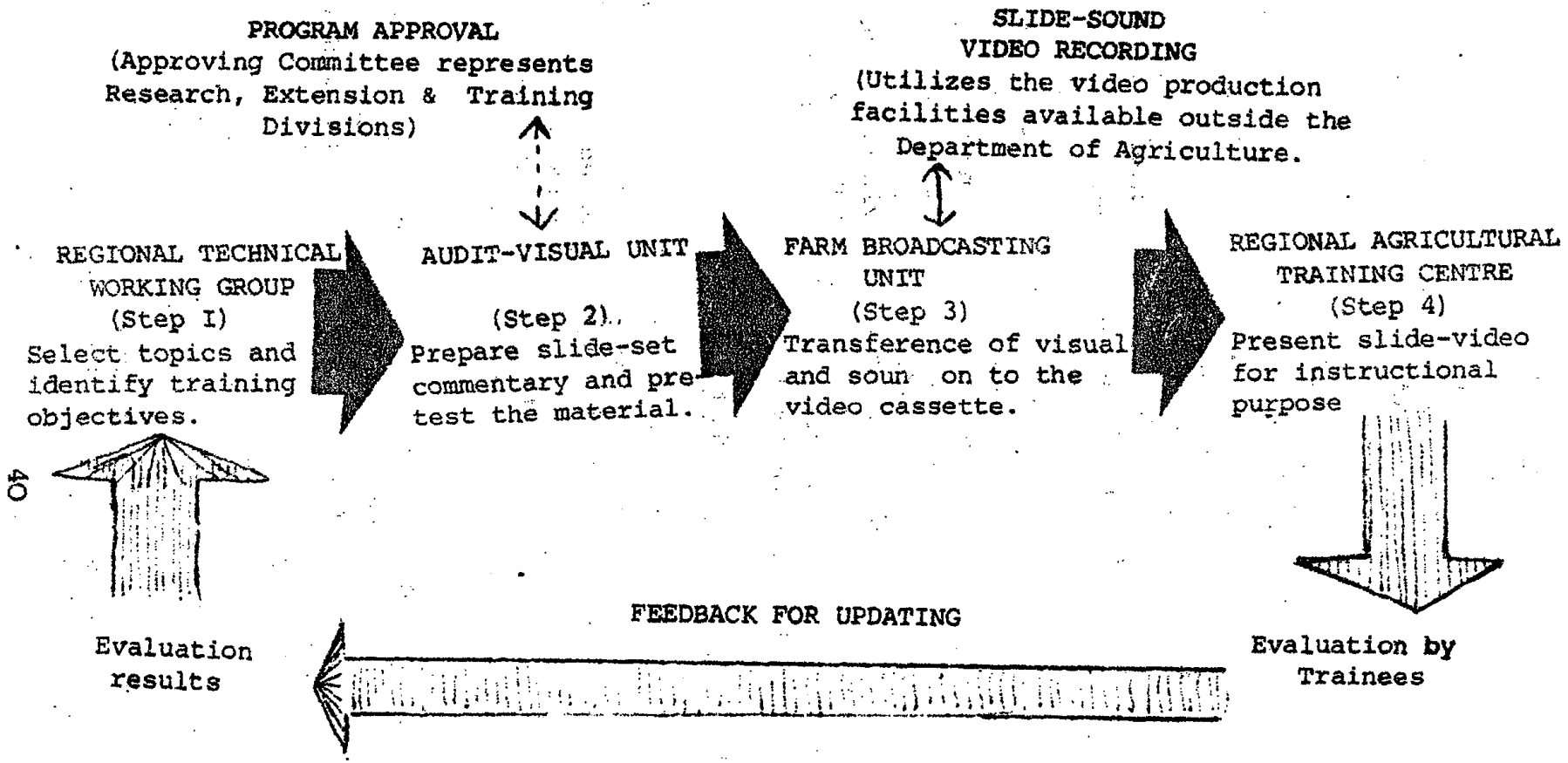
In the process of the development of a slide-video presentation, it is necessary to verify and validate the content of the presentation before an "Approving Committee" prior to taking pictures. For this purpose it will be necessary to set up a committee consisting of representatives from the research, extension and training divisions. The script of the programme and the drawings/illustrations (if any) related to the programme need formal approval by the above committee before production takes place.

Planning Consideration for Production:

When selecting subjects for slide-video presentations, it is important to choose the ones which are most important and also the ones which can be visually presented to achieve an impact. It is important to define educational objectives at the outset. They need to be stated in behavioral terms as: What should the learner know or be able to do as a result of viewing the presentation?

Basically, slides will be used to present new information pictorially. However, slides can also be used to present some information in the form of titles, statements, questions etc., visually. Experimental studies have indicated that liberal use of such titles, questions and other printed words can improve teaching effectiveness of the visual medium. In general, when making the pictorial visuals, the principles of picture composition need to be observed.

It is important to select a mixture of medium and close-up shots as the television medium is used for the presentation of visuals.



Proposed stages of Development of a Slide-Video Presentation as an Instructional Aid for In-Service and Farmer Training.

Procedure for Producing a Slide-Video Presentation:

In brief, production of a slide-video involves developing a slide-set to visualize and idea, recording matching sounds and finally video-tape recording of both visuals and sounds. The video recording of slides and sound in this case is more or less a mechanised process which will be performed in a television production facility. Usually a slide chain with a dual drum is used at television stations to perform this operation. However, even a video camera also can be used to video record slides. In this case slides will be projected on a screen using a slide projector and this projeczion then will be video recorded using a video camera.

However, in order to embark on the production of slides for a still-video presentation, the following basic photo supplies are required:-

A 35 mm camera (A single lens reflex)

Automatic Flash

Telephoto lens (i.e., 200 mm)

Wide angle lens (i.e., 35 mm)

Macro Lens (Close-up Lens)

Copy stand with photo floods.

Some of the above-mentioned equipment are available at the "Audio-visual Unit" of the Department of Agriculture. However, it is very necessary to have all the above in order to make suitable slides for the presentation. It is attractive and probably effective at least in certain ways for a slide-video presentation to use slides produced using different film materials. Therefore, it is preferable, although not absolutely essential to use high contrast negative films such as "Kodalith" and "Vericolor" (which are trade names of Kodak products) in addition to the widely used positive (reversal) colour film for the production of slides.

Following are some of the important techniques that make a slide-video presentation effective.

* Use of different photo techniques such as copy stand photography, high contrast photography, etc., to add variety to the presentation.

* Provision of both a general view and also detailed ones. In this case, it is best to move from the overall to the particulars.

* Use of suitable sounds to accompany the visuals.

* Relating any close-up to the wh ole object, so as to sh ow its real size.

* Use of arrows, figures or hands to make the message better understood.

* Use of horizontal slides all the time and to avoid vertical shots, as they interrupt the sequence.

* Avoiding use of graphs and statistics the audience would have difficulty in understanding them.

* Use of brief narration instead of lengthy ones to supplement the picture.

* Making lettering clear and easy to read.

* Allowing the picture to last sufficient time for the viewer to grasp the idea, but not exceeding ten seconds.

* Limiting the whole presentation to a short period usually not exceeding ten minutes.

It is important to note that a certain amount of picture quality of slides, in terms of resolution and colour, deteriorates as it goes into video. In order to compensate for such losses, the picture needs to have good contrast qualities. One needs to be conscious of the limited resolution of the televison picture, especially when dealing with areas of production where fine picture detail predominates.

Once the visuals are transferred to a videotape, then the sounds and voices can be added to the two audio channels of the videotape making use of the dubbing facilities available in a television station or a television production unit. When the whole process of production of a slide-video presentation is completed, the video recorded material can be further transferred to half an inch "VHS tapes" or "Betamax tapes" for the use with the video playback equipment available at the training centres.

If slides (both true pictures and diagrams) are produced while keeping the important basic principles of audio-visual instruction in mind, a slide-video presentation is not likely to fail in serving its purpose. But we must not forget the fact that it is a work tool. It only supplements the interpersonnel relationship between trainer and the learner. The participatiopn of trainer or of the extension worker is indispensible for making this material effective.

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CONTROL OF WEEDS IN PINEAPPLE

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Introduction:

Pineapple (Ananas comosus) is a popular fruit crop, often grown under coconut in Gampaha and Krunegala Districts. Weed control is problemetic in pineapple, specially with the Mauritius variety. Hand weeding may cause minor injuries to the labourers as the leaves are edged with thorns. The proper movement of mechanical weeders is obstructed by the overlapping and closely spaced plants. Manual weeding is likely to damage the basal leaves of pineapple plant.

Pineapple growers use coir dust for mulching. The objective of mulching is to conserve moisture. Weeds in the coir dust mulched area can be controlled by mopping-up operation. Coir dust mulch, however, is indirectly responsible for the occurance of wilt disease. Though, studies on chemical weed control in pineapple have been conducted in Sri Lanka no firm recommendation has been made.

The aim of this study was to test the efficiency of five pre-emergent herbicides at two levels. The control used in this experiment was the conventional method of weed control (namely hand weeding and coir dust mulching).

Materials and Methods:

This trial was conducted at the Regional Agricultural Research Entre, Makandura during Maha 1982. Mauritius variety was used. Pre-emergent herbicides and their levels tested :-