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These six case studies were chosen from the many examples of 'successful' educational radio described in Part One of this survey, because they collectively offer an interesting and balanced set of operations; they span the spectrum from formal to informal education as they emphasize aspects of educational innovation and development serviced by educational broadcasters round the world. In each of these services, whilst there is the closest professional collaboration between the technical broadcasting staff and the educationists, it is the latter who have complete responsibility for all decisions on programme series, content, format, presentation and usage - a significant point since it is they who have been given the overall national responsibility for all aspects of the educational process. In brief - these case studies are felt to offer good examples of educational value being derived from the investment made.

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BRITAIN: BBC RADIO STOKE-ON-TRENT ADULT EDUCATION

BBC Local Radio

Radio started in Britain on a local basis and moved on to a national scale because of a shortage of wavelengths. However, the technical advances in VHF made truly local radio possible again and the BBC proposed sixty stations to operate as an additional service. The first phase of the operation was to include the establishment of twenty stations. The Government made an allocation of wavelengths and permission was granted to operate these twenty stations. Subsequent expansion has now been curtailed and 1973 saw the introduction of the first two commercially operated local radio stations.

The order and pattern of opening of the BBC local radio stations in England was: 1967 - Radio Leicester, Radio Sheffield, Radio Merseyside; 1968 - Radio Nottingham, Radio Brighton, Radio Stoke-on-Trent, Radio Leeds; 1969 - no new stations; 1970 - Radio Bristol, Radio Manchester, Radio London, Radio Oxford, Radio Birmingham, Radio Medway, Radio Solent, Radio Teesside; 1971 - Radio Newcastle, Radio Blackburn, Radio Humberside, Radio Derby; 1972 - no new stations opened; 1973 - Radio Carlisle (from Durham, which closed).

The typical BBC station serves a population of between half a million and one million persons. It costs about £150,000 capital (excluding the site) and

about £150,000 yearly recurrent costs. It originates about 3,500 hours of programmes in a year, and for the rest of its twenty hours of daily transmission uses programmes selected by the station manager from the BBC national networks. These programmes are used at will and without charge. The stations are financed by licence revenue which is supplemented by contributions in service or gifts.

The main effort of the station goes into the service of news, information and educational output at all levels. All stations offer their facilities to groups and individuals enabling local people to express themselves. One station manager has said 'At its best my station is a giant switchboard connecting the community to itself'.

Education has been a major preoccupation of BBC Local Radio from the outset. Indeed in a sense, the entire social purpose of local radio, as conceived by the BBC, may be described as educational. As education is a central concern of every civilized community, so too must any agency serving the aims of the community treat it as an area of human activity demanding special regard and support. Every one of the twenty local stations has an education producer and air-time is allocated for local educational programmes. At the beginning there was a great deal of scepticism about the need for locally produced and locally broadcast educational material. Some people thought that the existing national provision was adequate and that a local supplement could not be justified. But advocates for local educational radio saw the opportunity for a new form of educational broadcasting. There was a new range of possibilities, which would never be achieved by an extension of the BBC mainline educational provision. There was the possibility of calling upon and using directly the great funds of talent and professional skill in the teaching profession. Broadcasting needs in moderately-sized communities could be determined and accurately matched by the efforts of teachers and broadcasters working together. Furthermore, broadcasters would become more directly involved with the communities and audience that they served locally.

The Schools Broadcasting Council for the United Kingdom is an autonomous body which stands sponsor to all BBC broadcasts to schools. The SBC vested its responsibilities in locally formed Educational Panels which were to be representative of all educational interests in the areas. In practice, these Panels included both schools and further education interests. Invited for their local educational stature,

Panel members guided the stations in their educational efforts. Their specialized knowledge, local connexions and professional support have been invaluable to the Education Producer, whose task it has been to devise an output that would mirror the needs and priorities of the area. As the finances available would only be at a modest level it was hoped that a concept of co-operation and partnership between local broadcasting and local education would result eventually in the clearer realization of what educational broadcasting could achieve and so offer the chance for more funds at a later date. The productive partnership was one in which the BBC put its accumulated skills in broadcasting, its willingness to share these skills with others, an allocation of the station's general and supportive facilities and the salaried services of its Education Producer. To match this, the educational world would provide the specialized guidance, direct professional co-operation in the preparation of educational broadcasts and associated materials and in the promotion, distribution and evaluation of these products.

This scheme to make broadcasting an effective, local, educational resource started in 1967 and so older stations have now had six years to test their ideas, and the younger stations three years. Obviously, the later stations have been able to build on the experiences of the earlier ones and so have been in many ways able to move up through the gears more quickly, but acceleration and direction of travel depend for all stations very much upon the nature of local response. It is fundamental to BBC Local Radio that this should be so. Thus, there are differences of emphasis between stations. Some have a highly developed schools service, others stress adult education much more. Many stations have a range of programming which reflects a general acceptance locally of the new approach to educational broadcasting.

BBC Radio Stoke-on-Trent serves the Potteries (or the 'Five Towns' that Arnold Bennett wrote about) and its educational programmes range from those for 'adults' with a strong, local, historical and social theme, to secondary school series in French, geography, history and for primary schools French and music. This local station has strong links with the community and the Education Producer was previously a teacher in the area and has strong local connexions and interests.

From the adult education programmes of Radio Stoke a choice for study was made of two different programme series - one local history series entitled Preach the Word and one agricultural series called Milk from Grass.

'Preach the Word' - a study in local Methodism

This was a series of nine half-hour radio programmes that were devised and produced as a joint venture by BBC Radio Stoke and the Adult Education Department of the University of Keele.

Adult educational experience in Stoke-on-Trent and in other local areas showed that the recruitment of students into conventional classes as a result of radio programmes is meagre. But the Adult Education Department of Keele was not convinced that the role of radio was one of stimulation and advertisement only. The project of the programme series of Preach the Word was an experiment to determine whether, as a result of a combination of radio programmes and tutor visits to study groups, people who do not normally come to adult education classes can be prompted to engage in some sustained educational activity. They would not be meeting within the framework of the usual adult education classes but within their own organizations and making use of their own established patterns of habit. Thus the spheres chosen for 'experiment' were local history and local Methodist churches.

The basic aim of the programme series was to encourage and prompt members of the Methodist Guilds, Methodist Men's Groups, Fellowships, etc. to take an active interest in the history of their own local chapel. The experiment would have several modes of operation:

1. The study group would come together to listen to a series of thirty-minute radio programmes which would be made and transmitted by BBC Radio Stoke.
2. A visit by a tutor from the Adult Education Department of the University of Keele to the church group. During his visit he would play extracts from the broadcast programmes on a tape recorder in order to promote discussion; encourage people to look up their own local records; make recordings on the spot, or at a later date, of interesting and vivid reminiscences etc.; and generally to find and encourage key individuals who would group together to undertake some elementary local historical research.
3. Some members of groups would participate in the making of some radio programmes which would be the compilation of the results of research and personal reminiscences.

It was also hoped that a by-product of the venture, though not foremost in the

mind of the visiting Keele University tutor, would be the hope that in the future there might follow the creation of a special class which would come together to write the local history of Methodism.

The nine programmes for Preach the Word were written and presented by a Keele tutor. The production was handled by the Education Producer of Radio Stoke. The programmes were transmitted on Sundays at 4.00 p.m., with one repeat of the programme on the following Thursday at 4.30 p.m.

The first four programmes were prepared in advance of transmission and acted as the first phase of introducing the topic and providing the working materials for the group activities. A folder of supporting documents was prepared and distributed. The enclosures included:

1. an old handbill found in a chapel up on Biddulph ('Biddle') Moor relating to the conversion to temperance of a well-known hardened drunkard known as 'Old Mo';
2. Sunday School statistics showing a list of teachers and scholars for the whole of the Macclesfield District in 1938;
3. three lists of Wesleyan Methodist Churches in the Potteries up to 1932;
4. photographs of six famous Tunstall local preachers;
5. the Wesleyan Preachers' plan of the Burslem Circuit for 1839 which shows the organization of the itineraries for the various preachers to the different chapels in the Potteries;
6. illustration of the original chapel at Mow Cop;
7. some hymns and tunes from old hymn books;
8. statistics from the 1851 Census of Religious Attendance;
9. booklist.

The fifth programme was compiled from personal reminiscences recalled and recorded by members of the groups and concentrated on the 'camp meetings' held at Mow Cop. These programmes ran between September and December 1971. It was from these contributions that members of the groups including those from Boundary, Tean; Cheadle; Longton; Mow Cop; Epworth Street, Stoke; Bethesda, Hanley; Withington near Congleton; took courage to continue their own researches and studies into chapel records, to discover old memories and experiences. From their efforts four more programmes were made and broadcast in the period April to July 1972.

Not only had the study groups been able to carry out some research into local history, but they had felt strongly enough to want to make it available to other interested members. So the last four programmes had new material, making use of the voices of study group members themselves, whereas the first four programmes had been largely studio-based productions with a drama content using actors, and only occasionally the voices of local people speaking from direct experience.

How can such a programme series be evaluated? What was its effect? The interest aroused amongst the participating Methodist groups was such that the basic aim of the series, which was to encourage members to take an active interest in local history, was achieved. The creation of the last four programmes was one sign of this, but another was the Exhibition of Local Methodist History that was mounted at Radio Stoke over the weekend of 15th/16th April 1972. Everyone was invited to 'participate in the sights and sounds of old times in Methodism'. One studio was set aside for the Exhibition and visitors were not just spectators but were invited to bring their own 'treasures' as well as coming to see what other people were putting on show. Altogether a thousand or more possessions were displayed, including a couple of original letters from Hugh Bourne, a local man, the founder of Primitive Methodism, and even one from John Wesley himself. Visitors were able to hear on request, recordings made by group members from the twenty-one items collected. These included descriptions of the average Sunday School day of the period, the minutes of a meeting of the Sunday Treat Committee for 1844 at Longton, famous and unusual preachers, hymns and choruses. But according to the Education Producer, the most 'frequently requested short archive tape of the weekend was one recorded a few months previously by a very old lady on the subject of Gypsy Smith, the evangelist. It so happened that the old lady died during the Exhibition weekend, which rather sadly, but dramatically underlined the point of attempting to build a sound archive'.

In all, between five and seven hundred people visited the Exhibition which showed the interest that had been stimulated in this very modest programme series. The Exhibition closed with spontaneous hymn singing in the Operations Room of Radio Stoke - in true Mow Cop tradition (a tradition essentially of the area and of the birthplace of Primitive Methodism). Thus this was an experiment in adult education that could only succeed on a local basis.

'Milk from Grass'

This was a series of six half-hour programmes developed and produced by the Staffordshire Agricultural Development and Advisory Service and Radio Stoke-on-Trent. The objective of these experimental programmes for dairy farmers in Staffordshire, Cheshire and Shropshire was to create amongst dairy farmers an awareness of recent developments and performance levels in grassland management and to instruct them in some of its basic principles. In the radio programmes top scientific experts would use their research knowledge and expertise to evaluate the methods practised by leading local farmers.

Radio Stoke had been broadcasting a regular weekly agricultural magazine programme for several years. According to the population census carried out in 1970 there are some 20,000 farming households in the area and it was estimated that 32% (6,400) of these had access to VHF receivers. Outside the concentrated industrial areas of the 'Potteries' a high proportion of the farms is milk-producing. The size of the farms in the area ranged from twenty to three hundred acres.

The proposal for the experimental programme series for a specialized group of farmers rather than the random general farming audience for the weekly radio magazine, was made by the producer of agricultural programmes at Radio Stoke, and by two officers of the Staffordshire Agricultural Development and Advisory Service. The proposal was to test the thesis that using local radio could be the most economic means of reaching a widespread farming community. It was agreed that there would be six programmes transmitted at 7.35 p.m. on Wednesday evenings, with a repeated transmission at the same time on the following Monday:

1. Grass Varieties and Feed Mixtures
2. Fertilizing Grass
3. Milk from Grass
4. Conserved Grass
5. Implications of the European Community (EEC) for the West Midland Dairy Farmer.
6. Your Questions Answered

The two officers of ADAS were responsible for planning and writing the scripts, whilst the producer from Radio Stoke was mainly involved in the editing activities and studio procedures when the programmes were being compiled. The production sequence that was followed was:

1. decide on the subject for the series;

2. decide on the radio programme content and transmission dates;
3. carry out interviews at various locations;
4. editing of interviews and further recordings made in the studio;
5. selection of particular inserts for individual programmes;
6. final editing and timing of inserts;
7. writing of script for presenter and summary;
8. recording of programme;
9. transmission.

The same programme format was followed for the first five programmes with approximately twelve minutes of interviews given by various experts, twelve minutes of presentation given by one officer of ADAS and six minutes of final summary given by the senior ADAS officer in the area. The sixth programme was a 'live' question and answer forum which was held in the large community studio at Radio Stoke and the panel of experts was drawn from the main contributors of the series, with an audience of local farmers.

A producer was employed on a free-lance basis for the programme series and the two ADAS officers were able to give some of their time to the experiment, as well as raising finance to support the project. They were able to make a fairly accurate assessment of the time taken by each of them in the making of a thirty-minute radio programme and the pattern appeared as:

	Officer 1	Officer 2
Planning and recording	4 hrs	4 hrs
Interviewing	1 hr	-
Editing tapes.	2 hrs	-
Script writing	2 hrs	½ hr
Travel	4 hrs	1½ hrs
Total	<u>13 hrs</u>	<u>6 hrs</u>

With the aim of trying to bring the views of scientific experts with research findings and experience as well as those of more progressive and successful farmers to local farmers, a wide variety of contributors was chosen for the programmes. It was hoped that grassland practices outside Staffordshire could be described and compared with those going on nearby and that the merits, pitfalls and possibilities could be shown by the advisory staff. People interviewed on their home farms or institutions included soil and nutrition scientists, an officer from the Grassland Research Institute, managers of experimental farms, managers from industrial farms, a regional manager of the Milk Marketing Board, as well as farmers themselves.

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The two ADAS officers took part in all six programmes.

An attractive folder was printed to support the radio programmes and a selection of the relevant advisory leaflets was included, as well as a short summary of each programme. No new leaflets were printed for the experiment but stocks were ready to hand at the ADAS office in Stafford. Thus the complete folder comprised:

1. Programme summary
2. For programme no. 1:
NIAB leaflet No.16 : Recommended Varieties of Grass
No.17 : Grass for Conservation
ADAS leaflet : Grassland Practices No. 1: Seed Mixtures 1971/72
3. For programme No. 2:
ADAS leaflet : Grassland Practices No.2: High Nitrogen
" " Grassland Practices No.4: Potash on Grassland
" " Grassland Practices No.5: Phosphates on Grassland
4. For programme No. 3:
ADAS leaflet : Grassland Practices No.7: Grass as a Feed
" " Grassland Practices No.8: Zero Grazing
" " Paddock Grazing
5. For programme No. 4:
ADAS leaflet : Making Quality Hay
" " Farm Waste Disposal
" " Mechanized Handling and Feeding Bunker Silage

Reference to the pamphlets was made during the programme; it was hoped that the listener might carry out a little reading before the day of the broadcast, but the main purpose of the printed material was to supply him with more details and practical advice should he want to study the ideas further after listening to the broadcast. The folders were supplied free from ADAS/Radio Stoke on request and sixty-two copies were distributed.

Prior notification and promotion of the programme series was given over the air by Radio Stoke, in the local newspapers and in the agricultural press. Each radio programme was devised so that it could stand by itself as it was not expected that the busy farmers would be willing to listen to all of the programmes. It was Spring time and a busy season for the farming community, but there were many dis-

cussions going on regarding the need for increased economic efficiency and possible changes with the entry of Britain into the European Economic Community. The topics chosen were both topical and typical of what the farming community might be thinking and saying.

The evaluation of the experiment may be judged in various ways and at different levels. The actual interest and participation in the final programme which was of the 'question-and-answer' form with an audience of some sixty farmers at Radio Stoke who asked the panel questions that showed that these particular questioners had heard the previous programmes. Thus the short span of five weeks' transmission on a specialist subject area did appear to have a positive result.

To follow up this programme ADAS employed a researcher to carry out a qualitative assessment by post on the programme series. The Ministry of Agriculture and Fisheries held a list of all farmers on their 'current distribution list' and a simple questionnaire was drawn up and sent to every twentieth farmer on the list in the reception area of Staffordshire, Cheshire (except the Wirral) and North Shropshire.

The three questions asked were:

1. Do you own a VHF radio receiver?
2. Do you listen to BBC Radio Stoke?
3. Did you listen to any of the six programmes in the recent Milk from Grass series?

767 questionnaires were posted and 328 replies were received (a completion and return rate of 39%).

Replies to Question 1: 36% replied that they owned sets (which showed a 4% increase in ownership over the previous 1970 figure).

Replies to Question 2: 32% replied that they did listen to Radio Stoke (this showed that 10% overall of the farming households were listening which was an increase of 2% over the 1970 figure).

Replies to Question 3: 5.2% replied that they had listened to one or more of the programmes.

To supplement this survey ADAS staff agreed to carry out a qualitative evaluation by personal interview of some 53 farmers who had said they had listened (according to the postal survey (17 in number) and a further 36 who had asked for

the supplementary folders). Therefore 47 farmers in Staffordshire, 3 in Cheshire and 3 in Shropshire were interviewed.

Their comments and views can be summarized as:

Listening was not confined to any particular size of farm holding - all sizes from 20 acres to 300 acres were represented.

82% agreed that the period chosen (March/April) was suitable for the series, though 18% would have preferred it to be earlier in the year.

87% agreed that the time of transmission at 7.35 p.m. was convenient, though the remaining 13% were not consistent with their suggestions for an alternative time. Some felt that the repeated transmissions should be at a different time in the evening, and one suggestion was that the radio programme should follow the BBC television farming programme, which was transmitted at 2.00 p.m. on Sunday afternoons.

When asked to judge the programme content, the replies showed that 94% judged it 'about right'; 6% 'too elementary'; and none judged it 'too technical'. In reply to questions on their judgement of the presentation of the programmes, 51% replied 'very good'; 49% 'acceptable'; 0% 'could be improved'.

In reply to questions on their judgement of the interest level of the programme, 60% replied 'very interesting'; 4½% 'interesting'; 0% 'no interest'.

Normally two people in each farming household listened to the programmes and when asked how many of the six programmes they had heard the 53 households replied that 221 programmes had been heard - i.e. 3.7 programmes per household, or nearly four out of the six.

In reply to questions on how they used the written materials 13% replied that they used it during the broadcast, 62% used it later for reference, and 25% found it useful both during the transmission and later for reference.

In judging the various contributors to the programmes, 57% judged them acceptable, while 43% would have preferred more local representation and local examples of good husbandry and grassland management.

When asked how they found out about the radio programme, replies showed:

Letter from ADAS (Stafford)	49%
<u>Radio Times</u>	2%
Local Radio	34%
National Radio	0%
Others (including local press)	15%

When asked for suggestions for any future programme series, replies revealed:

Dairying	37%
Grassland	25%
Dairy Replacements	13%
Beef	8%
Cereals	6%
Sheep	5%
Pigs	4%
Potatoes & Sugar Beet	1%
Poultry	1%

(The subsequent programme series transmitted in January/February 1974 was Growing Grain and had the same programme format but made use of local knowledge and practices to a much greater extent).

A few individual comments included:

- ... would like to hear more from farm workers and stockmen.
- ... would like to have heard more from smaller farmers, not necessarily the successful ones.
- ... like to hear of local farmers' setbacks and answers to their problems.
- ... did not agree with everything said.
- ... was too dogmatic about paddocks.
- ... not enough said about hay.
- ... programmes should have been a month earlier for more time for application of new ideas.
- ... why not phone in questions at the end of the programme?
- ... it would be useful at end of the programme to refer to leaflets to be used in next week's programme, hence reading done prior to the next programme.
- ... have altered fertilizer usage since listening.

Was this last comment made by the only farmer to change? Perhaps he was a man who was easily persuaded or in the right frame of mind? Farmers are normally regarded as very conservative in their approaches and much of the comment raised in the sixth programme appeared to assert that sound practices had been established for many years and that the Staffordshire farmer need not be ashamed of his practices! But the objective of the series was to change his attitude and to evaluate his existing methods. Such changes and developments cannot happen overnight; the farming year follows logically season by season; many

a farmer wants to see it happening for himself before he tries. An interesting conversation was reported in 1974 in which the local seed merchant in the area said that sales of a certain variety of grass seed (Melle) had greatly increased during the season and that he could not understand it; he did not know, or had forgotten, that this variety had been highly spoken of and recommended in Milk from Grass two years previously. Change does take time in the agricultural community but the lesson must be remembered by programme designers and instigators that the small core of persons who are first amenable to change and will eventually persuade the greater number of others, will themselves not be able to change if they cannot get the seeds, fertilizer, skills, advice they require at the right time. If new varieties of grass seed are to be sown, then they must be readily available for purchase and not merely an entry in the catalogue.

Was it worth it? How did the radio series compare with other means? Certain standard techniques for implementing the ADAS general advisory policy are worth quoting in detail for purposes of comparison with the experimental technique of this radio series.

Comparison of Techniques.
Agricultural Advisory Service Cases:

Meetings arranged for farmers:

- a) Poultry meeting at Stafford with two speakers 'Increased Output and Profit' in October 1971.
Cost = £37 Attended 35 Cost per person £1.05
- b) 'Feeding Dairy Cows this Winter' in October 1971 with one speaker.
Cost = £48 Attended 17 Cost per person £2.80
- c) 'How Green were your Stubbles' in January/February 1971 with one speaker for four meetings.
Cost = £280 Attended 200
Cost per person £1.40

Individual Visits to Farmers:

One half-hour visit at cost of £20 per day	=	£1.25
Travel costs at 10 miles at 4.8p per mile	=	£0.48
Travel time at 20 minutes	=	£0.80
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Total cost per person	=	£2.53

Newspaper Articles in Local Press:

'The Leek Post & Times' carries a regular weekly ADAS article. 1,100 farmers take the newspaper and 23% of them regularly read the article (e.g. 250). The cost to ADAS is assessed at £15 per week.

<u>Cost per person</u>	=	£15 for 250 persons
	=	6.0 p.

Radio programmes: 'Milk from Grass'

Cost of the production of the six radio programmes amounted to £364. It was assessed that an audience of 1,600 listened on four separate occasions. This is based on 1970 figures showing that of 20,000 farming households in the area, 8% (1,600) listened to some of the agricultural programmes. This figure can also be interpreted as an audience of about 3,000 people since the programmes are usually heard by more than one person per household. Sample interviews after the Milk from Grass series showed that the average number of programmes heard was 4.

<u>Cost per person</u>	=	$\frac{£364}{1600 \times 4}$	=	5.6p
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THE SCHOOLS BROADCASTING SERVICE:
BRITISH SOLOMON ISLANDS

Introduction

It has often been suggested that radio is likely to be the most effective medium of educational communication in regions where there are large distances between centres of population, the communications are poor, the populations are scattered and where the per capita income is low. This is a fair description of the situation of the British Solomon Islands Protectorate. The Solomon Islands consist of a scattered archipelago stretching approximately 900 miles in the South Pacific. The total land area is approximately 11,500 sq. miles. There is a very large number of islands - several hundreds in all - only six of them of major importance. The islands are mountainous and covered with dense rain forests and mangrove swamps are to be found on many parts of the coast. There are also large reefs and lagoons around many of the islands. The climate is equatorial with heavy rainfall. The largest proportion of the Solomon Islanders live in small villages and practise shifting agriculture and

fishing. There are about forty different languages, and as many dialects, spoken in the various islands of the Solomons. Official communication is in English although pidgin English, which uses Melanesian syntax and a vocabulary derived from English, is widespread. Sea transport is vital in the islands and air communications are beginning to be developed. There are very few roads throughout the Protectorate and less than 3,000 vehicles.

The Educational System

Prior to the Second World War, all education was undertaken by the churches. Government participation in education is comparatively recent and only one of the six secondary schools and five of the 412 primary schools are controlled directly by the government at present. 223 primary schools receive no government assistance whatsoever. Almost all primary schools in the rural areas are leaf and cane structures. There is a tendency for these buildings to be replaced by permanent classrooms. It is planned that each classroom should be equipped at a cost of A\$220 with desks, a teacher's table, a classroom cupboard, a chalk-board, a display board, together with a clock, a radio and basic texts and stationery. Although development is taking place and a complete appraisal of the education system has been made by an Educational Policy Review Committee in a recent document entitled 'Education for What?' the educational system is still faced by considerable problems. The main enemy is lack of communication. Improving and upgrading the quality of education, through in-service training by conventional means and provision of resources such as books and charts, are hampered by the problems of the distances involved. It can take up to two weeks to travel from Honiara, the capital, to the most remote schools on some of the outlying islands.

Educational Broadcasting

It was against this background that a Schools Broadcasting Service was brought into being and after some four or five years of experimentation on a limited scale, a full-time Educational Broadcasting Officer was appointed in 1967.

This officer was an educational radio producer seconded from the BBC's Schools Broadcasting Department. On arrival he faced the daunting task of developing and maintaining a Schools Broadcasting Service virtually single-handed. Before this there had been very little local production of programme material and no sustained effort to tackle specific areas of the curriculum.

The production facilities were those of the Solomon Islands Broadcasting Service, which is part of the Department of Information and Broadcasting. This necessitated the sharing of studio time and consequently working irregular hours. Within the constraints of sharing, full access to all facilities was, however, available.

The adoption by the Department of Education of a standard oral English language course for use in primary schools enabled the Schools Broadcasting Officer to develop a series of programmes to back up the introduction and use of the course. Similarly in mathematics, opportunity to reinforce developmental work presented itself. Beyond these two areas however, there was little guidance available to identify the needs and requirements of the system. Where there was a curriculum in existence for a subject or level it was followed completely. Where there was innovation taking place it was supported and backed and where there was no official syllabus or curriculum, material was devised by the Schools Broadcasting Officer.

Over a period of years the quantity of programme material increased to the present level of twenty hours of broadcasts to schools each week. This includes material covering most timetable subjects and all age ranges. The production staff has doubled in number with the appointment and training of a Solomon Islander as Assistant Schools Broadcasting Officer. There is very little money available for production expenses or other requirements, such as the provision of support material. Initially most of the radio receivers used in the schools were provided through a foundation. There is no central provision for receivers nor for their maintenance.

This level of activity indicates that schools broadcasting is still at the cottage-industry stage of development. Funds are available, however, to enable the Schools Broadcasting Officer and his Assistant to travel extensively around the schools in the Protectorate. This has enabled a considerable amount of evaluation and appraisal to be carried out. The findings which the SBO reached and which he recorded in a thesis for a master's degree are worthy of consideration. This is particularly true of his comparison between investigations and evaluations of educational radio in developed areas and in the Solomon Islands and his conclusions.

In general, the SBO found a high level of acceptance of the use of radio by teachers. Attitudes were favourable. Unqualified and poorly qualified teachers particularly

allowed the radio teacher to take over their lessons temporarily. Direct teaching was resented, however, by the better trained and educated teachers. They stressed that enrichment and supporting material was their main requirement. The Schools Broadcasting Officer recorded that: 'the more highly trained and educated a teacher was, the less was his conviction that schools broadcasting helped him with his work. Such teachers still regarded broadcasts as useful or very useful, while most untrained teachers, once they had been taught how to use the broadcasts, regarded them as essential'. Training in the use of schools broadcasts is just as important a factor in the Solomon Islands as it is elsewhere. Indeed in areas where the teachers have to go to considerable personal trouble to buy batteries for the receivers, or erect aerials around the school, a favourable attitude to schools broadcasting is very important. Where teaching and learning resources are scarce, improvisation in following up the broadcast is important and is helped by training.

In common with other media and other territories, locally-produced programmes had a bigger impact and produced more favourable reactions in the listeners than did imported ones. No matter how good the technical quality of the latter, it was more important for listeners, mostly with limited backgrounds and narrow range of experience to be able to identify with the programme and its characters. Coupled with this was the need, in an examination-orientated educational system, to produce programmes which were 'on-syllabus'. Both these factors contributed to the need for local production.

As would be expected in an area in which educational materials and resources were scarce, high value was placed on the notes which were produced to accompany the broadcasts.

Another interesting and again, internationally observable, feature was that programmes were used least in areas where there was a shortage of District Education Officers and thus a lack of personal contact to reinforce the effective use of the broadcasts and to act as a link between the point of use and the production studio.

In a society where education was held in high regard, yet was at a low level of development, the introduction of schools radio produced a marked 'Hawthorne effect'. Almost fifty per cent of all teachers in the Protectorate claimed that using schools broadcasts had changed their teaching methods and techniques in one way or

another. The radio lessons provided a measure of indirect in-service training for the teachers as well as giving them access to standards of spoken English which they otherwise might never have encountered in their professional lives.

As well as programmes for use in classrooms, the Schools Broadcasting Service also produces a programme for teachers. Teachers' Tea-time is a half-hour programme broadcast each day between 10.00 and 10.30 a.m. Essentially a record request programme, this has become something of a national institution. It attracts higher listening figures than any other programme. Schools arrange their timetables to enable teachers to listen to the programme. Although it is basically an entertainment programme it is nevertheless used as a means of communication between the capital and teachers in remote areas. Teacher isolation is a major problem in the islands. That Teachers' Tea-time attracts over 3,000 letters for record requests each year is a measure of its popularity. This is an average of seven letters from each school. Although the letters which come from teachers by and large have the specific purpose of asking for a record to be played for a colleague in another school, they also include comments and views about the educational radio service. For its part, the Service has not attempted to institutionalize this programme by making it in any sense an 'official' means of communication. There have been instances when it has acted as an educational news service, but these have been comparatively few and normally for matters of major importance. An indication of the regard in which this programme is held in the Protectorate is that a Bishop made an end-of-term request for a 'pop' record to be played for all the teachers and pupils in his Diocese.

The experience of the Solomon Islands has shown that where educational aims and objectives have been identified and an attempt to reach these has been devised by developing the necessary curricula, radio is a potentially powerful resource. Where only vague syllabus outlines exist, radio does not appear to make a significant impact on the teaching methods or attitudes in the schools.

The main contribution which the Schools Broadcasting Service of the Solomon Islands makes to a study of this kind is in illustrating the potential of the medium. In a territory faced with almost all the symptoms of educational development problems - small scattered populations, large distances, difficult communications, small budgets and limited teaching resources -

radio has been used in a modest way. Communication has been established from Honiara to the schools by broadcasts; in a limited form contact between the schools and the Service has been established by personal visits. The cyclical process which is essential for effective use of educational radio has been created. Educational radio is a tool which can now be developed and used as one element in the growth and expansion of education in the Solomon Islands.

SASKATCHEWAN, CANADA: INTERNATIONAL
FRIENDSHIP TAPE EXCHANGE

General

The Province of Saskatchewan has now reached the phase in its curriculum development activities where groups of local teachers are working to devise their own tactics to teach the materials developed in the larger countrywide curriculum strategies. The pattern emerging is a familiar one; of movement away from teaching to learning situations in which the teacher tends to direct the activities of his pupils in a tutorial type of relationship, and where he has assembled a whole range of resources which may include textbooks, pupils' worksheets, teachers' notes and guide sheets, pupils' workbooks, specimens, models, filmstrips, audio-tapes and audio-visual concepts developed in television or radio studios and recorded for distribution on videotape or audio-tape and filmstrips.

There is much emphasis on games which children can play to help them to understand concepts and learn facts within the curriculum. It is generally recognized that it is difficult to teach one subject in isolation. It is better to encourage learning in several directions, such as the use and extension of languages, the development of personal relationships, and the development of a sense of social responsibility and consciousness, when planning the teaching of any subject.

To promote this pattern of development Saskatchewan has created an Instructional Resources Section as an integral part of the Program Development Division of the Ministry of Education. Information concerning the structure and work of this section is contained in Part One of this survey. However, from this activity has arisen the 'International Friendship Tape Exchange' which would seem to be of interest and relevance to many Commonwealth countries.

Nature of Service

This is a project which claims to further international understanding and friendship. Audio-tapes, made by children of a class of one school, are sent by post to a similar group of children in a school in another country. This must be one of the simplest, most universally available, and potentially most economical ways of effectively encouraging understanding and friendship between children of the nations of the world.

Experience has shown that once an initial contact has been established between schools a variety of exchange activities may follow. After the initial audio-tape, exchanges may perhaps be accompanied by drawings, newspaper cuttings, slide sets, photographs or scrapbooks. From this beginning teachers and children have often exchanged correspondence and even visits and lasting friendships have been reported.

Historical Development

The overseas tape exchange began in 1959 when the then Schools Broadcasts Branch contacted a number of schools within the Commonwealth, asking them to join a project of exchanging tapes between their classes and classes in Saskatchewan. In the first year six tapes were exchanged between Canada and three other Commonwealth countries. Tapes are now exchanged between Saskatchewan schools and schools in twenty-one other countries, including a number outside the Commonwealth. The frequency of tape exchange has varied as children have grown up and staff have changed, but the average of twenty to thirty tape exchanges a year has characterized the scheme. In 1965, which was International Friendship Year, the Chief of Instructional Resources in Saskatchewan was awarded the UNESCO medal for this work.

Encouragement and guidance from a central source (within the Ministry of Education) is important if the momentum of such a scheme is to be kept going over the years. At the same time, the cost to the Ministry of this encouragement is negligible.

Working Methods

The Saskatchewan Schools Broadcasting Service took the initiative in writing to personal contacts overseas and also made its consultancy staff available to guide schools in making the best possible quality recordings. This is important since it can be difficult enough understanding a different

accent without additional complications through recording problems. The Schools Broadcasting Service has supplied free tapes to schools for these recordings and has undertaken to accept and pack and post tapes to their destinations, also without charge. On occasions, schoolchildren have been invited to the broadcasting studio to re-record their tapes if it proved impossible to get satisfactory acoustic properties within the school.

A booklet outlining suggestions for tape content, with a wide variety of subjects and treatment, together with advice on recording techniques has been prepared by the Schools Broadcasting Service.

Another important feature has been a schools broadcasting programme series called Friends Across the Seas based on the recorded exchange materials received from overseas.

Headquarters Commitment

This has been minimal in terms of cost and the time of professional staff. Clearly an enthusiastic leader is necessary to generate this activity, but this has been a relatively small part of this person's total work load. Recording quality often needs attention from headquarters staff. The commitment involved depends on the number of schools participating, but it is often possible for this officer to combine such a visit with his routine utilization and evaluation work. The work involved in packing and posting the tapes, again, depends on the number of schools involved. In Saskatchewan this additional work and expense has been relatively easily accommodated within the Tapes Library Department.

Transferability

Especially with the advent of cassette records, and the ease with which the cassette can be packed for postage, there would seem now to be little limit to the potential for the spread of this technique. Heads of schools broadcasting services who are interested in developing this type of exchange surely know each other well enough to issue such invitations. Alternatively a letter addressed to:

The Chief, Instructional Resources
Section,
Program Development,
Department of Education,
Midtown Centre,
Regina, Saskatchewan,
Canada SHP3 K2

would foster exchanges with schools in Saskatchewan. Incidentally the Editor of

the journal Educational Broadcasting International has offered to run a Schools Tape Exchange column for any heads of broadcasting services who wish to make initial contact in other countries.

THE SCHOOLS BROADCASTING DIVISION
OF THE MINISTRY OF
EDUCATION : KENYA.

Objectives

In 1963 the schools broadcasting service came into being as the country was attaining independence and was faced with phenomenal problems in the quantitative and qualitative development of its educational system. At this time the Government experienced considerable pressure to provide increased educational opportunities particularly at the secondary level which it was, in the main, unable to meet from its own resources. Self-help (Harambee) secondary schools sprang up all over the country each supported by local communities. Many of these schools suffered through inadequate financing, under-qualified teachers and unsuitable buildings. Some have now closed down, but others have kept going and the Government has considered methods of assisting them. School broadcasts, closely tied to the official syllabus, are one aspect of this help.

In the primary schools, for which the Government and local authorities accept responsibility, there are severe problems, particularly of staffing. Despite strenuous efforts in the training of primary teachers, it has been possible to do little more than keep pace with the expansion of the number of classes. Nine years after independence a quarter of the primary teaching staff were still unqualified, and of teachers with qualifications more than half had only a primary school education followed by two years' teacher education. (See the case study on the Correspondence Course Unit of the University of Nairobi - which also makes a substantial contribution to the solution of this problem.)

At the beginning of 1974, free education in Standards I to IV was granted. It resulted in some 500,000 extra children enrolling in Standard I and the necessity of employing 16,000 extra untrained teachers to handle the extra classes. This raised the percentage of untrained teachers to approximately 50%. In these circumstances the support material offered to the schools by the Schools Broadcasting Division assumes considerable importance and the need to develop radio in-servicing of the untrained element of the schools' staff becomes a priority task.

Thus school broadcasting in Kenya has two main objectives at both primary and secondary levels. The first is to alleviate situations in which there are inadequate numbers of well-trained teachers. The second is to bring relevant and tested educational support materials into classrooms where, at best, provision from other sources is often inadequate and frequently non-existent.

At the same time the very nature of the broadcast message helps to redress the imbalance of educational opportunities between urban and rural areas, and between areas of high and low population density which has inevitably been a characteristic of Kenya's educational problems in the past.

User Profile

There are some 6,750 primary schools and 820 secondary schools in Kenya. The Schools Broadcasting Division supplies all these schools with free support material such as teachers' notes and schools radio timetables. It is thought that the audience for each primary programme averages 150,000 and for each secondary programme 9,000. But the total number of pupils listening to schools programmes at some time during a week is probably as high as 700,000 in primary schools and 30,000 in secondary schools. These figures are estimates but are probably a reliable guide, against a total 1974 school population of approximately 2.3 million at primary level (including the free intake) and 150,000 at secondary level. Random visits to a scattered cross-section of primary schools in remote and urban areas in three provinces in June 1973 confirmed that there is considerable usage of the broadcast programmes in most primary schools. One exception found was an 'elitist' type of school in a larger urban centre, where high fees are paid and many of the staff are well qualified expatriates. At the secondary level, there was evidence that many schools take broadcasts off-air, although a more significant usage is probably through a taped programme service. At present most of the teacher training colleges and some 300 secondary schools are obtaining taped copies of programmes through this service. Many primary schools wish to use this service, but cannot afford the equipment. However, a recent development has been the placing of tape recorders on the Kenya Primary School Equipment Scheme Order List and roughly 500 primary schools responded immediately by ordering them. These will be supplied with recorded programme series of their choice.

All nineteen of Kenya's teacher training colleges receive free support materials. The education syllabus in use in the coll-

eges includes a section on schools broadcasts and their proper use.

Historical Development

The Schools Broadcasting Division was established in 1963 as part of the then Kenya Broadcasting Service, now the Voice of Kenya. At the beginning it was housed in an office block in Nairobi and producers had to go to Broadcasting House to record and transmit programmes. In 1965 it moved to Broadcasting House with extra accommodation provided through an additional CD and W grant. At this time, one hour of broadcasting a day was allowed for schools and ten programmes a week were transmitted during term time to primary schools. A thousand radio sets were supplied to schools at a subsidized price and these formed the first listening groups. It is reported that in the early days the service was looked on with suspicion - it was felt that an attempt was being made to dictate from the centre and to relegate classroom teachers to a supervisory role. However, over the years a bridge of understanding has been built which is enabling the central production studio to understand and meet the needs of the classroom teachers more reliably.

In 1965 the Schools Broadcasting Division became an integral part of the Ministry of Education, with the Head of School Broadcasting being directly responsible to the Chief Inspector of Schools, although the unit continued to occupy the same accommodation in the heart of the broadcasting complex. Inevitably there have been difficulties over the years and principally, that common to many developing countries, of too few resources trying to contain too many, too large problems. In Kenya Schools Broadcasting, this has been accentuated as numbers of qualified expatriate educationists, on whom the service relied in the early days, particularly for free-lance script writing, have completed their contracts and returned home. Nevertheless, the service now presents an encouraging example of systematic and purposeful development. It currently offers fifty-one schools broadcast programmes each week and there is a bank of more than 300 programme series on tape, most of which are available through the tape copying service to schools able to afford and operate tape recorders. The unit systematically reviews and updates this stockpile, but it is hoped that a period of consolidation can now be enjoyed which will allow time for the modification of the existing series and also for the systematic pre-testing of new programme series.

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Programmes now cover primary school and secondary school requirements and specialist programmes have been produced for in-service teacher training. Experimental work is well advanced in radiovision and television for teacher training and significant research has been carried out into problems of educational communication by radio.

Administration

The Head of the Schools Broadcasting Division is responsible to the Chief Inspector of Schools for all aspects of educational broadcasting. He is assisted by the Schools Radio Officer, who is an experienced educational broadcaster, and who, with the Head of Schools Broadcasting, is responsible for programme planning and in-service training, as well as pre-testing, producing and evaluating his own series of programmes.

The Administrative and Publications Officer has the responsibility of seeing that all supporting publications issuing from the unit are correctly printed and despatched in time.

The establishment of the Division provides for seven radio producers, each of whom deals with separate areas of subject specialization, with a further responsibility for field work covering all aspects of classroom utilization and programme evaluation. Difficulties of local recruitment and loss of expatriate staff have meant that full establishment has not yet been reached. The promised field staff intended to promote contacts between the Division and the schools and to foster effective use of the broadcasts have not yet materialized.

Experienced producers are encouraged to develop an interest in more systematic enquiries and several valuable pieces of original research have been published by staff of the unit. However, pressure of work, shortage of resources and frequent shortage of staff have, too often, limited the opportunity for work in this vital sector. The Head of Schools Broadcasting allows himself to hope, however, that the corner has now been turned and that the future promises greater staff stability and more purposeful work.

The production staff of the Schools Broadcasting Division has accumulated largely through the accident of availability, rather than through a deliberate policy to assemble a staff of experienced broadcasters and expert teachers in the major school subjects. Future policy, it is planned, will ensure that subject areas will be covered by specialists. The Head

of the service considers that it is important for producers to understand the content of the material they are working with, even though most scripts are written by people outside the division. At the same time the unit is fortunate in possessing individuals with professional broadcasting and theatrical backgrounds and these gifts, together with the experience and skills of teachers, have undoubtedly helped to ensure interesting and viable programmes.

In the early days of the Schools Broadcasting Service recruits came from the general broadcasting service. Recently recruits have come from the teaching service. This produced a useful blend of talents, and new teacher recruits are now being given basic theory and technical training by the Schools Radio Officer. They then do operational productions under supervision, and are finally sent abroad for short, intensive training courses to CEDO, the BBC or the ABC. It is hoped that the Kenya Institute of Mass Communications will eventually be able to provide full-time training courses for all professional staff of the Schools Broadcasting Division.

Output

Air-time, from 9.30 - 12.00 noon and 2.10 - 4.00 p.m. from Monday to Thursday inclusive, at the disposal of the Schools Broadcasting Division has been arranged by the Voice of Kenya (Ministry of Information and Broadcasting), in consultation with the Ministry of Education. On some afternoons an additional fifteen minutes is given to transmit extra programmes for teachers. On Fridays transmission is only in the mornings from 9.30 to 12.00 noon. This totals twenty hours of schools broadcasting a week.

Since one of the aims of the service is to give educational support at primary and secondary level on a broad front, it is clearly impossible in the limited time available, to cover the whole of any syllabus in one subject and so a judicious selection of topics has to be made. In making the selection, an interesting and useful informal working relationship has grown between the production staff of the Broadcasting Division, the staff of the Kenya Institute of Education (which is responsible for Curriculum Development and Reform) and the Inspectorate. Scripts, indeed, are often written by members of these organizations, or by serving teachers, and the system seems to work smoothly and to everyone's satisfaction, bearing in mind the limited nature of the resources.

There is, indeed, no formal committee structure, as has often been created else-

where, to guide the educational broadcasters in determining priorities. Nor are there specialist subject committees to guide the producers, who have complete freedom to consult experts and authorities in the various subjects with which they are expected to deal. It is interesting and particularly important to note that: a) the present head of the Division, and his predecessor, are both educationists of considerable experience who, immediately prior to their appointment to the School Broadcasting Service, held positions of high responsibility in the teacher training and school inspection fields, and b) within the staff of the Schools Broadcasting Division one detects a symbiotic balance of educational and professional broadcasting experiences.

The producer is responsible for a programme series and can commission the writing of scripts by educationists. He is required to work closely with the script writers to design programmes which are educationally sound and which make effective use of the medium. The result is that the output contains something for everyone. The lower standards in the primary schools get 20 minutes of broadcasting a week, and their exposure to radio rises as they progress through the school. The sixth and seventh standards each receive 120 minutes of broadcasting a week. In the secondary schools, forms 1 and 2 are each offered 100 minutes of broadcasting a week; forms 3 and 4 190 minutes a week and the two top forms, 5 and 6, 70 minutes each a week. In addition, there are 115 minutes of special broadcasts for primary teachers and 80 minutes for secondary teachers each week.

Programmes offer something for most school subjects; English, general knowledge, geography, health, history, music, science and Swahili for primary and secondary schools, and agriculture, careers, literature and religious education for secondary schools. Programmes are designed to be fully integrated into classroom teaching situations and are accompanied by comprehensive teachers' notes.

These are sent out every term and contain summaries of the programmes and suggestions for work and follow-up assignments for the pupils. Apart from the teachers' notes, some pupils' books and teachers' books have been prepared dealing with primary science, together with series of posters in geography, history, natural history, health and language teaching. Secondary schools likewise have been provided with pupils' pamphlets to accompany many series and some poster sets. A free issue of new support materials is made to all listening schools; however, budgetary restrictions make it

necessary for primary schools to order extra materials from the Kenya School Equipment Scheme and for secondary schools to order from the School Broadcasting Service and pay for them out of school funds.

When circumstances permit, attempts have been made to pre-test programmes. The unit aims to make this a regular feature but admits pre-testing has not been carried out on anything like the scale which is considered necessary. The situation is, of course, complicated by the different conditions throughout Kenya. Thus a programme which may be well understood in the area immediately around Nairobi (and when transport is short, and time is pressing, who can blame a producer who goes to a nearby school?) may contain elements which will be incomprehensible in many of the remoter areas. The duties of the proposed team of Field Utilization Officers will include pre-testing of sample programmes in their areas.

Teachers generally lay great stress on the need for radio programmes to contain 'factual' material which is 'on syllabus'. This is, perhaps, understandable in view of the tremendous pressure which exists for children to pass examinations and the fact that rote-learning generally does tend to increase an individual's chance of passing. Therefore, at the primary level, radio lessons are generally built around a few basic facts which the expert script writers and the producers wish to press home, whilst the secondary programmes may contain much more factual material, particularly if there is a lack of suitable textbooks or other reference material on the topic. Thus the radio programmes contain elements of direct teaching but they also offer background and atmosphere against which the teacher can enliven the subject and create interest among the pupils. In short, the aim of the programme producers is to make the programmes stimulating, as well as directly educative.

Utilization

In order to assist schools with their timetabling problems advance copies of the following year's broadcasts timetable and an annual programme guide are sent out in November. There is no central directive to guide school headmasters on timetabling schedules. Consequently it proves exceptionally difficult for the broadcasters to timetable their transmissions to meet the requirements of even a majority of schools throughout the country. This is a problem which now mostly affects primary schools, since many secondary schools now use tape recorders and the tape copying service.

The work of the unit in helping to make the programmes an integral part of teaching in all of Kenya's schools, is helped by the facts that all primary schools share a common syllabus, all secondary schools follow the East African Certificate of Education syllabus in forms 3 and 4 and the large proportion of them, particularly the less well-endowed ones, follow the Kenya Junior Secondary Examination syllabus in forms 1 and 2.

However, determining the precise nature of the problems which lower the effectiveness of broadcast programmes is a matter of considerable difficulty to the unit. Shortage of production staff at the centre, combined with shortage of transport, has made it extremely difficult for producers to get out into the schools on a regular basis to see what is happening. Nevertheless, in spite of these difficulties, significant work has been done on some programme series, which offers a useful guide. The Head of Schools Broadcasting hopes that a recent increase in establishment will enable him to plan his producers' work so that everyone will be able to get out into the districts and the classrooms more often to conduct evaluation work.

In all but one of the primary schools visited during this study there was circumstantial evidence that the radio programmes were making a significant contribution to the children's educational experience. For example:

1. Provision had been made in the school timetable for programme reception.
2. The teachers' notes already showed signs of considerable use at the beginning of the first term. Generally only two copies are issued to each school and staff compete to gain possession.
3. The teachers were able to discuss the programmes and details of their contents in some depth, and often with considerable feeling.
4. Although we did not make a point of asking to talk to the children, when we were invited to do so, it was apparent that they regarded radio as being a normal, yet enjoyable, part of their educational environment and had good recall of detail.
5. Perhaps the most important observation in this series of random visits was to find on the blackboard the preparatory or follow-up work inspired by the published teachers' notes.

6. Occasionally we were invited to sit in with a class as they were taking a radio lesson. Whilst our presence undoubtedly introduced an artificial element into the proceedings, it did assure us that the teachers had 'read the drill' and could often give a good model lesson. This also established that the radio sets were kept in good order on the school premises, and enabled us to check problems of reception and understanding.

Problems which tend seriously to reduce the effectiveness of schools broadcasts include (particularly in the west of Kenya) variability in the quality of radio reception during the day time. However, when atmospheric interference prevented effective use of the broadcast, it was observed that the teachers' notes provided the classroom teachers with a programme of instruction and a series of ideas that were being incorporated into the schemes of classroom work. This is perhaps not surprising, in view of the obvious shortage of educational support material, which is a general characteristic of primary schools in the rural areas in particular.

It is a pity that in too many instances only two copies of the teachers' notes are issued to each primary school, but this results directly from a shortage of finance. The copies of the teachers' notes are distributed through District Education Officers and, as a result, they can often arrive late, particularly in the remoter areas.

The utilization drill can, of course, be learned so well that it is possible to find teachers and pupils solemnly sitting around a set and listening to an output which is so acoustically distorted as to be unintelligible. The answer lies in greater personal contact between the teachers and broadcasters, but most of the 6,750 primary schools and 820 secondary schools are to be found in rural areas separated by long distances and dirt roads. The schools are administered by a core of field officers with one Inspector in each province to deal with secondary school professional matters and one Inspector in each district to deal with primary schools. The answer, from the point of view of the School Broadcasting Division, must lie in their own ability to send into the field more of their own production staff more frequently and for longer periods, and to develop a field staff of their own. The present utilization programme centres on short in-service training courses and workshops for teachers and Inspectors. This results in a more systematic gathering of ideas and

wisdom from classrooms which is of value to the producers. The approved increase in establishment will allow this activity to be carried out on an increased scale.

Schools buy radio sets from the central Kenya School Equipment Scheme but often schools can only afford one set. Many run two or three streams and this frequently means that two or three classes have to crowd into one classroom to listen to a programme. This, of course, can result in no proper preparation and follow-up. Thus the effectiveness of a programme, which is not intended to be used in isolation from the teaching situation, is lessened. Again, in over-crowded classrooms concentration suffers. Some schools buy additional radio sets. Sometimes teachers use their own. Primary schools are, in the main, very poorly equipped. They receive only 17 E.A. shillings per pupil per year to purchase all necessary school, class and individual equipment.

Maintenance of sets is a serious problem in primary schools. District Education Officers are provided with limited funds to buy batteries and repair sets, but most complain that the funds are inadequate and few have organized viable schemes to ensure that sets are kept working.

Evaluation

This is a matter of great concern to the Schools Broadcasting Unit. The first main task is to find out where there are inefficiencies in the existing system, so that they may be corrected. This work includes observation of children's reactions to voices, language, pace of delivery, characters, programme format, as well as the level of instruction and the child's background of understanding; studies also include problems of over-crowding, poor reception, non-arrival of support materials, repair and replacement of faulty sets, of battery supplies and so on, together with the teacher's understanding of his own role and the way in which he should use the material. These and many other matters of detail are all vital links in the communication chain. If the Unit is to contain these problems, it must be able to send staff into the field on a routine basis and to conduct on-going logistic evaluation.

Here it is important to note the comments of the Head of Schools Broadcasting, who in writing of 'feed-back' states:

Apart from our own observations, which are necessarily limited to small numbers of schools, we need to hear from the receiving schools themselves opinion

of our programmes and suggestions for their improvement. This feed-back from the recipient is vital if the service the teachers want is to be provided. However we have yet to find an effective way to get information and suggestions which we need. Various methods have been tried. Evaluation forms were included in teachers' notes but only a minute percentage were completed and sent in. We sent the forms out separately through District Education Officers and Provincial Educational Officers, but this method was hardly more successful. Now we ask field officers to select a representative 5% sample of their schools to whom more comprehensive report forms are sent which when completed are to be sent back to us through field officers.

This method has proved to be fairly effective, but it is obvious that teachers need to be trained to make critical evaluation of programmes.

The second main aspect of evaluation concerns the far more difficult problem of trying to assess, in more absolute terms, the contribution which the broadcasts are making to the educational development of the child. Where this is being attempted in other countries it is certainly proving to be a time-consuming and expensive operation, both in terms of cash and of human skills, without necessarily offering a reliable guide to administrators who have to decide on the allocation of scarce resources. At the present state of our knowledge, it seems that a reliable guide to a programme's effectiveness must be found in the enthusiasm with which teachers and children greet the programme. The 'coefficient of enthusiasm' is perhaps best gauged by experienced educationists, but even here there is a worrying lack of critical observation and comment available.

Economic Analysis

There is a danger in trying to assess the effectiveness of such an operation in terms of cost alone.

By far the most important element is the combination of broadcasting and educational skills and experiences which reposes in the senior staff. More recent recruits to the unit are in the process of receiving broadcasting training to complement their educational background. It is realized that a patient investment has to be made over the next few years in helping them to achieve high professional standards, for it is judged that only in this way will educational radio broadcasting develop to cont-

tribute effectively to the solution of Kenya's educational problems. This will become increasingly important as the general standard of teaching and of the quality and quantity of educational support materials available to teachers in the remoter schools improves. A successful educational broadcaster has to combine two distinct professional disciplines.

Providing such factors are understood, it is possible to examine the operation in cost terms. The service is operating on a recurrent expenditure of Kf30,000 in 1973/74. Buildings and equipment, the purchase of 1,000 receivers for subsidized issue to schools and 300 for free issue plus the purchase of some 4,000 radios from other school sources have cost about Kf150,000 since the service began ten years ago. The annual cost of the broadcasts to schools works out, therefore, at around Kf45,000 per year. This is something less than Sh.1.25 per year for every child who receives the programmes in schools. This costing ignores the transmission contribution of the Voice of Kenya. The national radio service has been established mainly to disseminate information within the context of national development and to provide entertainment. This is the responsibility of the Ministry of Information. During the day, when the adult population is working and children are in school, it is entirely logical that the Ministry of Education should use this facility for the public benefit. Most of the technical equipment and all technical services are provided to the Schools Broadcasting Division at no cost to the Ministry of Education. As more schools use the broadcasts, the unit costs could fall to 40 cts. per child per year. If this money was spent on textbooks and other enrichments to the classroom situation, it seems clear that the benefits enjoyed by each child would be far less significant.

Future Plans

Apart from increasing field operations, the Head of School Broadcasting is trying to find ways of providing all schools with tape recording or play-back machines and to extend the use of the tape copying service. Thus the Schools Broadcasting Service is probably veering towards being a production centre providing educational support material of which audio-tapes will be the main element in the immediate future, placing less reliance on broadcast transmissions.

It is not surprising, therefore, to find that the unit is already working hard to provide pupils, especially in isolated rural schools, with more visual experiences

of the world outside their own immediate environment. Apart, therefore, from continuing to supply pictures in the form of charts and booklets, two pilot projects in radiovision are being undertaken. Programmes on the physical geography of East Africa are being prepared and tested in fifteen schools in 1974. A further radiovision series in science, related to the new curriculum materials, is already well into the prototype and pre-production testing stage.

An experimental start is being made with television programmes. ETV programmes designed to be broadcast to teacher training colleges are being prepared in upper primary English, primary modern mathematics and primary science, and are due to be evaluated over the next two years.

In its long term planning the School Broadcasting Division is examining the possibility of joining with the Correspondence Course Unit of the Institute of Adult Studies of the University of Nairobi to form a Mass Media Centre which, with support from other departments, would be better positioned to tackle both formal and informal educational problems.

Such facilities could do much to assist the 'self-help' secondary schools, where there is a shortage of learning materials, equipment and trained teachers, and could lead to an 'open school' service with a series of self-contained programmes at each level. The Mass Media Centre would play a significant role in the production of support materials to complement the work of the Curriculum Development Unit.

Transferability

Encouraged by the Commonwealth Broadcasting Conferences in 1970-1972, the Schools Broadcasting Division has been active in investigating avenues for professional co-operation with other countries. Programmes have been exchanged with Uganda, Zambia, Nigeria and the Seychelles, and discussions on co-productions have taken place between the Head of the Educational Broadcasting Unit in Zambia and the Head of School Broadcasting in Kenya. They have found that there are considerable similarities between the educational systems and requirements of the two countries, and that there are important and significant differences. For example, at the primary level, areas of correlation are difficult to isolate because the Zambian curriculum is more integrated than the Kenyan, and the language course developed specifically for Zambia is very much the core of the whole primary course. This means that direct exchange of programmes is impossible.

The discussions revealed that much could be gained by both services through co-operation and exchange of script materials.

For example, at primary level the exchange of stories and dramatized programmes for interest and language reinforcement seemed feasible. A proposal was also made that the science producers in Kenya should travel to Zambia to discuss problems of producing science programmes for radio and to examine the possibility of a joint production exercise for science programmes. Further, Kenya is investigating the possibilities of producing special radio courses for in-service teacher training in new mathematics. This has now reached an advanced planning stage and such a course would be of use in Zambia, so further investigations are being made into the possibility of co-production by the two countries.

Indigenous music is another fertile area for exchange, particularly as there is a growing desire in African countries for its cultural development.

At the secondary level the educational systems differ in the two countries. Zambia has a five year course to 'O' level, compared with Kenya's four. The Zambian course at junior level has perhaps a more leisurely, but often a deeper approach. At a later stage however, the work in Zambian forms 4 and 5 and Kenyan forms 3 and 4 has much in common. Consideration is therefore being given to co-operation in producing support programmes at this level, particularly in history, geography, English language and for literature set books.

The Head of Schools Broadcasting, Kenya, reports that 'it became clear ... that we (Kenya and Zambia) have much to offer each other, and that such bilateral co-operation should be fostered. However, whilst working in pairs might be the way to start the co-operation, eventually it should lead to multi-lateral co-operation. If Zambia and Kenya can help each other, even greater benefits would result if all Commonwealth countries of Africa were involved. Through exchange of educational broadcasting materials, we should be able to foster an increased awareness and understanding of each other, as well as improving programme authenticity and quality'.

EDUCATIONAL BROADCASTING
AND TELEVISION SERVICES,
ZAMBIA

Introduction

Educational broadcasting in Zambia started on an experimental basis in 1952. The service in its present form started in 1965 with the introduction of regular schools' television and radio programmes. In the early days the service was organized and run largely by expatriates but is now firmly under Zambian direction, although a number of expatriates now work alongside their Zambian colleagues in tackling the problems of maintaining a high volume of programme production which is a characteristic of the current operation.

The service provides educational radio and television programmes to support the work of teachers in primary and secondary schools and general educational programmes for adult listeners at home and attending night-school classes. Through the educational radio service in particular support is given to the work of the Correspondence Course Unit of the Ministry of Education.

The service must be considered against the educational problems which Zambia currently faces. Until the last years of federation (1962) there were very few opportunities for Zambians to obtain secondary education (less than 2% of children attended primary schools). The fruits of this policy are to be seen in the currently small numbers of academically qualified Zambians which results in an acute shortage of secondary school teachers at a time when the demands of the secondary school system are particularly severe. As a stop gap operation heavy reliance has had to be placed on recruiting expatriate teachers. These have come in considerable numbers from many parts of the Commonwealth and each brings a little of his own country's educational character to the Zambian situation. Thus apart from generally helping to raise the educational standards of the country the Educational Broadcasting Services, because of their power of instant communication, have a role in helping to maintain a uniformity of standard throughout the country. This is a traditional role of educational broadcasting in developing countries, particularly where there has been

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an educational imbalance between urban and rural areas. In the present state of Zambian educational development, however, it seems a factor of considerable importance.

The Ministry of Education has since 1968/69 supported a Curriculum Development Unit which produces educational materials more relevant to Zambia's present needs. Clearly one aspect of the work of the Broadcasting Unit is to produce additional materials to support the curriculum development work as and when these new materials become available. Indeed it is already clear that in the field of English language teaching there is an excellent working relationship between the course designers in the Curriculum Development Unit and the schools radio producers responsible for English programmes. Hopefully as course materials are completed in other subject areas this pattern of co-operational development may be followed to the country's advantage. Teacher orientation and training is implicit in the work of the Radio and Television Units. The Educational Television Unit, whose programming can only be received in those areas with mains electricity supply ('along the line of rail'), sees its responsibility as adding enrichment which is otherwise unobtainable in the classroom situation to sound teaching practice.

Indeed there are signs that the Broadcasting Unit is moving towards an educational media service. There is an audio-visual section which comes under the Head of Educational Broadcasting and which is responsible for the distribution of films, filmstrips, records, wall charts and magnetic tapes of the radio lessons. Plans are in hand to introduce a radio tape copying service for schools which will be of particular value to the secondary schools and for the ETV Unit to expand an activity which it has only been able to undertake on a limited scale in the past - the local production of educational films.

Users

There are 1,366 primary schools and 110 secondary schools in Zambia. Over 4,000 radio sets have been issued to 1,423 schools and over 300 television sets to 170 schools by the Ministry of Education and there is also evidence that in some schools teachers use their own radio sets to listen to school broadcasts with their classes. A recent survey indicated that 59% of primary schools used the programmes regularly and less than a quarter never used the programmes. Among secondary schools almost 60% never used the programmes; 30% used them occasionally and only 10% regularly.

Another survey attempted to examine viewing habits for ETV. This was conducted in April 1973 and revealed that about 73% of the schools equipped with television watched the programmes regularly but that, numerically, secondary schools represented a small proportion (4.6%) of the total number of viewers and that the numbers of children (from the target audience) watching any one programme series varied from approximately 14,000 (science for upper primary) down to 50 (social studies for secondary schools). Even among the programmes designed specifically for secondary children there was generally a significantly greater usage among the primary schools (the exception being French for senior secondary students which clearly had no appeal at primary level).

There is evidence that a very large number of primary schools is deriving considerable benefit from the service. Where there is an ETV service, this is their first choice as radio is largely ignored. In other cases the radio is extensively used, but there is a significant number of primary schools that complain of unsatisfactory reception and it is still too early to see how the newly installed transmitters and aerials in Lusaka have affected this position. In all cases, and even when neither radio nor television are used in the class, considerable help is gained from the teachers' notes.

Secondary teachers are far more critical of the service. Their complaints mainly concern problems which could be described as administrative - timetabling, reception quality, repair of receivers. Generally, the quality of the programmes was praised. There is however a serious problem in Zambian secondary schools due to the high turnover rate of expatriate teachers, combined with the variety of educational attitudes that they bring from such widely different backgrounds as India, Ceylon, Ghana and the UK.

Administrative Structure

The Educational Broadcasting and Television Services in Zambia are the direct responsibility of the Ministry of Education and Culture. Textbook facilities are provided by the Zambian Broadcasting Services (responsible to the Ministry of Information, Broadcasting and Tourism). The programme production responsibility rests entirely with the Ministry of Education.

An Educational Broadcasting Council - a statutory body under the Chairmanship of the Ministry of State for Education - advises the Ministry of Education on policy matters concerning the service.

The executive responsibility rests with the controller of Educational Broadcasting who is assisted by two Heads of Section, one of whom is responsible for the Educational Television Service (which is based in Kitwe) and the other is responsible for the Educational Radio Service and the Audio-Visual Aids Library, (both of which are based in Lusaka).

Currently there are eleven education radio producers. Most producers are responsible for three programme series per week and also have an additional administrative responsibility. Producers also present programmes.

There is an officer in charge of the Audio-Visual Aids Library who has additional clerical assistance to help him with packing and despatching.

In the Educational Television Service there are nine producers who also share the responsibility for presentation of programme series. There are two graphic artists, one person who shoots and edits film, another who is responsible for the film library and a photographer who is also responsible for all sound recording and helps with filming. Again most members of staff undertake some additional administrative responsibilities and there are other people (about four) who offer assistance and do clerical work.

On the production side the Heads of Section are assisted by Subject Committees, a senior producer acts as secretary of the committee that deals with his own subject and there are representatives of the inspectorate, the Curriculum Development Centre, training colleges, school heads of departments (selected by the inspectorate). For foreign language programmes the Embassy concerned is also often invited to supply a representative.

The Educational Broadcasting Council considers and approves the Departmental estimates for educational broadcasting and all Heads of Department within the Ministry are represented on it. The Council generally meets once a year.

The Subject Committees meet once a term and the general pattern of their work is to review the programmes that have been transmitted and to consider future plans.

The Audio-Visual Aids Library

The Audio-Visual Aids Library is the resource centre repository for audio-visual aids used by the educational radio service, the educational television service and its services are available to

the entire school system. Also, unfortunately, it is geographically remote from the Educational Television Production Centre at Kitwe which has tended to develop its own resources centre to support educational television production. Thus the main focus of activity of the Audio-Visual Aids Service is in support of the schools' radio programmes; a fact which is reflected in the administrative structure. The officer in charge of the Audio-Visual Aids Library is responsible to the Head of Educational Broadcasting and not directly to the Controller. Most of the visual aids have been imported; indeed, the AVA section does not have the facilities to produce and distribute visual aids for the Zambian school system. This is a matter of considerable concern to the Controller who is planning a development which will, in particular, support the important work in curriculum development which is going on in a centre a few hundred yards away. The officer in charge has, in fact, received a full course of training in the production and use of audio-visual aids at CEDO and it is noted that plans for future educational development in Zambia include the creation of an educational services centre which will bring together the present AVA library with the Zambia Library Services, the Correspondence Course Unit, the Curriculum Development Centre and other units working in a similar field under the former Commission for Technical Education.

Staff Recruitment

In general, the problem is not one of an 'Establishment' which limits the number of persons who can be employed by the Service, but one of finding individuals with the right qualities to justify the time and expense of training them to become educational broadcasters. Salary scales are slightly more attractive than the ordinary teaching scales, as the Service is able to offer a 'Lecturer' grade. Most teachers would regard it as promotion to be permitted to join the Educational Broadcasting Service. Although the Educational Broadcasting Units are housed within the broadcasting complex and the staff work alongside their colleagues in the Zambia Broadcasting Services, the morale of the educational broadcasters remains high - as well it might since they are members of a team better qualified, both in academic terms and in professional broadcasting ability, than are the members of the general service.

Thus it is possible to advertise vacancies within the Ministry of Education and to make a very careful selection from all applicants. It is a general rule that only teachers are considered for appointment to the Educational Broadcasting Service.

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Technicians with appropriate skills are in extremely short supply. This causes working stresses in the production studio and it is greatly to the credit of all concerned and their sense of responsibility, that reliability of output is maintained. The major weaknesses observed were at the reception end of the system in supplying a service for the maintenance and repair of receivers.

The service was fortunate to obtain the services of a Research Fellow from the Institute for African Studies at the University of Zambia whose work helped to pinpoint a number of problem areas. His work is dealt with more fully later.

Staff Training

It is accepted that no newly recruited production staff, whilst they are qualified teachers with considerable experience, have experience in the broadcasting field. Thus initially in-service training is given on the job by the other members of the production team. At present staff have been trained either as radio or television producers and after their initial training in Zambia arrangements have been made for them to attend courses overseas (with, for example ABC, BBC and CEDO).

The Controller of Educational Broadcasting hopes, in the future, to develop a team of educational broadcasters who are equally competent in a radio or television studio and, especially at the primary level, able to tackle a range of subjects. At the secondary level he considers that he must continue to maintain a cadre of specialists. He is aware of an urgent need for more training, particularly a high level of in-service training.

Training is a major problem since the quality of all programmes hinges on the competence of the producer. Plans are in hand to run a series of national training courses in Zambia for educational broadcasters using senior local staff and by inviting contributions from external agencies.

An equally important aspect of training but one which is frequently overlooked, is the need for educational broadcasters to be involved in training of new teachers. In Zambia arrangements have been made for one of the senior producers to be loaned to each of the eight teacher training colleges for three or four days during each course to deal with aspects of educational broadcasting and particularly those relating to utilization. There is need for more face-to-face contact between teachers and producers in the form of seminars,

workshops or conferences during the school vacations, when specialist producers and specialist teachers can get together and discuss in depth the whole rational approach of educational broadcasting. Again, shortage of finance has combined with pressures of work to prevent this happening in Zambia in the past.

Working Method

Air time for educational radio transmissions has been allocated by Zambia broadcasting services each weekday from 10.15 a.m. to 12 noon, from 2.00 p.m. to 3.15 p.m. and 6.15 p.m. to 7.30 p.m. Educational television transmissions take place on Tuesday, Wednesday, Thursday and Friday of each week between the hours of 8.50 a.m. and 12 noon and from 2.00 p.m. to 4.30 p.m.

Within these broadcasting hours the production of programmes is entirely the responsibility of the Ministry of Education and the priorities are decided by the Educational Broadcasting Council and the Subject Committees.

In radio the subject experts are asked to outline scripts for programme series and these are then turned into programmes by the producer responsible. The most successful radio programmes are probably produced in the English language field where an excellent working relationship exists between the subject specialists in the Curriculum Development Centre and the production staff in educational radio. Success depends to a large extent on the ability of individuals to respect each other's professional competence and for both to take a pride in the finished product. Generally, experience has shown that straight talks do not have as great an impact as interviews, dialogues and dramatizations.

Considerable work goes into the publication of support materials but lack of funds has meant that only teachers' notes have been produced and distributed recently.

A major complaint of all producers is that they have lacked the opportunity to observe class reactions to their programmes. Only recently has a start been made in producing prototype programmes and observing classroom reaction to them before embarking on the production and transmission of whole series.

Both radio and television studio equipment is now so old that breakdowns are frequent and it is often only through the exceptional devotion to duty of a few out-

standing engineers that regular programme transmissions are maintained. In ETV a heavier production burden falls on the staff of the Unit particularly as no recording facilities exist. Every programme goes out live - and many are repeated three times a week. This is, clearly, a wasteful process and the devoted efforts of the staff to maintain the high qualitative and quantitative programme output certainly merit the support which efficient workable equipment, including a videotape facility, would give them.

Educational radio broadcasting transmits for nineteen hours each week, of which just over six hours are broadcast out of school hours and in the evening so that they may be used by independent students and those following the correspondence courses.

Educational television offers twenty-one hours of programming a week. What must surely be one of the most encouraging responses that a television producer can have was observed in the reaction of upper primary school children to a series of programmes dealing with creative activities and art. In many schools visited the rooms were festooned with examples of the children's creative work which had been inspired by these programmes. Classrooms had been transformed into interesting and colourful environments where one sensed that something which was very important in educational terms was taking place - and this pattern was repeated in school after school.

Utilization

It is here that the picture frequently becomes discouraging. Fortunately the quality of the programmes, both in radio and television, has often overcome many of the obstacles created by an inability to attend to vital matters which may be bracketed under the generic title of 'Utilization Considerations'.

These include:-

1. The ephemeral nature of the broadcasts and allied problems of time-tabling.
2. Quality of reception.
3. Repair of radio sets and supply of batteries.
4. Theft of radio sets.
5. Personal contact between production staff and the 'users' - through liaison visits, workshops, in-service training courses, etc. and a mutual understanding of their respective and complementary uses.

Each of these represents one aspect of a serious problem that has to be resolved if educational broadcasting is to fulfil its potential, and each has implications in terms of cost and increasing effectiveness. These matters are, therefore, further considered later. Here let it merely be observed that much of the valuable work that is being done by a hardworking staff is being negated by factors which could, and doubtless soon will, be overcome. However, it must also be recognized that a significant portion of the output of the production units appears in the form of support material - mainly teachers' notes. These are invariably well used and make a significant contribution to the educational picture. Indeed one is often tempted to speculate that perhaps the most important contribution that educational broadcasting units are making, particularly in developing countries, lies in the permanent material rather than the ephemeral broadcasts. In Zambia shortage of money unfortunately inhibits production of the types and quantity of support materials that the members of the broadcasting unit would wish to produce. Also in the case of radio support material, printing orders have to be placed with the Government printer where they receive a low priority in comparison with the needs of other Government Departments. The ETV Service, because fewer copies are required, has settled for its own reprographic service which produces an acceptable result, economically, and to a time schedule that meets everyone's needs. But apart from these elements, utilization is the area which needs most attention because it is quite clear that much of the potential value of the broadcast transmissions is being lost and for reasons which could, in the main, often be avoided.

The distribution of support material to the remoter schools presents a considerable problem. Postal services are used and material is accepted free as Government mail. However the service is unreliable and the production centre cannot be certain that the material is getting to the schools in time. An attempt was made to distribute the materials through educational officers in districts but this was found to be even more unsatisfactory.

It is important to note that some secondary schools have their own tape recorders which they are using in connexion with the broadcasts. At present a limited tape copying service is available on an experimental basis, but a tape copying machine has been ordered and when this has been installed a full tape copying service will be offered to all schools.

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The problem of maintenance and repair of sets is a major one and no ideal solution has yet been found. Amongst the ideas currently being investigated is the feasibility of a mobile repair workshop which could tour, on a routine basis, provincial headquarters and other centres where repairs might be carried out. Another possibility is the creation of government workshops at each provincial centre. However, the fundamental problem is a shortage of technicians able to repair even simple electronic equipment.

Theft of sets is a major problem in many areas of Zambia which baffles the authorities. Instances have occurred where thieves have removed safes built into the walls of schools, and blown them open with explosives or where heavy steel reinforced doors have been broken open. Some schools have been broken into with such regularity that the only solution is for members of staff to carry home with them, every evening, anything capable of being stolen and to keep it under their personal custody.

Evaluation

Over the years evaluation cards have been used, but most producers felt that these did not really meet their needs. The Controller of Educational Broadcasting is convinced that the only satisfactory way of creating a bridge between the classroom and the production studio is by increasing personal contact. He has pressed for an increase in staff to enable his producers to tour the schools, including the remoter schools, and systematically cover the whole country. This system was introduced from the beginning of 1973 and the reports that are being brought back to headquarters are most encouraging in that problems are being identified and assessed so that action can be taken to correct them. The nature of these problems will be described in the section on research. At present each radio producer spends between seven and ten days a term visiting schools. But although staffing now permits this to be done there are still problems in meeting costs for local travel and subsistence.

The inspectorate also has instructions to evaluate programmes and assess the impact of radio and television, but primarily evaluation is regarded as a responsibility of the production team.

Finance

It is always difficult when facilities are shared with another service to estimate the proportionate costs. It seems sensible to consider only those costs which

fall directly on the Ministry of Education as a result of using this facility. The Ministry has invested 130,000 kwacha in buildings for the educational broadcasting staff (radio and television), a further 150,000 in equipment for the radio and television production units and for the Audio-Visual Aids Library, as well as 70,000 kwacha for radio sets and 60,000 kwacha for television sets.

The total salary bill for the staff of the Schools Broadcasting Service is quoted at 90,000 kwacha per annum.

Figures are not available for other forms of recurrent expenditure - production materials, maintenance and repair of radio and television sets, travelling expenses and other charges. Very rough estimates of cost effectiveness show that at the primary level it cost the Ministry of Education 0.20 of a kwacha per year for each child that watches a complete television series. At the secondary level it is nearer 6.0 kwacha per child per year.

For radio similar estimates indicate that the primary level figures are less than 0.08 kwacha per child per year listening to a programme series and less than 1.0 kwacha per child per year listening to a programme series at secondary level. The Schools Radio Service's evening programmes for adults have been excluded from these approximate costings.

There is a lack of precise information and possibly the figures for television are too low whilst the radio figures may be too high.

Research

An important survey was conducted during October 1972 by a Research Fellow of the Institute for African Studies in the University of Zambia into the use of educational radio in Zambian primary and secondary schools (published as Research Report Number 6). The purpose was to obtain basic data on radio sets and tape recorders issued to schools, their number and condition.

Enquiries were made about reception conditions, whether school broadcasts were used and how often. If they were not used, the reasons were asked. This part of the survey was conducted by a questionnaire distributed by post to Heads of schools. The response rate was better than 50% for both primary and secondary schools.

(A further survey is to carry on from this point to inquire into questions of

relevance, use, attitudes of teachers and also into production problems concerned with the speed at which the presenters speak and the suitability of types of spoken English for different target audiences).

The conclusions drawn in this work are now being substantiated by the reports brought in from producers on tour since this system was introduced at the beginning of 1973. Many of these observations apply to other educational broadcasting situations and thus it is not inappropriate to summarize some of them here. It seems that the secondary schools replies may be honest whereas some of those from the primary schools try to please the officials by writing 'the right thing'. Heads of secondary schools are far more critical of reception conditions. Primary school Heads report a far higher usage than secondary Heads.

Some report that radio sets are sent away for repair and are not returned for many months. Many Heads report that teachers use their own radios in the classroom.

There are two main reasons why tape recorders can be of benefit in the use of school broadcasts in the classroom ... flexibility in arranging school timetables when these do not have to be drawn up with broadcast schedules in mind. ... and secondly by using pre-recorded tapes it is possible to overcome the problems of poor reception conditions. Many teachers find it an even greater advantage that tape recorders, unlike radios, can be stopped and restarted.

Reception is a serious difficulty in many parts of the country.

Secondary schools not using broadcast lessons often make use of the taped programme service provided by the educational broadcasting unit by post.

In primary schools the most common reason for non-usage is absence of a radio set followed by poor reception conditions. Secondary schools give the major reason for non-usage as the problem of timetabling followed by reception difficulties.

The most popular programmes in primary schools are English, social studies and science. At secondary level English is the most popular subject for school broadcasts and history and geography seem to be the least used.

Many questions still remain to be answered, of course, concerning the children's

understanding of the programmes and the contributions that these make to their learning situation. It is to be hoped that further research facilities will eventually be granted to enable some of these important questions to be answered.

Future Plans

There is first of all the problem to make the existing service more effective. Much has already been written about the work that has just been started to increase the capacity of the unit to help with problems of utilization in school and to carry out ongoing evaluation of programmes.

Repair and maintenance of radio and television sets will continue to receive attention. No simple solution is apparent since the problem, basically, reduces to one of shortage of manpower with the necessary skills. The long term solution depends, thus, on the availability of adequate training facilities for electronic engineers and technicians, and a salary scale which will attract suitable individuals. In the meantime a method must be found of optimizing the available resources.

500 radio sets will have to be issued to replace the sets that are now broken beyond repair and also to increase the number available to schools.

The coverage of the television service is to be extended down as far as the southern border and plans are also well advanced to introduce a larger capacity tape copying service to reproduce radio programmes for schools.

The problem of recording educational television programmes has yet to be solved although film, it is thought, may have advantages over videotape. This is a question which needs careful consideration.

But overall the most important development for the future lies in the central role which the new curriculum materials are to play in the educational system. Mention has already been made of the educational services centre which is to bring together, amongst other units, the Curriculum Development Centre itself and the Audio-Visual Services Library of the Educational Broadcasting and Television Service. This should then be given the capacity to assume an ongoing production role to supply schools with support materials as they begin to use the new curriculum materials in the classes.

At the same time thought is also being given to the role of the Curriculum Development Centre and the working relationships which it has with other depart-

ments. It is interesting to note that a proposal has been submitted for the formation of a Central Curriculum Council 'to consider broad curriculum issues' and 'to make recommendations to the Minister' on the aims of Zambian education in the context of the national philosophy'. It is recommended that the Controller of Educational Broadcasting should be a member of this Council. It is also proposed that there should be a number of curriculum committees looking at points of detail and responsible to the Curriculum Council. It is recommended that a senior member of the staff of the Educational Broadcasting and Television Service should be a member of each of these.

The case study of educational radio in Kenya outlines areas of discussion between its educational broadcasters and those in Zambia as they searched for ways in which the two services might collaborate.

ZAMBIA: RADIO FARM FORUMS & LITERACY BROADCASTING

Introduction

In remote villages listening groups are formed of people with a common interest in farming, or in developing literacy skills. With the Radio Farm Forums a Chairman and Secretary, who control the day-to-day affairs of the listening group, are appointed. The positions are honorary and they receive no pay. An extension worker (a paid civil servant) supervises the activities of a number of these groups. Groups listen to topical farming programmes broadcast by Radio Zambia at a set time each week in their own local vernacular. Discussion takes place after the broadcast and a detailed report form is then completed by the Secretary and the Chairman in triplicate. Copies are posted to provincial headquarters and to Ministry Headquarters in Lusaka. These reports are systematically analysed. Thus in headquarters an up-to-date picture exists of the listening pattern in the field and of the attitudes and requirements of farmers. This is used as a guide in designing programmes and a two-way channel of communication has been established.

A similar pattern exists with the literacy broadcasts, but the activities of each study group are guided by a literacy assistant who acts as a tutor to the group.

Objectives

The Head of Rural Information Services states that 'he aims to disseminate all necessary and relevant farming information to commercial as well as subsistence far-

mers, including cattle owners and villagers, so that Zambia becomes self sufficient in most commodities grown in the country'. Within the Ministry of Rural Development, there are many departments, including agriculture, co-operatives, veterinary and tsetse control, water services, marketing affairs and community development. He sees the role of his department as supporting the professional activities of other departments within the Ministry. While the staff of the Rural Information Service are generally sufficiently experienced to be able to use their own knowledge, judgement and initiative on most informational matters, they can and do refer to specialist officers when they are in doubt.

Whilst a significant level of rural information is channelled through the Radio Farm Forums, it is important to realize that this is but one element in a systematic information dissemination service, which also uses newspapers, journals and booklets and organizes agricultural shows with, of course, the main responsibility resting on the field extension staff. However, field extension staff are thin on the ground. They are also often junior in the service and therefore lack the depth of experience necessary to influence practising farmers and they are often denied an essential element of transport to enable them to move around to spread their effectiveness. The Radio Farm Forums programmes supplement the extension service. Authoritative information is broadcast and by promoting discussion between farmers, the degree of their understanding is increased and they are often encouraged to act positively.

At the same time, the Radio Farm Forums provide a machinery for the expression of group opinions which, providing it is sensitively and responsibly handled can do much to reduce the sense of isolation which is, surely, a contributory factor to the apathy which frequently characterizes attitudes in remote rural areas.

User Profile

The Radio Farm Forums are divided into three categories. The main Forums are organized at agricultural camps and have all been supplied with radio sets by the Government. They meet under the direct supervision of the Agricultural Extension Officers. There are some 500 scattered, more or less evenly throughout the country. Self help Forums are sponsored by the Co-operative Department among individual co-operatives or in groups of individual farmers. The latest available figures show that there are seventy-four of these forums, again fairly well distributed through the

farming areas of Zambia. Aided Forums are those run at the sub-centres of the Community Development Department by its officers, using radio sets loaned by the Agriculture Department which also assumes responsibility for the training of the chairmen and secretaries. The latest available figures show fifty-five aided groups meeting regularly.

This gives an apparent total of 630 groups meeting regularly (March 1973). To these groups 1,186 radio sets have been issued by the Rural Information Services. Groups average a steady attendance figure of about fifteen members.

In the course of a series of visits to Farm Forums in the rural areas (over a period of three weeks in June 1973) it was possible to identify a pattern of 'areas of high activity'. In these the most significant rural development work was taking place. Some element had spurred the local people to realize that they could do much to improve their own conditions of living. There was a recognizable atmosphere of progressive attitudes. It was difficult to identify what precisely had caused this in the first place. Certainly local leadership, (chiefs, headmen and elders) had played a key role, and not surprisingly it is in these areas that one notices the extension workers and sometimes other agencies concentrate their efforts - understandably since it is here that their advice induces a higher response. It is in these areas also that the Radio Farm Forums are an important element in the social pattern.

For the literacy broadcasts produced by the Department of Community Development, there were reported to be 440 listening clubs, again fairly evenly distributed through the country, but with an average attendance of about ten members. In literacy groups visited it was noticeable that nursing mothers predominated. In most groups some pre-school age children were also 'getting a head start

Historical Development

The present pattern of rural broadcasting in Zambia was developed from the work of the UNESCO Mission in 1966 which surveyed the existing broadcasting facilities in terms of adult educational needs in rural areas. From this a detailed plan was submitted to the Government and a pilot project introduced at the end of 1966 in a vernacular language which was effectively understood in four provinces. (The population of Zambia is 4½ million and may be classified into seventy-three different tribes using some thirty different dia-

lects in which seven main languages are recognizable. English is the official language.)

Broadcasts to farmers started in early 1967 and the pattern chosen was that of the Radio Farm Forums, originally developed in Canada, and already proving themselves to be valuable in India. A study of the impact made by the Radio Farm Forums in the pilot project area led to an extension of the project to cover the remaining areas of the country in two stages, one in January 1968 and the other in July 1968. The operation covered the whole of the country by the end of November of the same year.

The project was careful to integrate the radio experience into the life of the community and into the general pattern of rural development problems. Posters, publications, press releases and agricultural shows were carefully designed to reinforce each other.

In 1969 a pilot project in literacy broadcasting was introduced by the UNESCO adviser in rural broadcasting, working in conjunction with the staff in the Department of Community Development. This programme was slowly extended through 1970 and 1971 and by the end of 1972 there were reported to be 414 listening clubs, again with substantial numbers in all administrative regions.

Whilst the listening returns analyses show that there are constant changes in the listening pattern from group to group and area to area, apparently corresponding to the seasonal variations of farming activities, they also show that some groups have lost interest (and had their radios taken away) and new ones have come into being. Thus numbers are kept at a fairly constant overall level.

At present, the main concern lies in making the existing system work more effectively. This calls for substantial staff training at all levels as well as the deployment of more resources.

Administrative Structure

The Head of the Rural Information Services is responsible to the Permanent Secretary, Ministry of Rural Development, for the efficient running of his department. He ranks equal with the heads of other departments in the Ministry, with whom he must have an easy personal and professional relationship. His main responsibility is to find out how best his department can support their work without distracting their

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attention from their specialized professional responsibilities.

In headquarters he is served by the staff whose responsibilities include:-

1. Analysis of the report forms that come in from the listening groups after every programme;
2. Collation and interpretation of data;
3. This may be described as reacting to the data and may take several forms - questions may require answers by specialist officers, other matters may best be discussed by a group, perhaps the group might include members of the original forum which raised the question;
4. All of these and alternative possibilities are likely to involve radio production work. There are eight programme producers in headquarters: each specializes in one or two vernacular languages. There is also a team of seven assistant translators.
5. At other times the questions raised may be more fundamental and form the subject of a special publication which will subsequently be translated into the vernacular languages and distributed through the extension services.
6. Other questions may form suitable articles for publication in the monthly farming magazine (Progress) or the more prestigious quarterly journal (Farming in Zambia) or in articles for the press.

A Provincial Rural Information Officer is stationed in each of the provinces as a member of the Provincial Rural Development Team. His responsibilities are to assess the informational needs of his specialist colleagues on this team and keep the Head of the Rural Information Services informed of appropriate action. The work of supervising the activities of the individual farm forums also falls largely on the Provincial Rural Information Officer. He receives a copy of each group's report, completed after every broadcast, and is best situated to take immediate action, should this be necessary. Sometimes the Provincial Rural Information Officer will have an assistant. Another important part of this work lies in making field recordings to be sent to Lusaka for incorporation in programmes.

At the village level a group of farmers wishing to form a forum will have been organized by the Agriculture (or Veterinary) Extension Staff, assisted by the village headman. Two important considerations at this level are security of the radio set - which generally means that it will be en-

trusted to a civil servant when it is not being used by the forum - and adequate communication facilities by road and postal services if questions are to be answered promptly. In the more remote areas, these ideals cannot always be met.

The members of the group are selected by the Extension Officers on the basis of their interest in agriculture and other aspects of rural development and their general enthusiasm. The co-operation of women is sought in view of the importance of their role in agriculture. The Chairman chosen is usually an elderly man who commands the respect of the villagers whilst the Secretary is generally chosen from the ranks of the younger literate men. Experience has shown that these appointments are often critical and that it is as unsatisfactory for the villagers to elect their officers as it is for the Extension Officer to appoint one. A selection' compromise seems to be the answer.

The Extension Officers (civil servants) have the ultimate responsibility to the PRIO for organizing regular meetings, maintaining attendance levels and effecting prompt action by the department in response to farmers requests for aid originated through the forums.

For the literacy work, an officer of the Community Development Department has been seconded as a Literacy Broadcasting Officer to work under the Head of Rural Information Services in headquarters. In provincial headquarters, the Provincial Community Development Officer has a senior Literacy Officer on his staff who is responsible for sending to the Literacy Broadcasting Officer at headquarters materials that can be incorporated into programmes. In each district there is a District Literacy Officer with a staff of local Literacy Officers who are responsible for the supervision of the separate literacy classes.

The Radio Farm Forum Project has been part of the Zambian Government's four-year development plan. Once the project was launched and its operational success was apparent, arrangements were made to absorb the qualified staff into the Civil Service.

Staff Recruitment

One of Zambia's big problems lies in the difficulty of recruiting adequately trained personnel to meet the many requirements of a rapidly developing country. This is true in the case of Rural Information Services. The present Head of Rural Information Services was himself a Provincial Agricultural Officer and therefore has a sound knowledge and understanding of the profes-

sional requirements of his colleagues in the field, particularly in terms of information services support. However, staff recruitment is one of his main problems and he finds that he has to take a long-term view in recruiting untrained personnel, giving them as much in-service training as possible and then, if suitable, sending them for further training.

Staff Training

Short seminars and training courses have been conducted in the rural areas for chairmen and secretaries. Other short field courses, concentrating particularly on the use of portable tape recorders have been conducted for provincial and field staff. Professional staff are sent to an agricultural college for a three-year training course if they show promise. Specialist broadcasting training is obtained through the Australian Broadcasting Commission, the BBC or CEDO. Plans are well advanced to increase the level of specialist broadcasting training.

In the early days of the project a script writing seminar was held for about thirty-five persons. The results were disappointing and no talent was unearthed. This was attributed to the fact that writing in general, especially in Zambian languages, has not yet been well developed in Zambian society. Moreover script writing for radio involves not only study, research and labour, but also a knowledge of the special techniques of radio broadcasting. It has also been suggested that the payment offered to script writers is not sufficient; however, particularly in the early stages, this factor did not stop interested individuals trying. The practical solution to the script writing problem has been found in the preparation of background material on each topic. These 'modules' can then be slotted into a 'programme outline' by the headquarters staff.

Production Procedure

While planning programmes, the needs of farmers in differing areas and their specific problems are kept in view through the Provincial office, and the Extension Officers of the regions and departmental experts are consulted. Sometimes it happens that topics suited to farmers in one area are not directly useful to others speaking the same languages. In most cases, however, the majority of the farmers still report the programmes are interesting in a general knowledge sense. Care is taken to see that as many subjects as possible of common interest to all areas in the same language region, are included in the schedule. Generally, con-

troversial subjects of general interest are sought. It is occasionally necessary to insert into this framework special programmes to deal with sudden emergencies - foot and mouth disease, for example.

Lists of topics are given final approval by a committee chaired by the Head of Rural Information Services. Programme schedules are drawn up for every language group twice a year, showing the dates, subjects and places of recording, types of presentation and any available accompanying visual aids. The first schedule covers the period for January to June and the second from July to December. They are prepared well in advance of the dates of broadcasts (three months is the aim) and sent out to Forum Centres. Experience shows that it is necessary to begin the preliminary research six months before the beginning of the period covered by the programme schedule.

Transmission times are allocated by Zambian Broadcasting Services as follows: Mondays at 4.30 p.m. for 30 minutes: Tuesdays at 4.30 p.m. for 30 minutes: Wednesdays at 4.30 p.m. for 30 minutes: Fridays at 4.30 p.m. for 30 minutes: Tuesdays at 3.30 p.m. for 30 minutes: Tuesdays, Thursdays at 4.00 p.m. for 30 minutes. These times are used for the Radio Farm Forum broadcasts. Another series of programmes called Farmers' Notebook are broadcast at 7.30 p.m. and a farmers' Radio Spot programme is broadcast most mornings at 6.55 a.m. Different vernacular services are broadcast on different days. The literacy programmes are broadcast on Thursdays at 7.30 p.m.

The actual time on the air of farming programmes totals eleven hours fifteen minutes per week. The breakdown shows:

1. Rural Radio Farm programmes in seven languages, each of thirty minutes.
2. Radio Spot in eight languages, each of five minutes, repeated in English every evening.
3. Farmers' Notebook in eight languages, each of fifteen minutes.
4. Zambian Land and the People - two programmes in English, each of fifteen minutes.
5. Rural Question Time - programmes in seven languages, each of fifteen minutes.
6. A Weekly Diary programme in English of fifteen minutes, repeated four times a week.

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Air time is a scarce commodity as the Zambian Broadcasting Services have only two channels available for transmission of all programmes in seven languages and a number of ministries require time on the air.

Production

The general format for a Farm Forum programme includes a topic which is examined for the first half of the broadcast followed by discussion of questions which have been raised by previous broadcasts. As often as possible the producers try to obtain and record the participation of members of some of the listening groups in the programmes. This is done by the Provincial Rural Information Staff. They record 'programme inserts' which are despatched to headquarters where the Rural Information Service has its own studio facilities. Nearly all of the illustrations recorded on the farms are unscripted and considerable patience is required on the part of the producer.

Experience has shown that features, documentaries, dramatizations and panel discussions are more attractive and interesting to Zambian farmers. Typical topics include: maize stooking; Turkish tobacco harvesting, stringing and curing, preparation for sale; cotton picking; cattle feeding; winter ploughing; fireguards to protect paddocks, grainbins and kraals; bush fires; lifting ground nuts; poultry house building; seed selection; maize storage; stumping; poultry chick breeding.

Other programmes have been devoted to speeches made by the Minister of Rural Development on important occasions. Where possible, programmes are recorded three to six months in advance. Special hints from the programme producers include the following advice:-

- (a) be sympathetic to farmers, yet avoid a patronizing attitude;
- (b) avoid a tendency to speak too fast or indistinctly and watch out for the overlapping of voices;
- (c) answers to questions should preferably be obtained from experts. Great care must be taken in the translation of their answers which must be accurate, but simple and clear;
- (d) when wrong or inadequate answers have gone out on the air these have been quickly picked up by listeners. When this happens acknowledge the fact gratefully.

The questions raised in the Forums are answered either on the air or directly in writing. They are also compiled, edited and published in the form of small pamphlets in the languages concerned, together with pictures, charts and other materials suitable to each subject. These pamphlets are used as reference materials for literate farmers and also extension officers.

Utilization

The motto of the Forums is Listen, Discuss, Act. Generally the Forum meetings are held in agricultural offices, houses or shelters built specially for the purpose. Community Halls, tobacco sheds and the open air are alternatives.

An enquiry into the activities of the twenty-nine Farm Forums in one province over the period April, May and June 1973, showed that the average weekly attendance was fifteen members with as many as ten guests extra sometimes being allowed to attend (the largest group had ninety-one members with up to twenty extra sometimes attending). Fourteen of these groups met regularly (making due allowance for the odd weeks when funerals or other communal activities intervened). At the other end of the scale, four appeared to be virtually defunct and seven seemed to be urgently in need of considerably more supervision - which could not be given because of shortage of suitably qualified staff and adequate provision for transport.

In the same area there were nine literacy groups with between seven and eleven members in each group (although one had only three) and meetings were held very irregularly. The best group held five meetings in the three-month period and the average was three. The reason for this disappointing turn-out was almost invariably that people were preoccupied with the agricultural matters during this period. Best groups are given recognition at the end of the year. They are given vegetable seeds and fertilizers as an encouragement.

Undoubtedly Forums act as an excellent agency for the transmission of knowledge. Group discussions help considerably in generating understanding, especially when the group is well led and guided. This essential quality of good leadership encourages the Forum to become a decision-making body, capable of advancing the development of the community.

The proceedings and views of the Forum must be accurately recorded by the secre-

tary and the smooth running of the group carefully nurtured by the extension officer. The latter has to deal with problems concerned with the supply of radios, their maintenance and supply of batteries, as well as reporting on problems of reception and understanding. All these points need careful attention if the communication chain is to remain effective.

The farmers in the listening group must believe that the central body responsible for producing the programmes is authoritative and really interested in their welfare. Preliminary notice is sent to the secretaries of the main points to be included in each programme so that Forum members may be informed well before the broadcasts and can make a point of attending when matters of particular interest to them are to be included. Through carefully sifting questions and answering points raised by different groups in turn, personal contact is built up into a sensitive two-way traffic in information. Programmes have to be convincing and advice sound and relevant.

A suitable locally made radio was selected after consultation with the Chief Engineer of the Zambian Broadcasting Services. The requirement was for a set which was both inexpensive and yet effective in all the regions of the country (which required a short wave reception facility). Additional problems were created by the nearness of foreign stations which necessitated a fine tuning arrangement. With bulk purchases, the price per set came down to just over 16 kwacha (£1 sterling).

Radio maintenance has produced serious problems. Arrangements for the maintenance of radio sets are still not adequate, although various schemes have been tried. Provincial officers are supposed to hold a surplus of 10% of the sets issued against breakdowns. Non-functional sets are sent from province headquarters to Rural Information Headquarters in Lusaka where a certain amount of repair work can be done. An arrangement has been made by the manufacturing company in Livingstone to repair the more seriously damaged sets, which results in inordinate delay and often further damage to the set in transit. There are private agencies in some of the larger towns which undertake repairs to radio sets, but they are extremely expensive. Again these repairs can take a long time and despatch frequently involves more problems.

The self help Forums are the worst hit of the three groups since their sets are owned by individuals or the cooperatives, and the heavy charges levied by private repairers may be difficult to meet.

Consideration has been given to the establishment, as an integral part of the Zambian Broadcasting Services, of a central workshop in Lusaka which could set up subordinate offices in provinces where radio sets belonging to the different departments of Government (and perhaps the co-operative societies) could be repaired. A model for such a service already exists in the pool transport system which has workshops in all the provincial headquarters. However, this scheme has not so far been implemented for a number of reasons, particularly the extreme shortage of adequately trained technicians and the low wages offered.

Evaluation Routine

The feedback system is a most interesting aspect of the Rural Broadcasting operation. A detailed report is composed jointly by members of each listening group after every Farm Forum session. A copy is posted to headquarters where it is carefully scrutinized. The reports, written in local vernacular, are translated by a special team. Thus, the senior staff, responsible for the overall direction of the programme, have an accurate and up to date picture of the country-wide reaction to every programme. There is a danger in this system in that it tends to work automatically and if the bulk of reports are consistently favourable in tone, complacency among the programme producers can set in. That it has not, would appear to be due largely to the leadership of the unit.

Whether the service helps to increase agricultural and livestock production is a question at present impossible to answer. Where there are so many factors contributing to an increase, or decrease, in farm yield how can the effect of this one small element be identified? However, in that farmers generally feel themselves to be a neglected minority whose crop prices and other vital matters such as market demand, seed and fertilizer supply, availability of loan capital etc., are decided by a far off and unsympathetic Government, there is no doubt that this service is making an important contribution to the morale of the farming community. What might, perhaps, be undertaken one day is a survey of activities which individual farmers claim were inspired by Farm Forum broadcasts.

Problems

The obvious inefficiency of some of the components obscures any attempt to assess the overall effectiveness of the operation. Its effectiveness could be increased significantly if more staff of high quality were available, if appropriate training could be offered to staff at all levels,

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and if more effective supervision were possible. Amongst other factors, the severe shortage of transport (which seems to be-devil the activities of many government departments in the field) means that only a relatively small number of Forums are receiving the outside supervision that is necessary. These problems unfortunately are all too common throughout Zambia in all sectors of development.

Forums visited in connexion with this survey were in the main those most frequently visited by members of the extension staff. These were impressive but a number of pointers indicated that many other groups could not be visited with any useful frequency by the supervisory staff. In such a situation, of course, groups will continue to meet and secretaries will continue to submit returns, for failure to do so may result in their radio set being withdrawn and this piece of equipment is a vital link with the rest of the world. However follow-up does not take place since there is no-one to provide the personal link in the two-way communication system.

Other factors which appear to have a bearing on the overall effectiveness of the rural broadcasts are:

1. There were frequent complaints about reception. Yet in those areas where complaints were made the survey team was able to obtain adequate reception on the standard sets supplied by the Ministry of Rural Development. Possibly the new transmitters and aerials now installed by Zambian Broadcasting Services are more effective than the old ones. On the other hand the team may have been lucky with atmospheric conditions. There is a need for a systematic survey of reception conditions and listening habits in rural areas (a survey of this type has been conducted for ZBS by the University in urban areas).
2. It was alleged that language problems can constitute the main barrier to successful communication. It is impossible to broadcast in all tribal vernaculars and therefore many listeners must tune into a programme broadcast in their second language.
3. There were many complaints (undoubtedly aired for the team's benefit) of the failure of Government to practise what it preached. Most frequently agricultural loans were used as examples, but there were also complaints about marketing arrangements and difficulties in the supply of animal food-stuffs and fertilizers.

(Zambia has recently had to re-route all her main external supply lines, and this has imposed considerable difficulties on all sections of the economy.)

4. In many areas postal services were reported to be poor.
5. Some farmers have to walk up to five miles to the agricultural camp or the community centre where the Forum meetings are held. In one sense, this speaks highly for the motivation of those who do attend. At the same time it is easy to understand that some may be reluctant to undertake this journey at the end of a day's work - especially in bad weather.

Against these difficulties, two facts seem to be of importance. First, the professional specialist officers at the Ministry of Rural Development consider themselves well served by the rural information services - although, of course, this did not stop them wanting more.

Second, a regular listening pattern has developed over the years, and a reliable channel of communication exists between the Ministry and many of the farmers which is immediate and reliable.

Financial Implications

The annual vote for the National Farming Information Services (including personal emoluments) totalled something under 186,000 kwacha for 1973. For this investment, apart from the Radio Farm Forums, the farming community enjoys thirty-nine district agricultural shows and eighteen provincial agricultural shows a year and a contribution to two trade fairs. There are also two publications, a monthly, Progress, and a quarterly, Farming in Zambia, both of which are quality productions and contain much useful advice and information. Most of the staff are involved in all of these activities to a greater or lesser extent. One estimate, based on viewing returns, averaged the number of farmers currently benefiting from the rural broadcasts at 16,000 (the potential adult listening audience actively concerned with agricultural matters is probably nearer a million). On the basis of the former figure, the cost to the Ministry per farmer listening is something under 6 kwacha per annum, which includes the cost of printing and distributing the two journals and the booklets arising from the programme questions. Against this relatively small investment must be set Zambia's urgent need to become self-sufficient in food-stuffs and to diversify her present range of crops

Perhaps the effectiveness of educational radio should be judged by the success that it has had in achieving defined objectives. However, the objectives of most educational radio services are stated in such general terms as to make it impossible to attempt any overall quantitative evaluation. Yet surely in all services there should be a continuing appraisal of effectiveness simply to ensure that the expense is justified in terms of benefit and that alternative strategies for the deployment of the same resources would not be more beneficial? This does not seem to be done as often or as thoroughly as might be thought appropriate. Thus imperfections have been allowed to develop within educational broadcasting systems, each of which tends to lower the overall effectiveness of the service. Even small inadequacies have a disproportionate effect, as each tends to reduce the reliability of the service as far as the user is concerned.

Individuals within the systems generally are aware of these problems - which indeed are common factors in several of these six case studies. The solutions are known, yet in the developing countries in particular, the necessary additional resources apparently just cannot be spared. This is a pity since time and again it was clear that only a relatively small, additional amount is required to enable the whole system to bring significantly greater benefits. At the same time note must be made of the high level of personal commitment which so often characterizes the work of individuals within educational broadcasting services. This (not peculiar to radio alone) is an important factor in the degree of success which this form of communication is obviously achieving.

When resources of money and skilled personnel are scarce, problems cluster around particular areas. The most obvious is providing training in script writing and production techniques. Teachers, agriculturists, illiterate workers who are highly skilled in their own disciplines and yet are untutored in the special techniques necessary to enable them to use radio as a tool to extend their own effectiveness, are frequently called upon to produce or assist in the production of programmes. In the circumstances they invariably rise to the challenge, yet it is clear that the whole process of communication would be far more effective if more facilities for this type of training were available to more people.

Perhaps the greatest general problem area lies in creating direct links between the users and the production studios, so that there is a two-way flow of information and particularly so that the programme pro-

ducers know what the real requirements are at the reception end and the extent to which these are being met. In countries where enormous distances along poor roads, or between islands, have to be covered, these problems of 'liaison' (which can be joined with utilization and evaluation problems) require special provision to be made in terms of staff and travelling facilities. In any such plans it should be remembered that programme producers also need to travel extensively to see how their own productions are being received. Initially it is desirable to test a prototype programme with specimen audiences. However even once a stockpile of programmes has been achieved it is still necessary to reassess and remake them on a continuing basis and to discover through personal visits and contacts how best this can be done to meet the changing requirements of educational situations.

The case studies itemized factors which have come to light through field liaison work and which have rendered broadcasts useless. Amongst these are inability to understand the language used; inability to follow the speed of delivery; radios not working and unable to get them repaired; unable to get replacement batteries; interference from foreign stations jamming reception and others which have certainly lowered the effectiveness of the broadcasts; the support materials not arriving in time; programmes in series not following the same sequence of topics as teachers have been trained/instructed to follow or as is contained in standard textbooks; sound effects not understood by listeners.

Perhaps the most significant factor to derive from this section of the survey is that in many of the developing countries teachers and pupils are so starved of educational support materials of any kind that they will often make prodigious efforts to overcome weaknesses in the broadcasting system in order to make use of the educational radio programmes. Again because of the ephemeral nature of the broadcasts it is the support materials which have greatest significance. The teachers' notes are frequently used as normal lesson guides, the broadcasts themselves becoming events in the calendar by which teachers measure their progress through the term's and year's work. The corollary would seem to be that educational radio services should devote a greater proportion of their budgets to the production of semi-permanent materials. In this sense the acquisition of tape recorders by schools and the development of tape replication services by the educational radio units are seen as part of a trend towards using the production facilities of a broadcasting studio to create materials which in future, will be increasingly dis-

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tributed in re-usable form by non-broadcast means. This aspect is considered more fully in Chapter 4, which deals with centrally-produced recourses. Many educational radio services are producing visual materials specifically to support programme series - Kenya has produced series of charts, so has Zambia. Kenya is experimenting with 35mm filmstrips linked to cassette programmes. Saskatchewan Department of Education is producing audio-tapes and radio-visuals on a regular basis and, incidentally, has reduced actual broadcast time to twenty-seven minutes each school day. Again problems of producing printed support materials for teachers and pupils to a demanding time schedule is making a number of educational radio units consider setting up their own multi lith printing capability.

The benefit derived by each country from educational radio has to be seen against

the background of that country's needs. As the educational system develops so do teachers require different types of support. It is clear that unqualified and poorly qualified teachers are happy to allow radio broadcasts to take over their lessons. Better qualified teachers resent any suggestion of direct teaching through radio and, indeed, the more highly trained and educated a teacher is, the less he needs to draw upon the direct support which school broadcasts can offer and the more he will tend to look at them as another resource upon which he can draw to find the most effective way of stimulating the interest of his pupils. Producers need to be able to 'tune' themselves finely to these specific needs and to produce a product which the teachers can integrate easily into their general lesson plans.
