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COMMUNICATIONS AND PRIMARY HEALTH CARE

IN ZAMBIA

PREPARED BY MAURICE BRYAN
PROJECT SUPPORT COMMUNICATIONS
UNICEF, LUSAKA.

1. Introduction

With the implementation of the primary health care system, the promotion of public concern and understanding which will lead to improved standards of health is likely to be a major feature of national strategy.

This will involve the passage of information designed to improve the supply and intake of proper nutrition, improve basic sanitary services, the supply of safe water, and other interacting conditions which lead to high rate of sickness, death and low productivity.

In both the rural and the urban sectors of the country people will be encouraged to alter their behaviour patterns and attitudes if these are seen to be contributing to ill health and a lack of well-being. It will however be useful to remember that the present health and sanitary practices among people have their roots in centuries-old customs and habits. These practices which are usually based on the kind of information people currently possess cannot be changed easily, unless an environment of understanding is created, which will enable people to use new knowledge and skills to change themselves now, in the near future and more especially in the years to come. Primary health care is not a campaign to quickly eradicate some scourge and then to be forgotten. Primary Health Care is forever.

2. Objectives

The use of health education/information is therefore an essential part of the planning and implementation of the activities leading to an improvement in the standards of health. As stated by the Ministry of Health, the objectives of the Health Education Component for Primary Health Care are to:

a) Train staff from all sectors to contribute to the planning, implementation and evaluation of the PHC programmes.

b) Educate specific individuals and groups on the relevance of PHC in achieving personal, community and national development goals.

c) Promote community participation in PHC programmes.

d) Establish and maintain effective channels of communication between the community, PHC workers and administrations.

e) Evaluate all aspects of the educational component.

f) Initiate and conduct research leading to the development of more effective methods to use in the educational and communication process.

3. Information delivery

3.1 While it is always possible to clearly define objectives in programmes aimed at development and behaviour change, it is often the detail of implementation which proves to be the problem leading to failure to meet the objectives.

3.2 Unfortunately the delivery of health related information is often limited by two concepts. Many people equate health education with the transmission of information about health and diseases, from the experts and the professionals to the lay client. For others, there is no difference between health education and mass campaigns. The Primary Health Care system however, is aimed at far more than this. Information delivery in primary health care is crucial to the process by which people in a community learn, inform and orient themselves for improved health practices.

3.3 Along with the lack of medical care, transportation and other amenities that affect those who primary health care is designed to reach, information and knowledge of exactly what needs to be done to bring about improvement is also lacking. Even in relatively accessible parts of the country, people go about their lives without ever seeing the extension agents who are expected to assist them. In other situations where information might exist, e.g. urban areas, information on how to make use of

the existing information is sometimes not only the most needed but is never considered as being necessary.

3.4 Lasting activity in primary health care will not be sustained by information passing from the professionals to the lay people either through lectures or mass campaigns alone. To be truly effective in the long term, i.e. capable of developing a sense of responsibility among people for the betterment of their own health with or without the assistance of government extension agents - health information delivery must pay close attention to the flow of information back from the people about their condition, which will help to modify the approach, and it must pay special attention to the validity of the lateral flow. That is the information that circulates from individual to individual covers more of the population, and which has the greatest potential for producing really lasting social change.

4. Categories of information

There are at least four categories of information which Primary Health Care implementation will require:

a) General health oriented development information from organisers to the people.

b) Organisational, administrative and training information directed at practitioners within the organisation including other sectoral bodies.

c) Information from people to the organisers on effects of implementation, for programme modification purposes, also known as feedback.

d) Lateral information from people to people, either as individuals within one community or between communities.

5. PHC Information Committee

The creation of a climate of health awareness which will be self regenerative and continue into the future should be the major goal of PHC public education efforts. It is proposed that communications manpower equipment and technical knowledge

be shared among ministries and non-governmental organisations in order to optimize available resources. This is to be achieved by a committee which will be the information equivalent of the overall PHC Intersectoral Planning and Co-ordinating body. The PHC Communications co-ordination committee should draw its membership from bodies with country wide cadres of extension workers and other services which can contribute to successful implementation.

a) Ministry of Health - Health Education Unit.
b) Ministry of Education - Educational Broadcasting Service
c) " " " - Curriculum Development Unit
d) " " " - Continuing Education, UNZA
e) Ministry of Labour and Social Services - Community Development Department
f) Ministry of Agriculture and Water Development - Rural Information Services
g) Ministry of Information - Zambia Information Service
h) Zambia Broadcasting Service
i) Family Planning Association
j) National Food and Nutrition Commission - Public Relations Unit

plus non-governmental organisations involved in information for social development.

6. Committee Functions

6.1 Apart from functioning as a task force which submits communication oriented proposals to the PHC Planning Body, the PHC Information Committee's main role should be:

a) to co-ordinate PHC outreach information in conjunction with their individual ongoing social development information efforts.

b) co-ordinate production of PHC related information and use of available resources.

c) Co-ordinate organisation and running of communications training seminars.

d) ensure that this co-ordination functions effectively at Provincial and District level.

6.2 While such sharing of resources is admirable and necessary, it is difficult to see how this will be achieved in reality without an established and very dynamic co-ordinating unit. The reality is that without informed, dedicated and interested individuals working to make integration fruitful, the establishment of commissions and committees produces little tangible results. For this reason an immediate priority should be the establishment of a communications unit for PHC by the Ministry of Health.

6.3 The Unit, either on its own or through intersectoral co-operation will be responsible for the production of all support material for PHC. I.e. brochures, pamphlets, posters and audio-visual materials for both training and educational purposes.

- Co-ordinating the dissemination of PHC communications.
- Providing a forum for community feedback for purposes of monitoring and ensuring it is recognized and incorporated in ongoing PHC implementation.
- Developing and implementing a workable ongoing communication strategy for PHC.
- Facilitating the lateral flow of information between communities, so that experience gained by one community can be available to another.

7. The present Health Education Unit is the department most suited to undertake the task of PHC communication and if the personnel are not already in the ranks, the Ministry should endeavour to employ three or four very competent people to fill the following professional positions:

- 1 Health Communication Co-ordinating Officer-in-Charge
  To be responsible for inter-sectoral communication co-ordination, strategy and implementation of all communication efforts, from conception to reality and material distribution.

- 1 Sociologist/Researcher/Writer to undertake research, evaluation and message design aspects of health communication with special emphasis on pre-testing and accurate vernacular translation.

- 1 Journalist/Photographer to be responsible for writing of and editing materials, photography, simple layout work, audio productions, vernacular translations.

- 1 Graphic Artist/Photographer to be responsible for illustrations, photography, major layout work, printing, exhibitions and material distribution.

- 1 Training Officer/Writer for various in-service seminars, production of training manuals and adult education material.

- 3 General staff

  a) 1 copy typist
  b) 1 production assistant i.e. darkroom, etc.
  c) 1 driver/messenger

8. Media

8.1 It is proposed that all forms of mass media will be used in public education with special emphasis to be placed on radio. A comprehensive overview of media in Zambia is dealt with in Appendix I, but it should be noted that Primary Health Care offers a good opportunity for the creation of innovate programming of a social developmental nature. The idea that health programmes must be produced entirely in the studio, news found only in the city, etc. should be abandoned. Media producers with the assistance of health educators should go into the villages and other settlements seeking information on health promotion plans and problems, as well as carry out programmes of general health information. There could also be much greater use made of drama and song. Apart from radio forum listening and discussion groups which can increase the message impact of mass media, the use of cassettes to recycle programme material, and the rewriting and publishing of radio programmes in the form of pamphlets should also be considered. Given the acute shortage of reading matter in rural areas, these materials can

function as study guides and functional literacy materials for the radio forums, as well as reference materials for extension service personnel employed by other ministries.

8.2 A film on primary health care is also proposed. In general film is an excellent medium which provides a close approximation to actual experience. Films are also useful for gathering crowds to provide an opportunity for face to face discussions. Movie productions however are expensive, averaging out at K2,100 per final running minute and requiring up to six months to complete. It should also be noted that a film which tries to deal with a variety of subjects in half or one hour can confuse rural people and be ineffective. Single concept films have been found to be much better especially if limited to approximately 15 minutes.

8.3 Along with radio print will be the next likely medium to be highly utilized. A number of print publications exist which can be used for reaching the literate.

a) Orbit
b) Times of Zambia
c) Zambia Daily Mail
d) Z Magazine
e) Local language newspapers
f) Mining mirror
g) National mirror
h) Youth Magazine
i) Posters and leaflets by:
   National Food and Nutrition Commission
   Community Development Department, Ministry of Labour and Social Services
   Rural Information Services, Ministry of Agriculture and Water Development
   Zambia Information Services, Ministry of Information
   Adult Education Correspondence Unit
   Zambia Congress of Trade Unions

In addition matchbooks, bus tickets, stamps, handbags, exercise book covers, UBZ buses, postcards and fabrics can be used to reach the target groups. The use of print should run in conjunction with other media efforts if possible.

8.4 For the purposes of deciding on strategy the audience can be divided into target groups, e.g.

a) Ages 6 - 11
Posters - Orbit

b) 11 - 16
Clubs (Scouts, Red Cross, Brigades, etc.), Youth groups, Church groups - mainly through Orbit, Exercise books, Youth Magazine.

c) 16 +
Posters, pamphlets, leaflets, books, fabric, bus tickets, postcards, newspapers, etc.

8.5 Whatever method is used, it is always useful to remember that youngsters and adults may have other priorities than education and no learning experience will work unless these priorities are integrated into it, with emphasis on useable knowledge and skills.

9. Planning

For PHC communication efforts to be really successful, real care will have to be taken in the planning and delivery of messages. Unfortunately this aspect of communication is often detrimentally neglected, and a developing country cannot afford to waste resources on unsuccessful or inefficient campaigns. A failure of any part of the expenditure to deliver the information where and when it is required is serious, and the efficient delivery of information is likely to show financial as well as psychological gain. The pre-requisite for the production of materials is a good message. For the materials to be effective the need to be produced jointly with the user (the extension agent) the consumer (the villager) and the researcher. Action research in a programme can ensure that all aspects of a communication project have been given a field test prior to full scale implementation. This can eliminate misunderstanding and

10. Pre-testing

Because of financial constraints, pre-testing of materials is rarely ever done. When it is done, it is usually carried out near the production centre for the convenience of the producers and not for the sake of the project. This leads to rejection of the aids in the project area at time of use, since project area communities may require a different approach from the one taken by the designers and the test group. Usually this is not realised until it is already too late to do anything by which time resources have been exhausted. Pre-testing is especially important in situations where information is directed towards social change. Therefore in the planning of information programmes enough time as well as money must be allocated for pre-testing, and this along with design and production must be done well in advance. The importance cannot be over-stressed since it is an essential co-ordination strategy required to achieve effective village level adult education and relevant advice for community action efforts.

11. Distribution

While resources are available for the establishment of production facilities at the Health Education Unit and any shortfall is likely to be made up through intersectoral co-operation, distribution of PHC materials is likely to be a problem for all sectors. Production of materials in rural areas is very difficult and unless alternative methods are devised quickly the dependence on centrally produced material is likely to continue. Unfortunately because of problems with infrastructure and planning, general distribution to the rural areas is very unreliable, and new solutions will have to be found if PHC material efforts are to be truly successful. Utilization of commercial outlets are possible solutions. For example, soft drink distributors, NIEC, or the armed services will no doubt be faster than the usual government channels. Extension agents in the field should also be encouraged to make use of travelling traders as part of this group's contribution to community efforts.

12. Training

12.1 However, given the nature of PHC it can be safely assumed that most of the information to be delivered will be on a face to face basis. The final delivery point will be individuals in the towns and especially the villages. It is proposed to run training programmes for health staff and other sectoral workers. Since information delivery will be such an important part of their task, it is essential that knowledge of communication methods be incorporated into the training programmes. Along with general principles and techniques of health education, a course should be taught in the following:

a) Planning and co-ordinating individual and group communication.

b) Co-ordination and integration of rural development information delivery

c) Use of communication to meet sectoral goals.

d) Community diagnosis for communication purposes.

e) Communications media

f) Media alternatives and their respective uses

g) Simple message research, design, pre-testing and evaluation techniques.

h) Basic principles of communication outreach management.

i) Utilization of small group approach to learning, e.g.

j) Radio listening group formation and utilization.

k) Appropriate methods of communication at village level, e.g. drama, song, chalkboards.

12.2 While it is assumed that the field workers will be receiving support material from centralised sources to help in their information work, the reality is likely to be different for the afore-mentioned logistical reasons, therefore special emphasis should be also paid to making cadres achieve a certain amount of self-sufficiency in the production of communication aids with emphasis on using resources that exist in their respective areas, and especially the utilization of indigenous communication methods.

13. Community Media

It is proposed to make full use of innovate health education methods, e.g. dance, song drama, etc. These media can be used to train local health workers who could use them in turn to teach the villagers about health problems and solutions. The advantage is that it enables workers to communicate with groups at their own level and is an important part of the lateral information process. Some groups will change faster than others some will resist change more than others so there will be different needs in the field and community media will be one way of getting around this. To this end it would be useful if a series of songs could be devised carrying significant practical information and reminders on various aspects of good health behaviour. Each community could devise its own song or series and these could be shared throughout the country. With enough creative input, it might be also possible to devise children's games which have health oriented vocal accompaniments. These can be remembered well into adulthood and passed on to another generation. There is no reason why health related information should not become part of the national conciousness.

14. Conclusion

It is proposed that PHC workers will be reached via a newsletter and other methods of communication will be devised for example, Citizen's Band radios, since it is important for PHC that sectoral staff are convinced and their morale remains high (see Appendix II). These are all designed to improve the effectiveness and organisation of PHC staff's efforts.

Primary health care will not be the first time that a programme with a large public education component is being implemented. From the experiences of the past, villagers have become extremely sceptical of well intentioned government agents who raise their hopes and then for one reason or another fail to deliver the goods, sometimes never even returning themselves. Regardless of the extent of public information, it must be noted that unless efforts are made to ensure that the organisation, infrastructure and support systems of the entire project are functioning properly, public education will never be able to contribute its full potential in assisting the programme to achieve health for all in Zambia.

PROJECT SUPPORT COMMUNICATIONS

Communications activities relevant to social development in Zambia can be differentiated into two broad but overlapping categories. First there are mass media practitioners engaged in the dissemination of information and other content directly to undifferentiated general audiences. Secondly, there are groups working in development support media who are concerned with goal-oriented communications directed at defined target audiences, and whose outreach functions primarily via intermediaries such as extension officers, and other development agents, as well as through mass and specialised media.

Since independence in 1964, mass media in Zambia has steadily expanded to cover a range of important communication requirements. Apart from the dissemination of news and entertainment, the mass media has provided a means for contributing to national unification, political mobilization, formal and non-formal education as well as development support.

As in other countries on the continent, both electronic and print media organizations in Zambia which aim to reach mass audiences function as semi-autonomous government agencies under the umbrella of the Ministry of Information, Broadcasting and Tourism. However, to fully understand the range and variety of facilities available, it is necessary to examine the scale of media operations in the country in greater detail.

1. Radio

The most cost effective method of reaching large audiences in any country is radio. By the 1970's, radio in Zambia had achieved a coverage of 80% of the geographical area with a potential for reaching 90% of the population. 1977 radio receiver ownership was estimated at approximately 300,000 (66 per 1,000 population). Receiver owners in both urban and rural areas have occasionally experienced operation problems due to periodic unavailability of batteries on the market. The recently completed battery factory at Mansa is designed to minimize this shortfall, although in the long-term the introduction of solar powered battery technology might be a more

lasting solution. See Appendix III.

Programmes originate from the Zambia Broadcasting Services studios in Lusaka and Kitwe and are beamed across the country via 10 shortwave and 8 medium wave transmitters. ZBS broadcasts on the Home and General Services from 30 to 35 hours of programming in 7 local languages (Bemba, Kaonde, Lozi, Lunda, Luvale, Nyanja and Tonga) and in English. It is planned in the near future to introduce some decentralization with the establishment of regional broadcast production units.

2. Television

Although classified as a mass medium, television broadcasting in Zambia does not yet reach a major portion of the country's inhabitants. Coverage is extended over less than 1% of the geographical area mostly in the urban areas along the line of rail. Currently television reaches 20% of the urban population, who because of the cost of of purchasing and renting sets tend to be mainly in the middle and high income groups. Television ownership is estimated at 22,000 sets or 6 per 1,000 of the population. Zambia Television Services beams programmes via 3 VHF transmitters which are capable of broadcasting in colour. Programmes are either live or pre-recorded with facilities available for broadcasting films or video tapes either in the 2 inch reel or $\frac{3}{4}$ inch cassette formats. General programming in English is broadcast for approximately 6 hours in the evening originating from studios in Lusaka and Kitwe. Special educational programming is transmitted during school hours. Plans are underway to increase broadcast coverage to the West and East using microwave links and booster stations. This is scheduled to be completed in 1981.

3. Newspapers

The two Daily newspapers in Zambia, the Times of Zambia and the Zambia Daily Mail, were estimated in 1975 to have a combined circulation of 106,000 or 22 per 1,000 population. The Zambia Daily Mail is under the direct control of the Party and Government. Along with radio, newspapers represent the most effective means of disseminating information in the country.

In addition to the two daily papers, there are also 6 provincial newspapers which are published monthly by the Zambia Information Services Press Section. These are printed in the local languages, Bemba, Nyanja, Lozi, Tonga, Lenje and Lunda/Kaonde/Luvale and carry items of both national and international news. The Mining Companies and the Zambian Christian Council also publish newspapers periodically.

4. Cinema

Being a medium which requires electrical power, cinema will occur only in places which have the necessary support systems. As a result, cinema in Zambia tends to occur mainly along the line of rail. There are approximately twelve commercial cinemas in Lusaka and the Copperbelt which provide mainly entertainment films. 16mm commercial film shows are also held occasionally by private groups and by secondary boarding schools. The Zambia Information Services operates mobile rural projection vans based in the provincial centres. However, problems have been experienced with maintenance required to keep the vehicles on the road, which means rural residents do not have regular access to film and are denied the opportunity to develop that form of visual literacy. (cf Mytton, 1974).

5. Magazines

The Zambia Information Services publishes a monthly magazine entitled 'Z' containing general information. Along with entertainment magazines, a number of other special interest magazines are published in Zambia, catering for groups involved in industry, mining, farming and business. The Ministry of Education also publishes an educational/entertainment magazine called "Orbit" aimed at literate school aged children.

DEVELOPMENT SUPPORT MEDIA

In order to increase the effectiveness of government departments whose services reach the people directly, there are cadres in certain ministries who are mainly concerned with task-oriented communications. These groups function directly with the people in the case of extension officers, or indirectly as in the back-up units which are designed to produce communications support material. As in other branches of the Government, the downturn in economic activity coupled with a shortage of suitably trained communications personnel has seriously affected the ability of these units to function adequately. Photographic, print, and graphic arts materials and equipment are in very short supply or often unavailable. Substitution is not always possible, and if this trend continues, it will be necessary to seriously rethink communications methodology to suit the unchanging environment of scarcity.

1. Ministry of Health: Health Education Unit

The Ministry of Health considers health education to be a necessary part of its programming. In recent years, health education in Zambia has been moving away from its former primary task of training health practitioners and more towards the dissemination of information for community mobilization. The Health Education Unit is housed in Lusaka, and with the return of 6 health education officers from training in Nigeria who will fill the vacancies existing in the provinces, the previous problem of understaffing will be partially alleviated, although the unit is still underequipped to adequately serve the needs of the country. Health education utilizes the mass media as well as more specialised audio-visual presentation. However, not only is there a shortage of production equipment, but there is also a severe shortage of relevant communications material. The liaison of the personnel with similar departments in other ministries is good but although it has been possible to get production assistance from outside, for the department to be as effective as it needs to be, a special programme of upgrading is needed in both staff training for media production and equipment supply. This is especially important with the increasing interest being shown by the Ministry of Health in the Primary Health Care approach which is likely to be a health education priority.

2. Ministry of Agriculture and Water Development
Rural Information Services

As part of the support given to extension agents, the Ministry of Agriculture and Water Development runs a Rural Information Service. This is essentially a media production unit with facilities for producing photographs, posters, brochures and radio programmes. The Service produces material for Farm Centres and Farm Training Institutes. There are provisions made for Provincial Rural Information Services, and a consignment of transportation and equipment has recently been received, including a system of two-way radio enabling extension workers to be in contact with their supervisors. These resources are expected to increase the effectiveness of the service. The structure is presently undergoing assessment and reorganization as part of an overall training review prior to the start of a World Bank financed training scheme for extension workers, which will concentrate more on the ability of extension workers to effectively meet the needs of small farmers in terms of identification, analysis and solution of problems.

3. The National Food and Nutrition Commission
Publicity Unit

This Unit produces material for the Commission's work in improving the nutritional standards in the country. The Publicity Unit which, as part of the Commission, at one time received assistance from UNICEF, has in the past produced excellent communications support material for use in the field. Unavailability of supplies has hampered work of the group in recent years, and it has largely been drawing from stocks of previously produced aids, although facilities exist for making radio as well as print presentations.

4. Department of Community Development Broadcasting Unit

The Department of Community Development is in charge of the Adult Literacy Programme in rural and urban areas. Women's clubs and village development committees take up self-help projects.

As part of the support to the Adult Literacy Programme, the Department runs a project on literacy broadcasting with the formation of literacy listening clubs in all the seven language areas of the country. Radio programmes are broadcast to cover both the basic and functional literacy activities in the country.

The Literacy Broadcasting section is housed in Lusaka, and, has 9 staff in the provinces who are assigned literacy broadcasting duties, but lack of equipment and transport has hampered the work of the Section.

5. Lusaka City Council - Housing Project
Support Communications Unit

This Unit was originated to meet the communications needs of the Housing Project Unit's efforts to upgrade the unauthorised peri-urban settlements which house approximately half of Lusaka's residents. The Unit functions as part of the Social Services Department and assists mainly in the work of the community development/mobilization. It is well supplied with audio-visual equipment and is capable of handling most of the preparation of audio-visual aids which are required. In the initial stages, UNICEF provided the equipment and paid for salaries of the personnel. However, the City Council is expected to undertake the continued running of the facility. Since the project has experienced some delays, and also due to the local shortages of supplies, UNICEF agreed to extend assistance in the form of procurement of additional supplies. There has been a complete change of personnel since its beginning and as the project has progressed, the communication requirements have changed. Currently the Unit is concerned with producing communication aids to assist in improving the health and living standards of the people in the upgraded areas.

PRODUCTION FACILITIES

There is a significant amount of communications production equipment and infrastrcture in Zambia, although these currently operate at less than full capacity due to the afore-mentioned shortage of supplies.

1. Print

Apart from the Government Printer which handles work for the Government departments including the various extension aids units, there are several private commercial printers and publishers in Lusaka and the Copperbelt. Facilities exist for the production of most types of material including those requiring screening and colour separation. The running costs of local printers are however extremely high, depending as they do on entirely imported technology, and most of them encounter frequent and severe maintenance problems.

2. Audio

While the Zambia Broadcasting Services and the Ministry of Education's Broadcasting Unit have the most extensive sound studio complexes, there are also independent studios in existence. The Christian Council of Zambia runs a mass media complex with full audio facilities along with film editing and printing services. There are also commercial recording studios which handle mostly music recording as well as the audio needs of international electronic journalists. A record mastering and pressing plant is located in Ndola; this facility reproduces both foreign and locally mastered material for the Zambian market.

3. Film

Because of the expenses involved in film production, this activity has been severely curtailed. Current production is undertaken mainly in connection with television programming. The Zambia Information Service (ZIS) and the Mining Companies have the most extensive film production equipment for both 35 and 16mm film, but since film production does not seem to be a priority of the Government one result is that dubbing and mixing facilities at ZIS are in serious need of replacement and updating.

(a) The Educational Broadcasting Unit of the Ministry of Education also houses film production facilities including the potential for film processing of colour and black and white. However, logistical problems have caused the processing equipment to remain unused.

(b) Except for film shots made for television, final post-production work for all film is done abroad, which also adds to the overall expense.

(c) The result of this is that although there are projectors around, it is often difficult to find films produced with Zambian audiences in mind, or that deal with issues relevant to social development.

PROPOSED RESOURCES

For some time plans have existed for the construction and equipping of a Mass Media complex, which is now scheduled to come into operation in the mid 1980's. The complex will house facilities for film, radio and television and will present new opportunities for producing local material. It is quite unlikely that there will be moves by the Government to upgrade equipment in the existing mass media facilities since the complex is expected to be equipped with state of the art hardware.

TRAINING

Perhaps more of a problem than lack of supplies and equipment for communications in Zambia is the shortage of properly trained practitioners. In both the mass and specialised media at many levels, there are personnel who have not had the opportunity to acquire appropriate qualification or experience, and are not qualified for enrolment in further training. At this time there is no institution offering comprehensive professional training in media or development support communication and there is no university degree-level communications education course to prepare future leaders in the area of communication.

PRESENT TRAINING RESOURCES

Evelyn Hone College in Lusaka offers vocational training in journalism for two years for Form V school leavers. The intake is approximately 16 per year. The College also offers a course in printing and formerly ran a course in photography and graphic arts which is scheduled to be phased out as it has been decided that there have been enough people trained in graphic arts to meet the national demand.

1. The church-financed Mindolo Ecumenical Foundation in Kitwe, runs a one year training course for print journalism professionals for Anglophone African countries with the Zambian intake being approximately 4 per year.

2. The University of Zambia Department of Mass Communications in the Centre for Continuing Education also runs short in-service courses for teachers, as well as seminars for ZBS employees. The intake is about 20-30 per year. Most media organisations offer some informal, non-structured, on-the-job training, by having their employees progress through various departments, but these are not run by qualified training officers and pressure of daily duties means that training for proficiency is limited.

3. In order to get additional communications training, some organisations send limited numbers of their employees abroad, usually sponsored partly by the governments of the host countries.

FUTURE TRAINING POSSIBILITIES

As interest in communication for social development grows, it is very likely that there will be a need for trained media practitioners. UNICEF along with UNESCO and IPPF has sponsored training programmes for communications for social development and is turning its attention to the need for training numbers of people who will be able to train others in the desired skills and concepts.

1. The University of Zambia Department of Mass Communication plans to institute a degree course in journalism, to meet the demand for increased standards of professionalism which the various media developments nationally and internationally will require.

2. A Mass Media Institute is also planned for the long term.

3. Of more direct interest to communications for social development is a Media Communications Development Unit being established jointly by the Zambian Government and the West Germany Friedrich Naumann Foundation. The project among other things, aims at upgrading the skills of selected groups of media practitioners and communicators, e.g. decision makers and middle management staff who have communication responsibilities in various ministries and communication intermediaries such as extension workers who operate in the field. This unit is expected to begin operating in 1980.

CONCLUSION

It would appear that with decentralisation becoming an increasingly prominent feature of government policy and with the expansion of communications facilities being implemented, there is likely to be a significant increase in communication activity as well as an awareness of its social role. It is more than likely that integration of services, self-reliance and community participation will continue to play a major part in Zambian national development and the passage of information for social and economic mobilization is an essential aspect of this process. As a result, any programme for social development will have to take the importance of communication into account and ascertain that plans are formulated to ensure its inclusion.

Appendix II

CB RADIO AND PRIMARY HEALTH CARE IN ZAMBIA

Prepared by Maurice Bryan
Project Support Communication
UNICEF, Lusaka.

Two way Radio in Development

In some countries of the world with large geographical areas and sparse population, for example Australia, Alaska and the Canadian North, two way radios have played a vital role in assisting the delivery of various services.

In Alaska, health care in 156 scattered villages is provided by indigenous health aides. These aides who are residents of the native community are chosen through its village council, trained by the Public Health Service and paid by the Public Health Service through the local councils. Each aide has a drug kit, a manual and a two way radio which is sometimes shared with other agencies in the village. The aide is meant to keep in touch with a doctor at a regional hospital according to a daily schedule. The aide can ask for advice on treating patients and request evaluation if the case is too difficult. In addition, the radios at the hospitals are monitored 24 hours a day for emergencies.

Radio Propagation

Radio waves travel at the speed of light, that is at 300 million meters per second. For example if a radio wave had a frequency of 300 million cycles (hertz) then 300 million cycles of wave would pass some point every second. Since these 300 million cycles are moving at 300 million meters per second, each cycle is therefore one meter in length. This is called the wave length and determines the part of the electromagnetic spectrum in which a radio operates.

These waves which are really electrical current, when flowing through a wire create an electromagnetic field around the wire. When the number of times the direction changes (frequency) is high, the magnetic field moves away from the wire and travels through the air (space). Passing this current through a long wire causes it to be radiated. It can then be picked up some distance away through another long wire. The first is the transmission process, and the second is the receiving process. By turning the voice into electrical current via a microphone, this process can be used to communicate over long distances.

The actual distance which the waves travel is determined by a number of factors, the main ones being the terrain, the time, the strength of radiation (watts) and the length and frequency of the wave being used.

Citizens Band Radio

To an increasing degree in the past few years, individuals in the U.S. and other industrialized countries have begun to use small two-way radios in their homes and mobile vehicles. These units called Citizen's Band (CB) radios are useful for class 'D' operation in the 27 Megahertz area of the spectrum. The original intention of the Citizen's Radio service was to provide short range personal or business communication between cars or boats and homes and offices. Most important is that CB was intended for people with no specialised technical knowledge or experience.

Citizen's Band radios are generally divided into base stations and mobile units. Base stations operate from 120 or 220 volt (household) alternating current, and mobile units operate from 12 volt direct current (DC) sources such as car batteries. Where AC current is not available, a mobile unit with a car battery must be used.

CB radios can be easily installed in stationary (base) locations or in cars or boats. They are light, relatively rugged, require negligible training in their operation and use little power. Because of their popularity CB radios are positively effected by the benefits of mass production which enables units to be sold for between US ¢90 and US ¢300 per unit.

Depending on the time of day, CB radios are quite effective at a range of between 17 and 20 kilometres. The main limit to communication range is the transmitter power output which is only about 4 watts, compared to a Zambia Broadcasting Service (ZBS) transmitter for example which puts out 10,000 watts. In CB radios, transmitters and receivers are housed in the same unit called a transceiver.

CB Systems

If a given station (e.g. a health centre) has to regularly communicate with another station at a distance close to communicating limit, a directional antenna may be used to concentrate the signal in a desired compass direction, however, the central station in a CB network should have an omni-directional (all directional) antenna. CB equipment antennas are simple to install and can be mounted on a single mast (e.g. a length of pipe). If communication is especially difficult with a certain station of the system, the base station may employ two antennas - one omni-directional and the other uni-directional, each fed with its own cable and switched by the radio operator by means of a switch located near the radio.

The other alternative is that a CB system could be established in such a manner that a network is formed with stations being able to relay messages to distant points using intermediate stations. This should pose no difficulty in view of the fact that relay systems are traditionally used by all human societies to communicate over long distances whether using smoke signals, drums or runners.

Battery Power

Given the unavailability of AC power in most pasts of Zambia, some special thought must be given to battery supplies. While any 12 volt motor car battery will work, the sealed type is considered best, since they hold their charge much longer with a small load such as a CB radio. Sealed batteries also never require fluid checks or refilling and do not leak acid. These factors are especially important when the batteries must be located indoors or must be handled frequently. A small charge indicator may be connected across battery terminals to indicate when the battery needs recharging. For low powered radios, a battery with a 40 ampere hour capacity is sufficient and will last from 4 to 5 days. If the batteries are to be charged with an AC operated charger, it is best to use a regulated charger such as an automatic 6 amp unit that adjusts its output according to the needs of the battery so avoiding an overload which is harmful to the batteries. Another alternative is to consider solar collectors for maintaining battery charge in remote unattended locations. Although the cost of these are relatively high, their cost is likely to come down in the future.

Besides the fact that they only require moderate sunlight, a small collector of only a few square feet could maintain a battery to operate a low powered CB transceiver, indefinitely.

CB radio and Primary Health Care

As has been pointed out in the paper on the Development of the Primary Health Care Programme prepared by Dr. J. D. Martin, Adviser on Primary Health Care in Section 3 of Part B, "Failure (of the PHC programme) will result if implementation is attempted without... good communication... and competent supervision of field workers and without reliable, regular distribution of drugs and equipment." It appears that CB radio has the potential to overcome some of those problems if properly used. From the proposed structure of the Zambia PHC system, it would seem that radio would be most needed between the rural health centres and the districts, since all supervision, supplies and referrals are to be done to or from district centres. Since it is intended that RHC workers will supervise village health workers and deliver necessary supplies over an 8-15 km radius using some form of transport, then a mobile unit could communicate with a RHC base station which can then communicate with a district base station. The final decision on the ratio and range of radio coverage will have to await the finalization of the PHC delivery structure.

CB Radio Installation Considerations

Whatever the final structure, the establishment of a two-way CB radio system for Primary Health Care in Zambia must take into account a number of factors:-

1. Of prime importance is the question whether the licencing authorities will grant the Ministry of Health permission to operate radios in the 27 Megahertz range, and the number of channels that can be allocated for use.

2. Large amounts of development funds are not available therefore the system must be planned so that recurrent costs are negligible or small enough to be included in the original budget.

3. The type of equipment should be determined by cost effectiveness as well as by its capability of becoming an overall system where units could be added as the system expands.

4. The equipment should be chosen based upon the factors of durability and low maintenance requirements. It is likely that equipment to be supplied which is normally regarded as capital equipment must be regarded as consumable goods.

5. The number of people trained in the care and maintenance of communications radio equipment is extremely small and limited to the main cities, so routine maintenance cannot be counted on for most of the equipment to be supplied. A truly effective system has to be devised for getting the inoperable radio unit from the user to the repairer and back in the shortest possible time, or alternatively, the repairer to the radio with the necessary spare parts, e.g. with the use of an all terrain mobile workshop in a vehicle such as a Mercedes UNIMOG.

6. Given the present transportation difficulties in the country, radio units could be an asset, but the problems of transportation could also add to the difficulties in keeping the system operational. If someone is assigned to maintain the system, it is imperative that the transportation assigned to that person is always available and in working order.

7. A system of back up units must be considered so that in case radios have to be removed for repair, a replacement will be made available for the duration of the unit's absence.

8. That the replacement system should not be used as an excuse for overly long turnaround times between workshop and user.

9. It must be determined if the points where units are located have local power facilities permitting the use of communication transceivers.

10. The length of time discussions on the radio are likely to last. Discussions lasting 15 minutes or more would mean others in the network will have to wait their turn to get on channel. This will decide the number of channels the units should have.

11. Whether the system will be developed in a manner that allows a network to be developed so that low powered transceivers can relay messages.

12. Whether units will be located close enough to Bomas so that police or army and other existing government communications channels can be used as a link.

13. How often the system is likely to be used and if the system can be shared with other ministries such as Agriculture or Education.

14. The ratio of radios which would effectively provide the function.

15. Will there be vehicles around capable of charging batteries which operate the radios.

16. The training modes for personnel who will operate the radios.

Equipment Costs in US dollars approx.

40 Channel CB Mobile radio	100.00
40 Channel CB radio base station	150.00
Dipole antennas for base stations	75.00
Whip antennas for mobile units	25.00
Battery 12V UNIPAC 8004102	24.07
Battery Charger 12V 4amp	12.00

With the possibility of bulk purchases, these costs are likely to be reduced substantially.

Two-way Radio in Zambia

One civilian project where two-way radio communication has been used successfully is the Housing Project Unit of the Lusaka City Council. Using a combination of mobile and base units, it was possible to establish a communication link within a 20 km radius of the Civic Centre which included the peri-urban areas being upgraded.

Besides its utilitarian function of conveying information and saving on transportation costs, it was also a great morale booster. The users had no trouble in mastering the simple operational procedures and enjoyed using the system. One problem centered around the failure of those concerned to see that base station batteries were always charged and occasionally because of this oversight, parts of the system would go off air. There was relatively little abuse (e.g. re-broadcasting snatches of song from the Zambia Broadcasting Service or frivolous chat that prevented serious business from getting done) possibly due to the pushbutton requirements of the microphone and the need to observe alternating send and receive rules in single channel transceiver operation which cuts down spontenaiety. The mobile units also stood up well to dusty and rugged road conditions.

Conclusion

It is interesting to note that a growing number of other developing countries are engaged in various stages of planning and implementing two-way radio projects. Ghana has completed a planning exercise to use radio to link rural clinics; Guyana in South America has begun to use inexpensive CB radios in its medical extenders system; Nicaragua has a project using CB radios for short range communication; in Guatemala, radios are used to maintain contact with auxiliaries during their field training; and in Bangladesh, new population and health programmes will involve the use of radios on a test basis.

As the results of evaluations of these various radio use projects become available they could doubtlessly prove useful in the final decision governing the use of two-way radio in the Primary Health Care Programme in Zambia.

Acknowledgements

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Notes

32 pp
The report has no date, maybe 1983-1984. It contains general proposals for PSC work in Zambia, with specific mention of ministries to collaborate with, newspapers and other media for PSC. Two appendices deal specifically with PSC in Zambia, and CB radio and primary health care in Zambia.

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