

CHAPTER 3

The Nuts and Bolts of Programming

Non-formal education is a complex concept, and in this it is like development. It is complex in that its learning context has to be improvised for each group of clients. It is complex in the multiplicity of techniques it uses, of which the teacher with the book is only one—and increasingly a marginal one. It is complex in that its end products should be measured not by pieces of paper called certificates, degrees and diplomas, but by such criteria as income generation for the millions who live below the poverty line, employment creation for the millions of unemployed, and the provision of protective food for the millions of children who are under-nourished.

Malcolm Adiseshiah, Opening Address

Concepts

The growth of the non-formal idea can only be understood in relation to education viewed as lifelong learning.¹ Unfortunately, many educators are not only the products of formal schools but still tend to think of education as bound by time or place or as always occurring in educational institutions. As a result, educational improvement is often seen solely in terms of *schools*, for example, in extending the length of courses or in improving age participation rates. For most of us, education is still something which terminates at a given age (or may never begin); anything else we have thought of as ‘information’ or ‘training’. Even when the non-formal idea is accepted in part, it may in the minds of educators either be confined to specific work-related training schemes or to low-cost (and by implication inferior) alternatives to the real education which only schools can provide. If ‘non-formal’ is seen as synonymous with ‘remedial’, then we shall perpetuate the injustices and inequalities which many non-formal programmes seek to remove.

Two basic concepts are necessary. First that the most important result of education is that it should lead to *learning*, and second that this learning can and should occur throughout life. Planned pro-

grammes of adult education (mainly non-formal) are a necessary complement to planned programmes of child education.

Learning, as Malcolm Adiseshiah expressed it,² is 'the conceptual bedrock on which non-formal education rests. In the non-formal education programmes for all but very young children, it is the learning techniques—the capacity to learn how to learn—on which success or failure is judged. The teacher in non-formal education disappears and is replaced by the facilitator, the animator, the worker. Non-formal education thus replaces the vertical hierarchical arrangements which education has come to represent by a horizontal structure in which all are learning from each other.'

If we take this broader view of education then its content is at once much wider than conventional academic skills and subject matter. It includes all those things commonly called 'training' (e.g. occupational or household skills) as well as 'the development of aesthetic appreciation and analytical modes of thinking, the formation of attitudes, values and aspirations; the assimilation of pertinent knowledge and information of many sorts. These different kinds of learning, to be sure, vary greatly in their depth and complexity; in the time, effort and maturity required to attain them; in their degree of generality, specificity and transferability to new situations; in their inherent value and durability. Yet all of them, if relevant to the circumstances, can enhance human capabilities and the behaviour of both individuals and communities'.³

A learner-centred view of non-formal education emphasizes its two most important advantages, namely, relevance and flexibility: a content relevant to the needs of the priority target groups and methods flexible enough to ensure that learning opportunities are maximized. As Catherine McLevy points out⁴ in relation to school-age children:

Learning needs to be considered when reflecting on non-formal education programmes, but more to restore its true meaning than to discover new definitions. Real learning has always been the work of the learner himself, assimilating knowledge, practising skills, and developing convictions in regard to values through his own powers of absorption, exercise and reflection. In the days of Socrates, when most aspects of available knowledge could be found through the use of the senses followed by mental organization of the evidence thus accumulated, the teacher promoted discussion while he acted as a whetstone to sharpen the faculties of observation assumed to be possessed by the learner. Now however, a great deal of knowledge is not perceptible either by accurate observation or even logic, and so instructional equipment of modern schools and colleges has been developed, and the concept of the teacher's role, and with it the learner's, has changed.

This latter change has been largely a mistake, since even today learning can only take place in the mind of the learner. The need therefore remains to stimulate rather than inform. Moreover, since it is impossible to know everything, the one essential goal is to learn how to learn, so that after leaving

the centre of education the person is equipped to go on learning whatever he may need to know or understand in later life.

Non-formal education calls for extensive improvisation in learning materials, since this itself stimulates the inventiveness of the children. The Socratic dialogue has a place in the learning process too, though it should not be the exclusive method any more than the lecture method ought to be used exclusively in the formal system. Personal or group observation or investigation of both natural and social phenomena, supported by the search for further evidence about them in books and other printed material, and evaluation of all the evidence after organizing it systematically, will enable the children to learn some of the facts of the world around them, and also to learn how to learn. It will also lead them to see the relationships between different aspects of knowledge instead of compartmentalizing them to the detriment of true understanding, which is what frequently happens in modern schools.

In some respects, children outside formal school are disadvantaged compared with those in school. The chief problem is that for some time they are likely to have much less fluency in reading, writing and numeracy skills. Until these are acquired the children are cut off from many sources of knowledge. But they generally have a great deal of curiosity, which is the first requisite for learning; they have sharpened their powers of observation in the freedom of the fields or the streets, and they have learned by practice to apply their mother-wit to the solution of any difficulties they may encounter. If these attributes can be canalized by a resourceful teacher, learning becomes a part of the game of life to the small child outside formal school. Since they are still children, it is also probable that the skills of reading and writing will be fairly rapidly acquired, especially if the matter to be read is made interesting and the necessary drills for consolidation of the skills are made amusing or purposeful or both. It has been observed that while children of six require four or five years of practice to attain permanent literacy, two years are enough for the child of nine. Some experts believe that it is not so much the duration of the period of learning as the stage of development at which the skills are practised that is important. In other words, they hold that if a child is still using literacy skills at the age of eleven he will retain them, while if he ceases to use them before that age he will ultimately lose them. If this is the case, the child outside school has most of the advantages for learning on his side, provided that his teachers continually develop the learning process around relevant topics and the interests of the children they are dealing with.

The concept of need is an elusive one. It has long been accepted by community developers that 'felt needs' should be met, but who determines what those needs are? And by what processes? It would be possible for the non-formal educators to *prescribe* programmes and the content of programmes based on their own—or even 'generally accepted'—ascriptive norms about what constitutes 'disadvantage' or 'deprivation'. Thus, it could be said that 'everyone needs literacy' or 'everyone needs two weeks' annual holiday with pay'. And we might then go on to prescribe learning opportunities based on those ascriptive norms. These opportunities might or might not be relevant, and

they might or might not meet the needs of the groups for whom they were intended as defined by those groups. What is absolutely certain is that they would not begin from that widely accepted axiom in the whole of education about starting from where the learners are. For that, needs can only emerge through a dialogue between teachers/programme planners and learners. Needs are not the same as wants; but they can only be derived in close consultation with the intended participants. Non-formal education is, after all, a largely voluntary and part-time activity.

This attitude is now becoming accepted at the policy level in a number of countries. In India, for example, the 1978 National Adult Education Programme was launched:

to enable the masses to play an active role in social and cultural change. Literacy ought to be recognized as an integral part of an individual's personality. The present thinking on adult education is based on the assumptions: (a) that illiteracy is a serious impediment to an individual's growth and to country's socio-economic progress; (b) that education is not coterminous with schooling but takes place in most work and the life situations; (c) that learning, working and living are inseparable and each acquires a meaning only when correlated with others; (d) that the means by which people are involved in the process of development are at least as important as the ends; and (e) that the illiterate and the poor can rise to their own liberation through literacy, dialogue and action.⁵

Curriculum Planning for School-Age Children

Even at the level of school-age children, Catherine McLevy points out that content should be considered in relation to *the aims which the group defines*, and in relation to the actual situation of the children for whom it is designed. 'If the objectives of non-formal education includes preparation for a more democratic and egalitarian society, it is necessary to develop the content with this in mind.'⁶

This view was accepted by the Delhi Conference. It was suggested that procedures for determining curriculum content might be adopted as follows:

- (a) The village community should be asked to indicate its needs and aspirations.
- (b) The stated needs and aspirations should be discussed with members of the community and further information collected (e.g. numbers to be involved and times at which participants will be available).
- (c) Curriculum workers or others having the needed skills should be drafted in to develop a curriculum as far as possible with the involvement of members of the communities. This curriculum should be developed within the national framework..

- (d) Generally, the curriculum should emerge and develop as a result of a dialogue with the community.

The content of the curriculum should, of course, be built around the facts of childhood, some of which are the facts of physical, mental and emotional maturity; the need for guided growth in these areas; the need to play and to learn through play; the need for security; the need for a recognized place in the family and the local society; the need for acceptance and peer approval; the child's curiosity as a stimulus for learning; the natural sense of wonder as a stimulus for reflection; the need to achieve when achievement is seen as a measure of one's own efforts and ability and also to use this achievement to help one's own people; the need for self-fulfilment; the need to learn to learn; conflict within the child between the need for authority (as a part of security) and the growing desire for freedom.

Catherine McLevy argues that:

In each area where non-formal education programmes are taken up, the content of the programme will also have to take into account the social structures of the human groups in the area, and . . . the material environment, including the 'natural' environment. . . For example, in a village well-known to the writer, what was within living memory a dense forest is still apparently wilderness, but it is now mere scrubland. This, of course, has had serious effects on the agriculture of the area. Enquiry among the older villagers about the former appearance and uses of the forest, and about the former condition of the agricultural activities, especially in regard to soil and water management, would teach the children something of the inter-relationship of natural growth and natural forces, and their effects on the life of man. In looking forward to the future, as well as in looking backward on this brief natural cycle, a sense of wonder, both at the power of nature and at the skill of man to act upon it, would naturally arise. A further effect will be that, when they are older, or even now through the impact their tales of 'school' may have in the community, the policies of a very important government department may be influenced for the better by practical wisdom of the people themselves.

The work-skills exercised in the community, and those in which the people show interest, or for which the children show aptitude, should also be considered. This education should not be merely functional, as if the children of the poor had only functions and not personalities. It should take into account the development and exercise of skills, especially skills which are valued by the child himself and by others. This gives great satisfaction to a child, and has beneficial effects both on body and mind, as well as serving to promote a more balanced view of the world of work and of possible vocational choices. False vocational values and expectations are among the most damaging consequences of the culture imparted in the formal schools.

The expectations which the local society has . . . and the values implicit in the local culture must be understood, since the child's need for security will largely be satisfied if he finds himself accepted by his peers and his elders.

Thus he needs to be helped to attain the skills expected of him and to appreciate the underlying values of local society.

However, this alone is not enough. He needs to learn to reflect critically on the things he is expected to do, and on the values of the society in which he lives, so he can form his own set of values to live by as he matures. To some degree his values will be unconsciously formed through childhood. For example, in an environment like that of the average Indian village, if we do not encourage different values in the non-formal education centre, the child, whatever his origin, will develop unconsciously the social prejudices of the village by the age of six or seven: the caste child will learn to despise the harijan, while the harijan will learn that he is despicable. Similar social prejudices are found in every society, and are learnt at an early age. It is certain, however, that they are learned, and not inborn, and so no educator should allow them to develop.

Finally, the wider environment of the children needs also to be borne in mind—the region, the nation, the world at large. It is necessary for every citizen today to have a broad understanding of the socio-economic and political issues affecting his country and the world, but it is equally important for him to understand the part played by science and technology in those issues. The assumption that more and more science and technology will solve all the problems of the world, and especially of the developing nations, is today seriously questioned. But without some broad understanding of the impact of science and technology on human society, the ordinary people whose lives are the most affected will have no say in the ultimate decisions on these issues. A study of the whole world of work, industrial and agricultural, and also a study of the deeper meaning of work and its impact on the environment and the character of the worker, need to find a place in the curriculum of the older children, along with the practice of work-skills.

If the non-formal education centre is to be a place of truly relevant learning, the community will need to be consulted about the content of the programme. The organizers will need to define their own broad objectives, and the main content areas that would fulfil these. They will need also to enter into close relationships with the people and to study the features of the village environment by observing, inquiring and engaging in dialogue with the adult members of the community. Much will depend on the kind of relationship established with the people in determining the degree to which they can contribute to the development of the syllabus-content for their children's education. But in principle, if this is to be a truly democratic education, it should also be a community-centred education, with the people deeply and continually concerned about it. Their concern will be the greater, and their dignity enhanced, if they find that they have views on education, and that these views are respected.*

Participation in Programme Planning

There is an assumption in most of the literature that non-formal education must involve potential participants in the determination of their

*A model curriculum for the 6–14 age group using the principles outlined above appears as an appendix to this chapter.

own programmes. And such participatory planning is contrasted with 'top down' approaches which may be devised to meet what government or non-formal educators themselves may perceive as the needs to be met. However, such a contract may be more apparent than real; even large-scale programmes need popular support. For example, a very large programme in Botswana, which was highly structured and organized at national level, was itself intended to be a 'consultation' with the people. As reported by the Botswana Government:⁷

A major non-formal educational campaign has been the public consultation on the Botswana Government's policy proposals for tribal grazing land. This campaign was carried out in 1976. Its aim was to consult the people of Botswana on a major land reform policy which the government was proposing to implement. So important were the issues involved that the government mandated a nation-wide campaign to explain the issues and gather feedback from the people. The feedback from the consultation would form the basis of the government's implementation decisions.

The method of consultation employed was the use of Radio Learning Groups (RLGs). By using these RLGs a far greater coverage was possible than by using normal extension methods, and it was possible to organize a structured system for gathering feedback from the people. A total of 3,500 RLGs were formed and an estimated 55,000 people were reached by a series of ten radio programmes. This meant that one adult in six was reached by the campaign. The campaign was a good example of inter-ministerial co-operation. A 'Grazing Committee' was formed to run the campaign. It was chaired by the Ministry of Local Government and Lands, and included representatives of the Ministries of Agriculture, Education, Finance and Development Planning, and the University of Botswana. Its committee was responsible for the preparation of materials and the organization and running of the campaign at central level. At district level, district extension teams, and, at village level, village extension teams, were formed to recruit, train, supervise and encourage the RLGs. These teams consisted of extension staff in the field, including community developers, agricultural demonstrators, head teachers and family welfare educators.

Significantly, the report concludes that the experience of the campaign has led to increased consultation with the people at district level and that this 'is becoming the basis for planning in Botswana'.

A good example of a combination of central planning and popular participation is provided by Yusuf Kassam's Conference Paper on Folk Development Colleges in Tanzania.

The idea of establishing Folk Development Colleges was first conveyed by a government delegation that visited Sweden in 1971 with the purpose of studying the Swedish educational system. At the beginning of 1974, a committee was appointed to survey the possibilities of establishing adult education institutions along the pattern of the Swedish Folk High Schools but adapted to local needs and conditions. Later in the same year, the Ministry of National Education requested Swedish consultants to assist the committee and

the Ministry in its task. As a result of the recommendations made by the committee, the Government decided to establish what has come to be known as Folk Development Colleges (FDCS), one college in each of the 85 districts, over the next several years.

The Folk Development Colleges programme constitutes the most recent and significant addition to the substantial and impressive development of non-formal education in general and adult education in particular over the last eight years or so.⁸ The following features give an overview of this remarkable development:

- (a) On the organisational and structural front, adult education has become the responsibility of the Ministry of National Education.
- (b) Every primary school has been made to operate as an adult education centre.
- (c) An elaborate committee structure from the national level right down to the ward level has been established dealing with the planning and co-ordination of adult education programmes.
- (d) Adult education officers have been appointed at all administrative levels.
- (e) Training in adult education has been introduced at the diploma and degree levels.
- (f) For all primary school teacher trainees, compulsory training in adult education has been introduced in all Colleges of National Education (teacher training colleges). The major programmes initiated include the large variety of adult education programmes offered at the adult education centres, the National Literacy Campaign, mass radio study group campaigns on a number of different subjects, education by correspondence, compulsory workers' education, Community Education Centres, and rural libraries.

The FDC programme can be looked upon as a logical sequel to the gigantic National Literacy Campaign which by 1975 had enrolled a total of about 5.2 million people. While rural libraries continued to be established in increasing numbers, the FDC programme was conceived as yet another move in the strategy of meeting the needs and challenges of post-literacy continuing education in the rural areas.*

In order to train the tutors for the FDCs, an FDC Training Centre was established at Kibaha, and the first five-month training course for principals was conducted in 1975. By the beginning of 1976, 34 FDCs were opened, and the number rose to 47 by the end of 1977. Among the existing educational institutions that were transformed into FDCs, the majority were formerly Rural Training Centres, while others were middle schools, mission schools, etc.

In initiating the FDC programme, the task of taking over the former Rural Training Centres from the decentralized Regional Administration under the Prime Minister's Office and transforming them into FDCs inevitably involved a number of complex problems and difficulties. Because of the newness of the FDC programme and the lack of adequate funds with regional authorities, the

*By 1977, a total of 2,339 rural libraries had been established.

FDCs were placed under the direct leadership and financial control of the Ministry of National Education in July 1976.

The FDCs are required to provide many different educational programmes as part of post-literacy continuing education based on the real and practical needs of rural development at the local level. Within this framework, the broad objectives of the FDCs are:

- (a) To help the citizen in developing his whole personality and to enable him to think intelligently and participate in the social life of his community and its development.
- (b) To help adults to understand the country's policy of socialism and self-reliance and to encourage them to participate more fully in political life.
- (c) To improve the knowledge and skills of adults in such fields as agriculture, handicrafts, domestic science, health and water supply.
- (d) To develop democratic and co-operative skills and knowledge among adults.
- (e) To help adults develop leadership skills and attitudes.
- (f) To increase knowledge of Tanzanian and African culture and promote active involvement in cultural activities.
- (g) To help adults acquire a wider horizon of the world and increase their ability to participate in international activities.

The FDCs are expected to incorporate some characteristics of the operational methods of the Swedish Folk High Schools including a high degree of flexibility in programming courses, the use of non-authoritarian and liberating methods in the teaching-learning process, the absence of formal grading and paper credentials, the focus on the development of the personality, and the spirit of and responsibility for co-operation among the participants.

The target group consists predominantly of new literates who have attained literacy skills at Stages 3 and 4 through the National Literacy Campaign.* A small proportion of primary seven leavers also enrolled.

At the present stage, there is some variation in the way that learning needs are identified by the FDCs. In many cases the needs are first determined by the college tutors who visit the villages in the wards and talk with the village leaders. After the needs have been identified, they are presented to the Board of Governors of the college for discussion, modification and final approval. This Board consists of the District Party Secretary as Chairman, and the FDC Principal as Secretary. Other members of the Board are the District Development Director and the District Functional Managers. In some cases, the needs are determined by just the district authorities or the Governing Board alone. The participants from the villages are mostly selected by the Village Councils in co-operation with the Ward Party Secretary and the Ward Adult Education Co-ordinator.

*According to the performance criteria used in the National Literacy Examination of August 1975, those persons who passed at Stages 3 and 4 were considered to be literacy graduates. A total of 1,403,985 or 37 per cent of all those who sat for the examination performed at levels 3 and 4, and of these, 574,876 persons (15 per cent) who performed at level 4 were considered to be functionally literate. An additional 806,422 people passed at levels 3 and 4 in the recent examination of August 1977. (For the 1975 results, see Mbakile, 1976).

The wide range of courses offered covers long courses of three months to two years and short courses of two days up to ten weeks. The long courses are offered in agriculture, including livestock keeping, domestic science (for women), and technical subjects such as carpentry, masonry, pottery, etc. A course which focuses on any one of these areas is also packaged with smaller doses of the other areas. It is also supplemented by such other general courses like book-keeping and management, economics (rural development), culture, and political education. The short courses are offered in a wide assortment of programmes such as village leadership, poultry-keeping, rural libraries, village shop-keeping, day-care centres, etc. The FDC facilities are also used by other government departments and institutions for running their own short courses either for their own employees or for the villagers.

Table 4 illustrates from a random sample of three FDCs the type of courses offered.

In all the vocational courses organized by the FDCs, it is recommended that 60 per cent of all the training sessions should be devoted to practical work and the remaining 40 per cent to theory. In every college, the practical work and demonstration is carried out through a variety of self-reliant productive projects in agriculture, livestock-keeping, sewing, weaving, cookery, carpentry, shop-keeping and others. In addition to providing opportunities for practical training, these projects also aim to meet part of the running costs of the colleges and to serve as examples for emulation in the villages. Among the FDCs mentioned above Bigwa has a 26-acre maize farm, a 6-acre banana plantation, a 3-acre orange plantation, a 2-acre vegetable garden, cattle and pig-keeping, a shop, a cookery project, and a sewing project for making shirts, trousers, blouses and skirts. These projects yielded a net income of Tanzania Shs. 28,000 (or US\$3,500), and an additional income of about Shs. 17,000 is expected from the maize farm. The FDC at Same has a poultry, a vegetable garden, a 4-acre millet farm, a 4-acre maize farm, a 1½-acre groundnut farm and 181 goats, which yielded a net income of Shs. 49,000 (or US\$6,125) in 1977. Malya has a shop and canteen, a vegetable garden, poultry, a 1½-hectare maize farm, a 3-hectare cotton farm, a 6-hectare millet farm, half a hectare of beans and a small bread bakery.

The number of participants that each college can enrol varies between 40 and 160 depending upon the accommodation facilities of each college and the type of courses offered.

In view of the newness of the FDC programme, there was in the initial period a lack of adequate understanding of the aims and objectives of the FDCs on the part of the community. The district authorities from whom the former Rural Training Centres were 'snatched' were not enthusiastically supportive of the new programme. However, with the passage of time, as the FDCs are consolidating their foothold and are offering an increasing number of useful and relevant courses, indifference and apathy are now gradually giving way to more favourable attitudes and co-operation. In a number of districts where the villagers and the village councils have been made to participate actively in the determination of needs and also, more importantly, in the selection of the members of their villages for the courses, some evidence suggests that the villagers have now begun to recognize the FDC as their own

Table 4: Courses Offered at three FDCs between January 1977 and March 1978

1. *Bigwa (Morogoro)*

Course	Length	Participants			Sponsor
		M	F	total	
Agriculture and book-keeping for shop management	4 months	25	14	39	FDC
Agriculture, book-keeping, sewing, cookery, day care centres	3 months	24	51	75	FDC
Book-keeping, agriculture, livestock keeping, domestic science, political education, economics	3 months	20	20	40	FDC
Accountancy and management, agriculture, domestic science	9 months (up to June 78)	29	21	50	FDC
Co-operatives	2 weeks	26	—	26	Coop. College
Seminars for managers of co-operative shops	2 weeks	22	10	32	Coop. College
Seminar for officials of credit and saving societies	2 weeks	32	8	40	Ujamaa and Coop.
Maintenance of tractors for drivers	6 days	18	—	18	Cotton Authority

2. *Same (Kilimanjaro)*

Course	Length	Participants			Sponsor
		M	F	total	
Book-keeping, agriculture, technical, domestic science	6 months			36	FDC
Day care centres	3 months			26	Labour and Social Welfare
Book-keeping, agriculture and domestic science	3 months			39	FDC
Book-keeping, agriculture and domestic science	6 months			44	FDC
Leadership	5 days			17	Ujamaa and Coop.
Cultural Exhibition	5 days			70	National Culture and Youth
Technical	?			14	FDC

3. *Malya (Mwanza)*

Course	Length	Participants			Sponsor
		M	F	total	
Technical, agriculture, book-keeping, domestic science, political education, economics	3 months	35	25	60	FDC
Technical and continuing literacy	1 month	14	6	20	FDC
Agriculture and continuing literacy	3 weeks	11	4	15	FDC
Literacy teaching, political education and Kiswahili	2 weeks	27	4	31	FDC
Book-keeping and political education	2 weeks	26	2	28	Ujamaa and Coop.
Book-keeping and political education	2 weeks	47	2	49	Ujamaa and Coop.
Technical, agriculture, book-keeping and political education	?	12	—	12	FDC
Course for permanent training teams for literacy	2 weeks	25	8	33	District Ed. Office
Course on T.B. and leprosy for rural medical personnel	1 week	19	8	27	Ministry of Health
Course on T.B. and leprosy for rural medical personnel	1 week	25	11	36	Ministry of Health
Course for shop managers	3 weeks	47	18	65	Ujamaa and Coop.

Source: Annual Reports from FDCs, presented at a Seminar for Principals for FDCs, Kibaha, May 1978

institution that can be made to serve their own needs and those of the village development.

Methods and Media

As has been pointed out, the two most important advantages of non-formal education are relevance and flexibility. Relevance is clearly related to content while flexibility depends on the right selection of methods and media.

As the Conference Report notes:

The selection of media for non-formal education depends on the purpose and scale of the educational programme, the media available, and the economic,

social and cultural setting. As a general rule, programmes with modest aims and objectives which involve relatively few people will utilize fewer and more basic media. In such cases the media are likely to be used to complement teaching techniques, and for demonstrations. Large-scale programmes such as mass education campaigns (in health and agriculture, for instance) frequently utilize a wide variety of media, including radio and television which may become very influential in determining methods and even content.

Traditional media suitable for individuals and small groups include art, dance, demonstration, drama (live and puppet theatre), exhibitions (specimens, models, displays), festivals, group discussion, person to person communication (extension worker, tutor, etc.), songs, visits, and writing. Other media for individuals and small groups are audio cassettes, tapes and discs; books and pamphlets; charts; computer terminals; closed circuit television; films and filmstrips; flannelgraphs; flash cards; handbills; newsletters; photographs and projected slides; posters; telephones; video cassettes, tapes and discs; and view data. Media for mass communication are print materials (correspondence lessons, books, magazines and newspapers), radio and television.

Traditional media have been used for centuries for fostering culture, preserving values, and shaping new attitudes. It is a pity that their value has been so often overlooked in modern education for they actively involve the learner and are usually inexpensive. Radio and television make good use of traditional media such as demonstration, discussion and drama. For example, a popular and long-running radio programme in Britain is a dramatized serial about country folk in which incidents in the story draw attention to features of rural life and inform the listeners how members of the community deal with their problems. Another example of a combination of traditional and mass media for community education is the use of song in public education campaigns. Songs with catchy tunes can be learned easily and are useful for conveying informative messages.

Audio cassettes, tapes and discs are particularly suitable for the non-formal education of individuals and small groups. They are relatively inexpensive, easily copied and packaged, and can be used by literates and illiterates alike at times they find convenient.

Additions to the range of new media for individuals and groups are computer terminals for computer-assisted learning, telephone link-ups for one-to-one discussion or conference calls, and view data by which the learner has access through television to data-banks of information. Although these media are being used increasingly in developed countries they are rarely available for non-formal education in developing countries as they are costly and require sophisticated telecommunications networks.

The media with the greatest potential for promoting change through mass campaigns are newspapers. Rural newspapers particularly have played a vital role in community development by conveying information on agriculture, health, and home and family life. The use of bold print for such newspapers is particularly valuable for newly literate adults.

Kobina Asiedu reports⁹ on a rural newspaper in Ghana, established in 1946:

The role of newspapers, journals and other periodicals in the continuing education of members of the literate community cannot be over-emphasized. But they have limited value in the promotion of continuing education of new literates. In developing countries, literacy development efforts must be concentrated in rural areas where the majority of the illiterates live, but most national dailies—being largely urban in origin—devote hardly any of their columns to rural problems. Although the level of English used in these dailies is generally low, it is nevertheless beyond the comprehension of new literates, a problem compounded by the fact that the news items describe urban environments which are strange to most rural dwellers. Rural newspapers, published in the local languages and devoting most of their columns to rural problems are most useful. With the help of UNESCO, and other local bodies, about five of such rural newspapers have been established in Africa.

In 1946 the Institute of Adult Education of the University of Ghana, with the help of UNESCO, established the rural newspaper 'Kpodoga' (meaning 'gong', a symbol for rallying the community) for the Ewe-speaking people of the Awudome district of the Volta Region. This farming district had long-standing connections with the Institute which, with the help of the local people, built a Residential Adult College there as far back as 1952. From this College, the Institute operated an integrated rural development project which included short courses for the local farmers and social organizations, as well as a demonstration farm. The rural newspaper was envisaged as a further component of the rural development programme. The Institute employs two editors who, in addition to gathering news, organize reading clubs and community development associations. The newspaper, which is published every month in the Ewe language, is printed by the Information Services Department for the cost of newsprint and ink. The newspaper runs a bi-monthly supplement on population and family-life education. The initial circulation was 2,500 but by the end of 1977 had risen to 5,000, and more requests have been received from people in adjoining areas asking if the newspaper's coverage could be extended to their areas.

The newspaper provides a forum for discussion of problems in the Awudome area, and serves as a vehicle for the dissemination of information and ideas for the improvement of agriculture and health; it also promotes civic consciousness among the people. Each issue is flooded with letters from farmers seeking advice on how to improve the yields of their crops and from people interested in improving the general quality of life within their villages. Health officers and other extension agents use the newspaper to disseminate relevant information to members of the community. The availability of the newspaper has encouraged the formation of various reading clubs which, in addition to encouraging basic reading and post-literacy reading activities, also discuss critically the issues raised in the newspaper. These clubs are at times moved to undertake various development projects in the community such as the building of incinerators, schools, and modern amenities.

Returning to the Report of the Delhi Conference:

Printed materials are used extensively for publicity, reinforcement and direct teaching. They can be produced with reprographic equipment ranging from

the simple felt-tip pen and broadsheet to the more complex offset litho printing machine. Silk screen printing is a useful low-cost method for reproducing coloured posters for local publicity campaigns. The need for such basic materials as writing implements, notebooks and blackboard chalk should not be overlooked in planning non-formal education projects or new manufacturing enterprises.

Correspondence materials are a form of mass media as they are used by thousands of students simultaneously. Some correspondence institutions are able to reinforce the print medium with audio-visual media such as audio or video cassettes or tapes, slides and filmstrips.

Radio is an attractive medium for non-formal education. It is not expensive to establish a small radio station, and modern technology makes it possible to operate one with a staff of one or two. Transistor radios have become commonplace even in the remotest parts of the world. None the less, they are still too expensive for many poor people, and governments should consider regarding radios as special education aids and exempt them from licence fees and sales tax where they apply. Radio has been used, for example, in Botswana to help people understand the National Development Plan. In India it has been used in farm improvement programmes; in Tanzania for nationwide health and hygiene campaigns; in the Pacific, the satellite PEACESAT has provided radio links between individuals and groups, and in Australia many children in remote areas receive their schooling using radios powered by specially developed pedal generators.

Television has a more powerful impact than radio, but it has limitations and is more expensive. Ground relay networks can extend the range of television but their expense can be justified only in densely populated areas. Geostationary communications satellites can extend the range of television across huge areas without the provision of a ground network. This was how India, using its Satellite Instructional Television Experiment (SITE), was able to reach 2,400 rural villages with television programmes for schoolchildren and adults.

High cost may rule out the selection of some media, while low cost can influence the selection of others which may be found unsuitable. Costs must be balanced against flexibility and adaptability. For example, the capital cost of a 16 mm film projector is almost the same as a video tape machine but the former is much less adaptable. The flexibility of various printing processes can vary considerably, and the selection of machines will normally be determined by the nature and number of publications required.

It is often claimed that distance teaching is less expensive than conventional schooling, and that educational technology reduces the cost of schooling. This is not entirely true since the fixed costs involved in setting up a system can be very high. These costs cannot be recovered until the number of students using the media has reached a certain level. Beyond this break-even point the cost per head falls rapidly.

The choice of media for any non-formal education project should be based on a rational attempt to analyse the likely costs and benefits. However, it is almost impossible to be precise in comparing the benefits of different combinations of media. Cost benefit analysis is not an exact science and is rarely the factor that decides which media are selected. Nevertheless, accurate

costing has a significant effect on the attitudes of authorities providing the initial funds and also on their continuing support.

It is essential to separate capital costs from running costs and to recognize that the accuracy of any costing decreases rapidly the further into the future it is projected. Ideally, there should be a commitment by the funding body to support the complete costs so that those working on projects are not continually worried about finding funds and matching expenditure to budget heads.

There are many hidden costs that need to be taken into consideration if a true assessment is to be made. For example, the cost of broadcasting time given to ministries of education, agriculture and health for their programmes is often not calculated. Savings are also possible. The common practice by correspondence institutions of using part-time teachers and lecturers for marking students' assignments is much less expensive than using full-time staff.

A choice of media is not always possible. In local programmes particularly, the media used may depend solely on what is available. It is important for planners to know what media are already available, and what can be managed with their financial, technical and staff resources. There is no point in dreaming of a huge multi-media literacy project reaching large numbers of people if funds are sufficient only to provide a spirit duplicator and two literacy workers.

No prescription for the best medium or even the best combination of media is possible. Ultimately the choice will be determined by the circumstances surrounding a particular project. For example, the most appropriate media for a nation-wide programme in a small country like Singapore will not be appropriate for programme with similar aims in a large one like India. None the less, it is reasonably certain that a combination of media is preferable to a single medium, and wherever possible non-formal education programmes should adopt a multi-media approach.

Multi-Media Approaches

In a survey of the literature on multi-media approaches in non-formal education, Robin Twite¹⁰ notes five main conclusions:

First there seems to be general agreement that in most cases, a multi-media approach is more effective than the use of a single medium on its own. There are of course exceptions to any general rule, but the conclusion set out in the pamphlet published by the International Extension College in 1973 is still valid:

The evidence of communications research and the experience of most of the case studies presented in this report suggest that the distance media used in combination are more effective than any one of them on its own, and that the greater the number of channels of communication employed in a project the more they are able to compliment each other and thereby maximize their individual qualities.¹¹

Secondly, there is a growing realization of the fact that control and direction of educational media by central governments or state authorities has its limi-

tations, particularly where rural development is concerned. The technical achievements of the centrally controlled media, television or radio, are undoubtedly of a higher quality than anything that can normally be produced locally. On the other hand, there is an increasing amount of evidence to show that only when the media are closely linked in some way to local need and, perhaps, subject to a certain amount of local control, can the best results be achieved.

Thirdly, there is an increased awareness of the necessity for more sophisticated ways of costing projects, and of the media element within them. The effectiveness of non-formal education has to be judged not only in terms of the numbers of people who are reached but also in terms of what else could have been done with the funds deployed had they been invested elsewhere in entirely different types of activity.

Fourthly, there seems to be a new realization of the great difficulty of evaluating the success or failure of any given project. Over and above the general considerations as to whether or not a project has succeeded, there are questions of a more subtle kind, such as: Which of the media used in a project, assuming there have been more than one, has been the most effective?

Fifthly, we can observe the curious fact that from most accounts of specific projects it is easy to gain a general picture of the structure of systems of non-formal education being used, but it is quite difficult to get any idea of what is really being taught and of the content of courses. The materials used are often available only in a local language which is not known outside the particular country or even the particular state where it is prepared. Therefore when we look at the total picture of any non-formal scheme or enterprise, we may find that we know a great deal about the number of hours spent by students or participants watching television or listening to radio, but very little about what is actually taught. We should perhaps pay more attention to content and to the preparation of adequate scripts.

All these points will be examined further, but before doing so, two other observations should be made.

First that it may be helpful for us to consider the use of media in two separate contexts:

- (a) The use of the multi-media in mass campaigns of various sorts such as those organized in Tanzania or in China.
- (b) The use of the multi-media to provide support for specific courses offering qualifications or an organized body of knowledge such as those offered by the Open University and its descendants, or the distance learning systems currently being developed in Sri Lanka or Korea.

It may be useful to make a distinction between non-formal education which is non-formal only in the sense that it does not take place within a classroom but which leads to formal qualifications, and mass education of a general kind that does not fit naturally within the confines of any academic discipline. The recognition of this distinction may help to focus attention on the problems involved with each. The mass campaign with its open-ended aspect, must be distinguished from an open university type of course which is controlled by a given curriculum, assessed by examination and which generally speaking reaches fewer people, at a higher cost, but which more readily can be shown to

produce the trained manpower needed in a way in which mass campaigns cannot always be shown to do and indeed do not aim to do.

The second observation which is perhaps so glaringly obvious as to be scarcely worth stating, is that when one emerges from reading the literature on the use of media in non-formal education it is perhaps as well to remember that by itself non-formal education cannot effect great changes on a society. Only if it is supported or arises as a result of a change in the basic condition of the rural population will it be really effective. People will become literate if they see a good reason to do so; otherwise they may go through the motions of obtaining literacy but (as has been demonstrated on a number of occasions) they may rapidly forget what they have learned if they have no use for it. Advice on nutrition will only be worth while if new food grains or basic commodities are available to those who receive it. The most effective non-formal education and the most effective use of media come about when the economic condition of individuals changes and those changes are anticipated by and linked to education. The unpalatable truth must be faced that sometimes the efforts of those involved in education are of much less significance than the impact of a change in the basic situation of the rural population which was neither foreseen nor welcomed by educationists. However, it is part of the task of those involved in education to foresee such changes.

Having made these two general points, I should like to turn back to the five points and raise certain questions which we may like to pursue relating to them. The use of multi-media is generally more effective than the use of a single medium.

If we accept the truth of the above statement, then we must bear in mind the fact that using multi-media is necessarily more complex than using each medium separately. In the Tanzanian Health Campaign for example, many of the booklets published did not reach the locality for which they were intended in time to be of use.¹² The experience of the British Open University has been that a complex system involving the use of television, radio, written materials, self-assessment exercises and so on, is very demanding in terms of the number of staff used and the amount of time needed to develop the appropriate expertise.

We can assume that a multi-media approach needs more time for planning and more training than a programme involving the use of a single medium. To put out undifferentiated radio broadcasts is a relatively easy business, but to make sure that anybody listens to it is a different matter. In his pamphlet on the use of radio, Emil McNany points out how few people have listened regularly and consistently to the radio schools of Latin America.

There remains however, the question: 'Which media are to be used for which purpose?' Sometimes the answer is easy; for example, if the target audience is largely illiterate then a large expenditure on written materials is not justified, but this degree of simplicity is unusual. It is more likely that the target population will include both literates and illiterates.

Research is needed to find out which media carry which messages best. Even if we accept, as many now do, that radio is by far the most effective medium for rural development communication, there still remains the problem of how to make sure that people listen to it. This then is a question we could look at in more detail.

Assuming that a multi-media approach is to be used in mass campaigns, the participation of local community and rural development workers is almost certain to be necessary if any worthwhile results are to be achieved. Somebody has to take the first step within a village society, to draw the attention of the people to an activity designed for their benefit. It is impractical for those involved in non-formal education to employ a large staff of their own simply to activate rural communities. They must in general reconcile themselves to using people already available and this in turn implies considerable finance for training. It is important to properly articulate and motivate individuals who already have jobs and for whom non-formal education projects may in the first instance simply represent a new demand on their time.

The necessity for community involvement may not be so acute in cases where, as in the technicians' courses at the Sri Lanka Institute for Distance Education, students are preparing for specific qualifications. The local community may have less to contribute in such cases but still the institution must recruit for the courses and organize the various activities related to them and this again involves local participation. Returning to mass campaigns and programmes for rural development, we can see that a good deal of recent comment has concentrated on the question of how far local leadership and organizations can be tapped. For example, Syed Rahim in a paper on 'Communication approaches in rural development'¹³ points out how difficult it is to get poor villagers to participate at any level. 'The poor villagers who do not own adequate means of production to apply the new technologies have become more desperate and alienated. They are unorganized, and have no communication linkages with the sources of power at the national level. They cannot exert sufficient pressure on the governments to bring about institutional changes that would create opportunities for them to participate in the processes of development. Many leaders in the government admit the need for institutional changes, and the desirability of organizing and mobilizing the rural poor. But they do not take any immediate and significant action. The political forces operating in favour of the poor villagers are not strong enough to compel the leaders to initiate radical reform.' Or again, as Bryant Kearl points out in his paper in the same volume,¹⁴ 'most rural people have some difficulty in identifying the choices that are or might be open to them in relation to the resources they have or might reasonably expect to obtain.' In other words, there must be found within any given community one or two individuals who are potentially capable of taking the lead. This will not always be easy.

In spite of this there have been a number of efforts to motivate rural communities by using the media. Among the more promising are:

- (a) The use of local radio stations. Experiments in the use of local radio have taken place in a variety of contexts. In some cases the local population have been offered the chance to participate in existing programmes and a genuine two-way communication has taken place (as in the case of the All-India Radio Farm Forums); in others there has been an effort to provide local authorities with their own broadcasting equipment and to persuade rural populations to help in making their own programmes.
- (b) The valiant efforts which have been made to exploit the potential of

video-tape in an effort to animate communities. These have been subject to some criticism recently. In an article in the September 1978 number of 'Educational Broadcasting International', Ross Kidd writes about the use of video in Botswana and demonstrates that the hopes placed upon it in a non-formal context were exaggerated. 'Video was used in the first two campaigns—in 1974 as a device for recording the group discussion reports. . . and then in 1975 to present village discussions about development projects and problems recorded before the campaign. However, in 1976 video was dropped as part of the campaign. The equipment used had become unreliable and seemed to add considerable complexity to the campaign's operation. Too much time was being taken up in setting it up and operating it. The change co-incided with the general reassessment of video's suitability for rural education. By 1976 the organizers had overcome their earlier infatuation with the medium. Although simple to operate, video is bulky, fragile, often unreliable and difficult to maintain'.

(c) More important perhaps is the development of local facilities for printing and the production, not of necessary books, but of booklets, pamphlets, posters, and other ephemera. It is perhaps in the development of very simple facilities for printing that the best future for local participation lies (though some recent experience in Sierra Leone has shown that this may not be as easy—to find and pay reliable personnel, to get spare parts etc., may be difficult).

Whichever medium is used there remains the question of control. A local radio station, or for that matter a local newspaper, will find it difficult to avoid involving itself in questions such as the degree of responsiveness of local officials or elected politicians. This will bring them straight into politics. It would not be easy to confine such local initiatives to strictly educational topics and indeed should they be so confined they may very often be less effective.

Training

It was noted in Chapter 1, that the motivation of senior officials, teachers and other functionaries is likely to come about partly through proper training. Looked at in another way, whereas 'training' in formal education is largely a matter for teachers or superiors, in non-formal education the scope has to be widened to include many more groups and individuals. Indeed it could be argued that the whole society needs to receive some kind of training to be aware of the contribution non-formal education can make to economic and social development. It was remarkable how almost all committees at the Delhi Conference made some reference to training. It was recognized that non-formal education requires widespread commitment by participants at all levels. To achieve this commitment it may be necessary to provide training programmes for a large number of groups. Conference Recommendation 22 lists the priority groups as follows:

- (a) Senior policy makers

- (b) Specialists, such as doctors, nurses and other health workers, agriculturalists, veterinarians and others working with community groups.
- (c) All those who work in a non-formal education capacity with community groups and organizations (e.g. agricultural extension workers and village-level workers).
- (d) Those who train the trainers of non-formal educators.
- (e) Curriculum developers and researchers engaged in non-formal education activities.

The Conference Report records that:—

Policy makers and planners may need training to become aware of the objectives and potential of programmes in non-formal education. They also need to be kept informed of the progress and effectiveness of programmes. Furthermore, officials at this level should be aware of the need for interaction between non-formal education and other development services provided by government departments and non-government agencies. In order to create the kind of flexible structures necessary to back up effective development-oriented non-formal education, administrators require a proper understanding of its principles and practices. In particular they need to know the implications of a people-centred development strategy and what this means in terms of non-formal education.

Training for these officials can be carried out in a range of courses and orientation seminars in which workers and functionaries from other levels also participate to explain the aims of programmes and report to the officials. In addition, personal contact through community councils and other official bodies can be valuable in explaining the purposes and functions of non-formal education to senior-level personnel. In all these efforts, the primary aim should be to involve these key personnel in the programmes.

Senior-level personnel are usually responsible for arranging the release of lower-level workers for in-service training. Release arrangements are likely to be made more smoothly where the senior officials themselves are trained to understand the purposes, methods and the value of non-formal education for development. This may require the provision of special training.

Senior and middle-level professional staff responsible for non-formal education may be able to learn a great deal from the experiences of programmes in other countries, through short-term multi-disciplinary team visits and longer-term attachments to major non-formal education projects. Such bodies as the Commonwealth Secretariat and the Commonwealth Foundation should support and assist suitable programmes along these lines.

Training programmes for professional workers at the local level must take account of their vital role as educators. It is particularly important that they understand government development policies, structures and resources, the role of their agencies and their own roles in social and economic development. It is also important that they should be aware of all the sources of help available at community level. The aim should be a total consciousness of development . . .

The teacher from the formal school may or may not be suitable. Formal teachers may be unable to offer the type of expertise which non-formal programmes require unless they see their work in the wider context of the total development effort within their local community. However, it should be recognized that teachers in the formal system have a part to play in development-oriented non-formal education, just as development agencies have a responsibility to work with the schools. The preparation of teachers for a more development-oriented role is essential and must begin in teacher training programmes. Indeed, reform of teacher training towards development objectives (in both in-service and pre-service programmes) should be treated as a priority area for action.

Teacher training should provide teachers with communication skills and techniques for working in community settings. It should increase teachers' awareness of the need for integration of the school and the community, encourage the teachers to recognize the part they can play in non-formal education and help them to see how the community can be involved in their own teaching programmes.

At the level of school-age children, Catherine McLevy has noted that the role of the teacher in non-formal education is very different from that of the teacher in the formal system, at least in India. This role she defines as follows:¹⁵

- (a) To awaken curiosity.
- (b) To direct the children's attention towards phenomena.
- (c) To develop their learning skills.
- (d) To make information available to them.
- (e) To develop their capacity to select what is relevant, to evaluate, to decide.
- (f) To co-ordinate the group in its activities.
- (g) To animate the children, as individuals and as a group.
- (h) To involve the community in the children's learning activities.
- (i) To identify resources for learning and for inquiry, within and outside the immediate environment of the children.

She continues:

The teacher thus becomes a partner in an adventure of discovery where the children are concerned, instead of the great repository of all knowledge which he often appears to be in the formal school. Gray's Village Schoolmaster has many modern counterparts, but they are fighting a rearguard action, because it is no longer possible for 'one small head' to carry all knowledge. The ultimately useful skills for a teacher will be those which enable the students to find things out for themselves, to discover the relationships between apparently unrelated facts, and to judge their significance in the light of sound value-systems fully internalized.

The most suitable teachers are educated and intelligent members of the local community who take up the work more for the service they can render in building up their community's future than for monetary or other reward. It is probable that a team approach would be better than leaving it all to one

person, not in the sense of one or two people taking the classes alternately, but really working as a team, contributing different gifts and skills to the work and sharing in the task of collecting material, identifying the persons who may be needed from time to time to contribute special skills or knowledge, and in general representing the adult community to the children.

The teacher from the formal school may or may not be part of the team. The limited experience of the writer would suggest that trained teachers have more difficulty than others in adapting themselves to the radically different situation of the non-formal education programme, but it would be unjust to generalize from this since it is a very limited local experience indeed.

If the work is done by a team rather than an individual, and especially if there is outside assistance in the form of a documentation centre or material production centre providing at least part of the needs of several village programmes, the work is best done by part-time teachers who have real roots in the world of work. Even if it is a single individual, it is better that he does this work part-time so he will not become detached from the realities which he must enable the children to interpret for themselves. But it has to be admitted that if there is no outside assistance in finding documentation on particular topics or issues, and in preparing various devices for learning which stimulate the children's activity, the task will always consume a great deal of time.

The training required is intensive, but need not be of very long duration. Given a modicum of goodwill and intelligence, the teachers can receive their initial training in a residential camp of about twelve to fifteen days, with refresher courses of two to three days at intervals of about four months, and regular monthly meetings for reflection together on their experience and for mutual aid, exchange of ideas and materials.

The initial training would need to comprise, first, about three days of self-discovery, to understand their own motivations as individuals and as a group. This is achieved through simulation games, discussions, role-play, case-studies and so on. The second phase, of about four or five days, would be spent in discovering, or rather objectifying, the reality of the rural situation both on the material and the social level. The last four or five days are spent practising educational techniques suited to the non-formal programme and learning to assemble and prepare suitable materials for the classes.

Problems of recruitment of teachers arise first from the need to find, or develop, community concern among not only the likely candidates but the whole adult population of the village. Financial rewards for so strenuous an occupation will rarely be adequate motivation to induce persons to undertake the work, and still less to persevere in it. And since the classes are part-time, the need to earn a livelihood in some other occupation while devoting all one's spare time and energy to this, will require a very high degree of motivation and generosity on the part of the workers. This will to some degree be made easier if the team approach can be adopted, not merely because the work for each one will be less, but also because the mutual support will give them comradeship and confidence in the enterprise.

To return to the report of the Delhi Conference:

Village-level workers should be chosen from and by the villagers themselves. Their training must build upon the knowledge and culture of the village, that is

traditional non-formal education must merge with new ideas, skills and attitudes. In some cases village-level workers may be generalists supported by specialists at a higher level; in others they will be local specialists in their own right. They will all need to be skilful at facilitating communication between local communities and the development agencies.

Inter-agency co-operation in training field personnel is necessary if non-formal education is to contribute positively to development. Every effort should be made to encourage interchange between trainees from different agencies through inter-agency courses at all levels. Some of this training should be undertaken on a collaborative basis and should include teachers from the formal system. Fully integrated rural development is difficult to achieve: a sense of identity amongst all non-formal educators has to be developed together with the feeling that they are engaged in a common task.

In many countries we have a situation where expert communicators (e.g. agricultural extension workers) know much about one part of the non-formal education of adults, but find it difficult to see themselves as components of a wider whole. A major task of training programmes is to ensure that extension workers operate on a concept of extension that recognizes both the developmental and educational aspects of their work. This means that part of the extension workers' training should be to increase their understanding of their role as educators.

In his paper on 'Extension Workers as Educators', David Macharia describes the role and training needs of extension officers:

Although situations may vary, it can be stated at the outset that the officer will have a fairly low level of formal academic education. In Kenya, persons who have finished high school are now coming forward simply because better-paying jobs are hard to come by. The lack of adequate formal education becomes a barrier to self-education during adulthood since self-directed learning has not been instilled in the person concerned. It must be admitted however that rural libraries with up-to-date materials in various subjects hardly exist.

Secondly, despite the availability of various specialized training schools, the extension officer at the grass roots seems to have limited technical know-how in the subject he is expected to extend to the rural families. In fact, it is known that some rural families have more technical knowledge than the extension officer, thus causing him at times quite a bit of embarrassment. This is particularly true with 'progressive' families who, because they have attended various courses in agriculture, nutrition, maternal and child health/family planning, etc. at various Farmers' Training Centres and other adult education institutions, have come across new information which might not have reached the extension officer.

The need then for the extension officer to renew and update his technical knowledge cannot be over-emphasized. Examples are plentiful of families who refuse to turn up for meetings summoned by extension officers, especially when the families have heard the same story time and again.

Thirdly, the extension officer has little or no training in the skills and techniques of passing to the rural families what little technical information he may have. This lack of skills in communication, human relations, leadership, and general teaching methods alienates the officer concerned and may easily turn the families against him. Lack of motivational skills may even result in the loss of those families who have already been contacted, while getting new acceptors becomes an uphill battle...*

The fourth point concerns recruitment and training. Being civil servants, extension officers are normally recruited and trained centrally. This means that the officer will most likely be given 'national' examples during his training and it is his business to pick the 'local' ones after he has received his posting orders. As he may be posted away from his home, his first disadvantage is that he is a stranger. If on the other hand he is posted at home, the biblical story of a prophet not being known at his own home may easily apply.

This dilemma makes it even more important that the officer, apart from having an adequate command of his technical subject, also possesses enough skills and techniques of assessing the needs of his new community; skills of how to lead the community and to satisfy those needs, etc. Whoever he is and wherever he comes from, the extension officer's first duty must be to cultivate rapport with the community. It is only after this that he can hope to start 'educating' that community.

Taking this issue of recruitment one step further, should extension officers, at the grass-roots level, be posted back to their home area after training? In Kenya the answer seems to be positive. This has recently been done with maternal and child health/family planning field workers, and it is the practice with the lowest levels in the provincial administration. The Chinese barefoot doctor¹⁶ idea goes an extra step. A small community identifies an officer amongst its members, sends him for training relevant to the needs of that community and the officer returns to the very community for service. The same 'barefoot doctor' principles, with local modifications, are being affected under what is now commonly referred to as 'primary (village-level) health care projects', supported by UNICEF and WHO. Kenya now has a number of such projects, (which have yet to be documented); so does Colombia.¹⁷

The writer has no personal experience of barefoot agricultural, community development or youth extension officers. In theory there is no reason why such people could not be recruited, though perhaps there is more community feeling in health matters than say in agriculture.

In some newer developing countries, badly plagued by sectionalism and tribalism, national unity becomes the paramount concern. This concern is generally advanced as the main reason why officers should be made to think 'national', hence national recruitment, national training and national posting. However, the possible advantages of local (language is one) are so clear that perhaps other means of enhancing national unity should be sought. If this is done, the officer will be free to work at his home area—an environment he knows well and which knows him.

*See similar experiences of Rakesh Hooja; 'Theory, Practice and Alternative Approaches to Rural Adult Education'. *Indian Journal of Adult Education*, 39, 7, July 1978, pp.17–20.

If from the foregoing it seems that our extension services are manned by incompetent and good-for-nothing nationals, the writer stands corrected for he has personal knowledge of many devoted, competent and knowledgeable officers, both men and women, and who are well loved by the families they work with. These have been the pillars of the service, whether in agriculture, community development, youth or health. However, it must be accepted that each of our countries could do with a few more of the 'good' ones.

The extension officer may not be well qualified, and he may be facing many problems. Even so he is the only one available and he has a job to perform. He is the frontline person on whom families depend. It is therefore important to outline what he is expected to do, both by his employer and by those to whom he is supposed to give service.

In most developing countries extension officers will mainly be civil servants. So apart from their technical role, they will also have an added political role as the 'eyes of government'. But as the economy and the way of life in developing countries are *planned*, perhaps there is little conflict between the two roles. In general, the extension officer is an educator and a link between the families and government. In this capacity he has to perform the following tasks:

- (a) He is expected to interpret the broad policies of the state to the families, giving enough information and explanation for the policies to be easily understood, and perhaps accepted.
- (b) He is expected to interpret families' needs, feelings, expectations, etc. and feed these back to policy makers.
- (c) He is expected to motivate the people and condition them mentally for the process of change.
- (d) He should make sure that the necessary resources to affect action are available. . . This demands that he has an accurate knowledge of what people need, what resources are at their disposal, and how to acquire these resources.
- (e) He is expected to have skills in training and teaching.
- (f) He is supposed to seek people's participation (including that of local leaders of whatever nature) in order to make sure that whatever is to be undertaken succeeds. To be able to do this, he will have to convince the people about the value of the project, its expected costs in terms of materials and labour, possible side-effects, etc.
- (g) He is also expected to seek the co-operation of the other officers working in his locality. It seems that most grass-root officers are aware of the need to work with others (certainly they are much more aware of this need than their bosses), although they may lack the skills to do this.

These tasks are formidable. In the circumstances, what can be done to help the extension officer to perform his job better. . . to be exactly what he should be—a resource person for all types of information and services, whether within or outside his own specialization? Every country will have its own answers based on and coloured by the special conditions prevailing in that country. The writer will, however, venture to offer a few strategies based on his own experience.

Apart from being able to give the family the technical knowledge required to grow a particular crop or avoid a particular disease, an extension officer

should be able to motivate the family to aim for greater heights of production, better health, etc. by suggesting alternatives or better methods. The extension officer will need to be knowledgeable in various areas. Thus:

- (a) He should understand general governmental policies concerning development of his own country and be able to appreciate the magnitude of its problems, what resources are available, etc.
- (b) He should also understand the local scene—the kind of community he is working with, its norms, etc.
- (c) He should know as much as possible about his subject. He should also know the sources of fresh information and be in touch with these (e.g. research stations.)
- (d) In addition to this knowledge of his specific subject, he should have some knowledge of related and even far-off subjects. This is important because rural families look at their problems in totality and therefore look at the extension worker as a resource person for all these integrated problems. To make his task easier in this regard, he should be in touch and in good working relationship with other extension officers who can come to his aid as needs be.
- (e) An extension officer must have skills of communications with the families, of organizing learning events, of analysing needs, and of leadership. He should have skills of evaluating his own performance.

Most extension workers receive a fair amount of training in their technical subjects at their departments' training centres. However, very little, if anything, is offered on the other fields outlined above. The importance of these others cannot be over-emphasized, especially when we accept that a lot of failure in extension work does not mainly result from lack of technical information, but rather on how the available information is delivered. For instance, in most pre-service training centres, the use of audio-visual aids is never taught, and the few aids which are available are hardly used by the teachers themselves. Unfortunately, there are very few good training institutions specializing in giving communication, human relations and leadership skills, as well as skills on how to plan learning events. Because of this dearth, these subjects are simply given up. Largely through the leadership of the Institute of Adult Studies, there is now great interest in Kenya in this area of extension training. The Institute has concentrated on training trainers, who in their turn will train others.

As the Report of the Delhi Conference says:

The number of people able to plan and teach in training programmes may be very small. Where this is the case it is vitally important that skilled personnel are used to train trainers rather than spread their skills so thinly that they are ineffective. Some countries are already concentrating their human resources in this way; for example, the Institute of Adult Education has responsibility for such programmes in Tanzania.

Efforts should be made to decentralize training, since it should be carried out in close proximity to non-formal programmes. Emphasis should be on in-service and on-the-job training. Initial training may be appropriate for some workers, but, as many countries have recognized, the integration of non-

formal education with development is more likely to be successful if non-formal education workers are given post-experience training to upgrade pedagogical skills...

In terms of content there are two main factors to be borne in mind. Firstly, training courses have to aim at promoting a sense of identity among non-formal educators. Secondly, their role as communicators must be emphasized and developed.

A sense of identity is necessary so that they may be equipped to meet the multiple demands inherent in their work. The commitment of the teacher to non-formal education is also a very important quality. Where it is absent, a programme is less likely to succeed.

The main *skills* needed are those of good communication; above all the non-formal educator must be a competent communicator. In training programmes for extension workers particularly, high priority should be given to communication skills. Moreover, successful communicators in non-formal education, should have a good understanding of how learners, (particularly adults) learn. They should also possess the skills of planning and evaluating non-formal education programmes.

Training programmes should take into account the class and cultural backgrounds of those who are being trained and the groups they will be working with. An understanding of these backgrounds and their implications in non-formal education should form part of the training. Trainees need this knowledge in order to be able to interpret national development goals to the communities in which they are required to work.

Finally, for the same reason that the learner should be the focal point of the non-formal curriculum, the trainees should be the focal point of the training programmes and should participate in planning and developing the curriculum of their own course.

APPENDIX

Model Curriculum for Non-Formal Education of Village Children (C. McLevy)*

Non-Formal Education Classes at age of Six Years

1. At the end of one year each child should:

- (a) Be able to wash, bathe, comb and take headbath by himself and also be able to do these things for slightly younger children, and should know the advantages of clean, healthy bodies.
- (b) Be able to wash his or her own clothing, clean the house and environment, taking pride in the beauty of clean things and places, and knowing the value of this cleanliness for health.
- (c) Be able to care for one or more domestic animals, including the work of feeding, taking to graze, washing the animal, cleaning the shed. If caring for a dog, be able to train it to obey simple commands.

*Extracted from 'The Future of Non-Formal Education: Some Facts', in *Backdrop to the Learning Society*, Malcolm S. Adiseshiah (ed.), Indian Council for Social Science Research, New Delhi, 1978.

(d) Be able to maintain a small vegetable garden, levelling, planting, weeding, watering, and gathering the products, learning also to distinguish weeds from useful plants, and the contribution each vegetable makes to the health and strength of the body.

(e) Play 'kho-kho', 'nondi', 'pambaram' and simple ball-games and learning to keep scores where appropriate.

(f) Be able to express himself in speech and writing, and to read simple sentences about the activities mentioned above, and about other simple matters of daily life. If some very special event occurs in the village during the year, be able to speak, read and write simple sentences about it.

(g) Be able to count scores in the games, where appropriate, to measure the sides of the vegetable garden, count the number of plants of each kind which can grow in it, and calculate how many could be grown in gardens whose areas are multiples of this.

(h) Be able to play with clay, making and unmaking different shapes according to their interest.

2. In all these activities, learn to value conscientious effort more than achievements through the manner in which praise and rebuke are administered and through the help given by the teacher and others.

Non-Formal Education Classes at Age of Seven Years

3. At the end of one and one-half years each child should:

(a) Be able to do all that the children of six years can do.

(b) Be able to find the way to the important places in the village.

(c) Know the value of different coins, and the price of different articles of common use. Be able to work out how best to spend a fixed sum to achieve different objects, such as preparing for a meal, buying seeds for the garden, animal fodder, or wood.

(d) Be able to grow food-grains in small plots, recognizing seed and growing plant, and knowing the food value of the different grains, comparing the yield of different varieties grown by different children.

(e) The boys should be able to:

(i) Handle simple tools, such as the hammer and the saw to make boxes, tables, stools, and to keep the tools in good condition.

(ii) Build walls in the traditional way, up to a height of three feet, smoothing them off well.

The girls should be able to:

(i) Take care of small babies, feeding, washing, bathing, toilet-training, dressing, putting them to sleep and knowing how to discern a child's need when it cries. Knowing also the value of toilet-training in protecting the child from dysentery, ascariasis, etc.

(ii) Prepare simple foods for cooking—measuring out the required amounts for a given number of persons, cleaning, cutting vegetables, etc. and clean and care for kitchen equipment.

(f) Be able to read, write and speak about all the activities mentioned above, and about extended family relationships, in simple sentences. Be able to read simple stories with pleasure.

(g) Measure and calculate quantities for the activities mentioned, including fairly accurate measuring and cutting of the wood in (e)(i), so that, for example, the boxes made are adequate for a purpose chosen beforehand (e.g. to keep the balls used in play).

(h) Boys should be able to play 'kabadi' at an elementary level, knowing and accepting the rules. Girls should be able to join in 'kummi' with the older children; and in the social relationships which develop in the class and environment, be able to distinguish truth from falsehood and to choose truth.

Non-Formal Education at Age of Eight Years

4. At the end of one and one-half years the child should:

(a) Be able to do all that six and seven year-old children can do with superior skill.

(b) Be able to understand the system of irrigation used in the village well, tank or river, together with the operation of a hand-pump, and 'etram' and a 'kamalai', and be able to maintain these things in good repair.

(c) Be able to keep irrigation channels clear, and know why it must be done.

(d) Be able to weed the fields cultivated by the family.

(e) Know the different trees growing in and around the village, their usefulness and how best to make use of them without harm to them. By enquiry in the village, find out how long it takes for different trees to grow. Draw practical conclusions from this information. Plant and care for a useful tree which can grow in the soil and climate of the village.

(f) Boys should be able to use and care for more advanced carpentry tools, such as a plane, chisel, vice, etc. and give a better finish to articles made. Make simple toys for the younger children.

Girls should be able to cook a simple meal with attention to cleanliness, balanced food values, and taste.

Both should be able to weave coconut palm leaves into thatch.

(g) From the experience of irrigation, etc. above, know the importance of water for life and hence learn to use it with respect and without waste.

(h) Make a simple solar still with a long shallow open dish or trough covered with transparent plastic whose edges rest in similar dishes into which the condensed and evaporated water can drop. Place these both in sunlight and shade. Draw conclusions about the cause of evaporation. Draw conclusions about the effect, from the taste of water and of the deposit in the main dish.

(i) Be able to discuss the above activities and to read and write about them with some degree of fluency.

(j) In disputes which arise among the children, be able to decide what is right according to reason not personal feeling.

(k) Be able to recognize the 'munsif', the 'kanakku pillai' and the headman, and know which one to go to for help in different difficulties.

(l) Be able to tell stories to younger children.

Non-Formal Education for Age of Nine Years

5. At the end of one and one-half years the child should:

(a) Be able to do and know all that the younger children have learnt.

(b) Be able to milk goats and cows with due attention to cleanliness in their own person, the animal, and the equipment and surroundings. Compare the yield of different cows and of the same cow at different times, and try to find out why there is a difference in food (different grasses) care and surroundings, the breed of the cow, or a combination of these. This involves liquid measurement and the maintenance of records over a period of time.

(c) Be able to fence round the younger childrens' garden plots with palm leaf thatch and poles from local trees.

(d) Boys should be able to help fix posts for a roof and to tie the thatch in place properly. Girls should be able to stitch simple skirts by hand, and if possible by machine, and repair clothing neatly.

(e) Be able to spin thread and weave on a small handloom as a pleasurable activity, perhaps making towels which can be used in the home.

(f) Be able to find the way to the 'taluk' headquarters and Panchayat Union office along with others. Visit these places in a group and by talking to the officials find out what services they bring, or should bring, to the village. Find out a problem in the village which they can help to solve, and write to ask them about it.

(g) Be able to discuss the meaning of what they have done and learnt, to write and read about it. Read and enjoy amusing stories, and simple adventure stories, including those which give in brief the more exciting stories from the national epics and the local folk lore. Be able to evaluate the actions narrated. Be able to compose verses for the 'kummi', which are topical for the children, but without malice and to read stories for younger ones in a way that gives pleasure.

(h) Be able to play 'dyayam', to fly a kite, and through this to learn about wind-strength. Make a toy windmill and a land-yacht, and discuss what work wind-power can be made to do, and what it cannot do.

6. At this stage, children who show a marked aptitude for certain skills should be encouraged (a) to do more, and more difficult, work in these areas; (b) to teach the other children how they do the work.

Non-Formal Education Classes at Age of Ten Years

7. At the end of one year the child should be able to do all that children entering the classes at age of eight can learn in one and one-half years.

8. At the end of one additional year they should:

(a) Be able to do all that children entering at age nine have learnt in one and one-half years.

(b) Be able to understand the working of electric or diesel pumps if they exist in the village.

(c) Boys should be able (i) to make simple cupboards with hinged doors, and wheelbarrows, (ii) repair wooden farm implements, and (iii) dig an earth latrine and persuade the other children to use it properly. Girls should be able to stitch simple blouses and shirts, and cook more advanced meals.

(d) Be able to teach the younger children many of the skills which they have acquired.

(e) Be able to organize the children in their games and preserve good order, with happiness.

- (f) Understand the various factors contributing to health in the village, including food, water, cleanliness, air, shade.
- (g) Know how to recognize signs of vitamin deficiency in babies and young children, and to correct it by alteration of diet. Know when the child should be taken to the Primary Health Centre. Be able to take him and to carry out the instructions given there.
- (h) Be able to understand aspects of justice and injustice in dealings among themselves and to organize a panchayat with administrators justice impartially.
- (i) Know how to be kind to a child in trouble, or to a handicapped one, and help the handicapped to find acceptance in the society of other children.
- (j) Know something of the system of land ownership in the village and the relationship between this and power.
- (k) Know something of the way the state and country are governed; who represents their own area in the Assembly and the Lok Sabha, and how they were chosen; be able to write a letter to these representatives, pointing out a need of the village and asking their help to meet it.
- (l) Know their own aptitudes and interests and cultivate them realistically, having a positive estimate of their own worth as persons.

Children entering Non-Formal Education at the Age of Eleven Years

9. At the end of one year, the child entering class should be able to do all that children entering at age nine can learn in one and one-half years.

10. At the end of one additional year, the child should:

- (a) Be able to do all that children entering at age ten can learn by the end of their second year.
- (b) Be able to help in all farming operations undertaken in the village according to their sex, and subject to limitations in their physical development.
- (c) Be able to help in all household operations and in the home industry if any, subject to the same limitations, but with the application of their intelligence to overcome them.
- (d) Know how to ride a bicycle, maintain it in good condition, and be able to execute simple repairs. Through the cycle, learn some of the fundamental laws of physics, such as the laws of motion, transmission of mechanical energy, transformation of energy, mechanical advantage and its calculation. Also learn the reason why rules of the road are necessary in society by experiencing the difference between riding in country lanes and riding in the nearest town.
- (e) Be able to plan for better work in farm and home, and to execute the plan by knowing, and using to advantage, (i) the material resources of the family, (ii) the human resources of the family, and (iii) the resources made available by government or voluntary agencies for rural development.
- (f) Know the complementarity of the sexes, and show respect to members of the opposite sex, in the class and out of it.
- (g) By observation in the village, be able to understand and internalize some of the more obvious factors which made for a happy marriage, including mutual respect, attitudes to children, attitudes to and of family and neighbours, and financial and other material stresses that need to be overcome;

be able to evaluate critically the social pressures causing some of these stresses.

(h) Be able to read, write and calculate appropriately for the exercise of the manual and social skills listed above.

(i) Be able to read important items in a simple newspaper in mother tongue, and to inform illiterate neighbours about them accurately and without distortion of facts.

(j) Know the fundamental meaning of the land reform laws, be able to decide together by discussion whether they are being duly applied in the village, and know the right officers to approach and the best way to approach them in order to correct any defects in implementation.

(k) Be able, as a group, to frame an imaginative plan to make their village a model village, with due awareness of its existing facilities, its situation in relation to the district and the nearest city, the possibility of developing other material facilities with local resources, and the human, social and value changes required to make the village conform to their ideal.

(l) Be able to form, organize and persevere in a simple club for recreation, discussion, creative activity or other purely social purposes.

(m) Take an active and critical interest in what is done in the Panchayat as well as the Panchayat Union. Know something of the alternative method of village organization known as the Gram Sabha.

11. Many of the skills outlined above will be learnt and practised outside the non-formal education classes, but the class must contribute to the value the children give to these skills, their use of intelligence to develop their mastery of them, and their sense of responsibility in carrying out these tasks.

12. No effort has been made here to pursue the course for each age-group right through, because it is assumed that:

(a) Since younger children learn at a slower rate, the difference in attainment between a child who enrolls early and one who enrolls later will be rapidly eliminated by the elder learner.

(b) In the free atmosphere of non-formal education, each child can in any case go ahead at his own natural pace as accelerated through positive encouragement, and all, therefore, can taste success by comparing themselves with themselves, not with other children.

13. The farm and home industry have deliberately been made non-specific because every village has the possibility of being different from every other, and this possibility should be encouraged by non-formal education except in so far as it is the result of human or economic retardation or exploitation.

14. Equipment required for courses outlined includes:

(a) A small plot of land for common activities.

(b) Tools of suitable size and weight for the children who are to use them for gardening and farming work; woodwork; cookery; child care; stitching; thatching and walling; repair and maintenance of 'etram', 'kamalai', hand-pump, mechanical pump, cycle, electric wiring and fuses if they exist in the villages.

(c) Simple games equipment.

- (d) Cards, charts, etc. designed for the reading, writing, measuring and calculating activities mentioned. Some general ones could be produced at the district level, but some must be prepared specially for the local situation.
- (e) Instruments for measuring length and distance, liquids, weights, etc. both roughly and accurately.

NOTES TO CHAPTER 3

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