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The potential use of television for education in the south african context

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8.1.1 Distribution

A major factor which has always made television attractive to those who wish to utilize it in education is its apparent "universal" availability to many people in a society. The value of television, Nokaneng implies, is its accessibility. According to Steyn distribution may take place by means of any of the following procedures.

> "(a) Transmission on wavelengths (broadcast) by means of which programmes are made available to millions of people.
>
> (b) Transmission by micro-wave in which case signals are beamed from point to point (eg between two universities or a university and a teaching hospital) and can only be received at points where appropriate reception equipment is located.
>
> (c) Distribution by cable in which case transmission takes place on a single laboratory or building or around a city's educational system."[4]

A fourth alternative is satellite distribution. The educational capacity of television means simply that "any didactic activity can be seen by a greater number of students and if necessary in better didactic situations."[5]

8.1.2 Instantaneous Relay

As pointed out, this characteristic can also be regarded as a particular form of distribution. The advantage of this activity is that an occurrence, lesson, activity or experiment etc can be broad-

cast and distributed instantaneously and simultaneously. The value of this in a teaching situation is its application wherever conditions are "too cramped, too inaccessible, too hot, too dangerous.....to allow the presence of all those whom it is desired to teach."[6] The particular strength of television here is the fact that distant, normally inaccesible, and immediate situations become instantaneously accessible.

8.1.3 Magnification

Magnification and instantaneous relay perform a joint function. MacLean states:

> "There are many subjects where it is vital in the early stages of study that the student really does see what he is supposed to see and in such cases the use of television does make it possible to teach hundreds instead of only five or six at a time."[7]

8.1.4 Storage and Immediate Feedback

> "recording makes it possible to bring into the classroom a situation that happens outside it."[8]

The early belief that the answer to many educational problems was directly broadcast programmes (i.e. a lesson during school or at specific times) has been replaced by a more circumspect approach. Educational broadcasting institutions (including SABC) now grant special recording rights to teachers or institutions to record programmes which can then be played back at times convenient to both pupils and teachers without disrupting normal school hours.

8.1.5 Assembly

"The capacity to magnify, to relay, to record or store for later use has been treated separately but it must be considered that in practice the image that is magnified, is the one that is relayed and distributed in as much as the demonstration that is relayed from the laboratory to the classroom, is the one which is recorded for repeated viewing.

As MacLean (1969,p.15) puts it, it is in the function and presentation of these capacities that we find the real value of television. The idea of fusion and permutation al enters into the capacity to assemble. Mixing media classroom can be time-consuming and frustrating .. ne teacher. The television studio with its capacity to integrate film, photographic stills and slides, charts, animated captions and working models, is a unique tool for the presentation of individual items that add up to a coherent meaningful whole. Unlike other didactic aids, television embraces all the other techniques and synthesises them into one overall presentation."[9]

It must be noted that all of these characteristics and capacities of television for education have been briefly analysed as "ideals" and it is not suggested that all exist all the time neither is it suggested that they render television a superior didactic aid in every or any situation.

8.2 Educational Television for Quality Improvement and Improving Access

Television is regarded by some[10] as a somewhat inferior educational medium (particularly in the development context) for three major reasons: its near inevitable centralisation, the high costs involved, and its cumbersome and highly complex production techniques. "Television as a medium", Katz and Wedell state, "is much less capable of diversity than radio."[11]

These criticisms do hold true, however, only under certain circumstances and in contexts where the implementation of educational television has been inordinately rapid and ill considered. When the introduction of educational television has been carefully considered and its suitability in a particular circumstance proved[12] there is no evidence to prove that it cannot be equally as effective as radio and in fact that it cannot be used in applications that were originally intended exclusively for radio.

Much of this chapter will deal with possible applications of television for education and will be based upon Jamison and McAnany's (1978) study of the use of radio in education and development. The aforementioned authors' major categories for the use of radio for education are equally applicable to television. Its increased use, they suggest, has the potential to improve the quality of education and access to it.

8.2.1 Quality Improvement

With the introduction of compulsory education to more groups in South Africa and considering that resources are limited, the standard and quality of education will inevitably deteriorate. The cost of maintaining a high standard and quality of education is high considering that it is not possible to rapidly increase the number of sufficiently qualified teachers in proportion to the increasing student population. However, if television can be integrated into education[13] to reduce costs in the long run, its use as an alternative to supplement formal education as it exists, must be considered.

Many contemporary educational broadcasting theorists stress the fact that any audio-visual medium, if used correctly together with appropriate supporting materials (such as printed matter, radio broadcasts,[14] tape recordings and tutorials)[15] can be as effective as traditional instruction. These findings of equal effectiveness have two important implications:

- The use of a technology like television "opens the possibility of reducing costs, which may be particularly important if there is a substantial unmet social demand for education."[16]
- Second, areas in which there are untrained teachers or where teachers do not exist, could, under well planned circumstances, be reached by televised instruction. This is particularly relevant in South Africa where both rural and urban areas lack well qualified teachers (particularly black teachers).

8.2.2 Improving Access

One of the most important potential uses for ETV in the South African

context is to improve access to schooling for disadvantaged groups and individuals in rural and urban areas. There are two broad approaches through which television has the potential to improve access to learning - distance education and "extended schools."[17]

8.2.2.1 Distance Education - The term is defined by Flinck who uses the expression "to denote the forms of study which are not led or controlled by teachers present in classrooms or similar localities but nevertheless benefit from the planning, guidance and teaching of tutors."[18] Distance learning can only work successfully under the most ideal and well planned circumstances since it is based on the combined use of television and/or radio, textbooks and occasional contact with tutors which completely replaced the teacher and the school. The most successful and well known application of this method is the *Open University*. In the distance education context, ETV's potential usefulness lies in the areas of supplementing, reinforcing and supporting the main teaching in the written course.[19]

8.2.2.2 Extended Schools - like distance education, extended schooling can only occur in a highly organized situation. By creating small, but nevertheless self-sufficient schools, in rural areas centred around a television set and run by one individual (often a primary school teacher), televised instruction can be used as an alternative to traditional schooling. It must be noted that extended schooling centred around televised instruction might initially incur great expense since it involves either the cost of electrifying a remote

area or using sateilite technology together with the problem of maintaining sophisiticated equipment in remote areas. Radio might be a more viable alternative here.

8.3 Television for Formal Education

With respect to educational broadcasting, Jamison and McAnany (1978) identify five areas in which the formal education systems of low-income, disadvantaged areas have problems:

> "(i) they have rising unit costs, (ii) they provide relatively poor access for rural children, (iii) they provide a low quality instruction with the frequent results that students....acquire less cognitive knowledge than do children of the same age in high income countries, (iv) they exhibit slow response providing education relevant to development goals and (v) their distributional impact is regressive...."[20]

With this in mind, the use of ETV in formal schooling has potential in four areas (two of which have been mentioned previously):

8.3.1 Enrichment of Learning by occasionally providing lessons which the classroom teacher would find difficult to provide. Hendry states that enrichment programmes need not be restricted in their implementation by rigid individual timetables since they are ideal for recording.[21] Chataway believes that this special implementation is the true function of broadcast organizations:

"The proper role for national educational television is to act as a production unit for the local stations concentrating on the expressive enrichment type programmes that may be beyond their means, and upon those courses for which there is a wide demand.[22]

8.3.2 Direct Instruction in which television would carry the major proportion of the instructional burden in a few subjects. MacLean (1768) suggests three types of programme which involve "total teaching:"

"1. The programme designed to be viewed at home, and which constitutes a complete learning experience in itself. Sources for additional study may be recommended, but the amount of additional study undertaken is a choice left entirely to the individual viewer.

2. A programme or (more commonly) a series of programmes for which there is a related correspondence provided and administered by an independent educational body. This is the system used by Britain's *Open University*. Supplementary printed instructional material constitutes an essential part of such a television series, but it is regarded as direct teaching because of the absence of a classroom and a personal teacher.

3. Programme series aimed at specific professional groups, such as the provision of up-to-date information for doctors, engineers etc. (MacLean, 1968, pp. 28-30)."[23]

Direct instruction is usually (but not always[24]) used for adult education.

8.3.3 Extending In-School Education by providing instruction in enough subjects so that if unavailable, a qualified teacher can be replaced by a monitor.

8.3.4 Distance Education in which media are combined with occasional student/tutor contact completely replacing school/college/university and teachers in their traditional institutional forms.

8.3.5 The Use of ETV in Schools - Pre-School, Primary and Secondary Education

Kupisiewicz (1984) identifies three models of what is referred to as "school-cum-media education:"

Model I

"The main cause of insufficient use of the mass media for educational purposes is lack of appropriate links with the school. The two generally function independently and, because they have different aims, fail to co-ordinate their didactic and educational activities. This model may be properly described as competitive."[24]

Model II

"There is much greater scope for exploiting media for chool education in the model where radio and television

systematically plan and broadcast educational programmes which are regularly received by schools."[26]

Although the programme is "ready-made" its advantage over the first model is that by fitting in with school hours and curricula the school will have some influence over programme content.

Model III

"The broadest co-operation exists under Model III. In this model, schools systematically include in their work regular series of radio and television educational programmes which are carefully correlated with school curricula. The series, prepared by representatives of both institutions and programmed according to agreed schedules, form an integral part of school teaching and are supplemented by exercises to revive and consolidate the matter taught and to check and assess the result of the instruction.... ...In contrast, however, to broadcast programmes according to Models I and II, which are not followed regularly and the audience of which is in the main casual, programmes under Model III constitute an essential element of a planned and systematic teaching process. The followers of Model II broadcasting are as a rule students who are formally registered for distance education at the level in question. Their formal status gives them access not only to the broadcast programmes but also to consultations, tutorials and lectures organized for them at school during personal-attendance sessions, when they take tests and examinations

> and obtain guidance for their unsupervised work between sessions. In this model, therefore, co-operation between school and media concerns the content, the method and the organization of the instruction, embracing also the monitoring and assessment of the process."[27]

Although the intention of this chapter is simply to describe the possible application of ETV in formal education, a brief description of the reasons why it could or should be used is necessary. The major reason for using ETV has not really changed since the 1960's - that is, to assist in overcoming severe educational disadvantage. Summarized, current problems include:

> "Outdated syllabuses, ineffectual teaching methods and materials, disparities between planned and actual educational results, failure to provide equality of educational opportunity for underprivileged children (and adults), in a word, the school's inadequacy faced with the exigencies of the modern world....."[28]

The potential usefulness of ETV in helping to satisfy more generalized needs and demands is also an important consideration. The euphoria of the 1960s and 1970s which gave such widespread credibility to the saving powers of education and educational technology has left a legacy which encourages demands for education. Many of the consequences of the early high hopes are irreversible: education is now demanded by many who see it as their right; it is still seen as an instrument for "satisfying the rising social and professional

aspirations of wide sections of the population, for facilitating social mobility and reducing inequalities in society."[29]

Since the early 1960s the potential role of technologies like ETV have been an integral part of plans to accommodate the demands for growth. In addition to the recognized need for universal basic education and more qualified teachers (tasks to which ETV is ideally suited under certain circumstances) there remain certain problems which must be taken into account when considering the potential of ETV in any context.

> "Growth was.....the major driving force behind educational change and experimentation. But it also accentuated some of the intractable problems which have always beset the educational process or brought new ones, not all of which the education system was able to cope with In essence, most of these problems have to do with the functioning of the educational system and its struggle to adjust to the new conditions of mass education. At the risk of over-simplifying what is a very complex social process it is suggested that these problems revolve around the following central questions: how to cope with the needs of a school population not only much greater in numbers than ever before, but also one of diversified origins, different behaviour patterns, expectations, interests and aptitudes. In other words, how to make the provision of education and its essential experience relevant not merely to an elite for which the educational system had

> traditinally catered, but to the mass of the population now demanding it; and how to do this efficiently - in terms of the economic use of resources and the needs of society for different types of qualified manpower - but also equitably, in terms of the needs of each individual for his personal and professional development and of acceptable criteria of social justice and equality of opportunity; and how to pursue these objectives without allowing educational standards to deteriorate and in ways which ensure the cultural and scientific vitality of the nation as well as the desirable degree of social cohesion without which the national heritage cannot be transmitted from one generation to another."[30]

These are the problems which form the framework of education for the future. ETV obviously cannot solve these problems (an obvious fact considering its disappointing performance in the 1960s in the Third World). However it remains a powerful alternative to traditional systems and it is in considering the necessary structural change required that its potential is foregrounded. The justification for considering structural change is simple - current, traditional institutonalized education does not meet the demand for education. Those making structural changes will have to include or at least consider the inclusion of technologies like ETV in alternative structures.

8.3.6 Schools Programmes

Schools programmes, Hendry (1975) states, differ from one another

less in type than in emphasis. Summarizing MacLean's analysis (1968)[31] he identifies seven categories.

1. The programme which supplies personal experience, and provides a true context for a subject which otherwise would probably remain a theoretical study (pp. 61-62).
2. The programme which, in pursuit of the same objectives as 1 above, attempts to supply an imaginary context, eg. a historical dramatization (p.62).
3. Active response programmes which demand related activity on the part of the viewer....(p.62).
4. The stimulus programme which introduces a topic or themes with the intention that it will be continued or developed by the pupils (and, very importantly, by the teachers) viewing the production (p. 62).
5. The programme in which a distinguished personality or expert in a particular subject field is presented to more schools than he could physically visit....(p. 63).
6. The programmes which ignore strict subject barriers and seek to integrate information in various subjects at a level which individual teachers could not reasonably be expected to achieve (p.64).
7. Programmes which provide basic curriculum material - not quite direct teaching, for they depend for their optimum implementation on co-operation from and expansion by the classroom teacher (p.63)."[32]

It is submitted that the most important areas for the implementation of ETV in the South African context are pre-school education, adult education and teacher-training. This is suggested because, as implied earlier in this dissertation the curriculum presently based on Christian National Education (CNE) principles should be reformed to meet the real needs of those it is meant to serve, particularly the disadvantaged. In implementing ETV, pre-school education is the most logical area in which to begin, whilst the education and literacy gap exists between adults of the various population groups can be ameliorated by far reaching projects to which television, by nature, is ideally suited. Thus it is envisaged that ETV will be used primarily (though not exclusively) for basic education, literacy, numeracy and skills training, and in the upgrading of teacher training. This implies an attempt to adjust traditional methods and educational objectives to the pressures of numbers and also of new social needs. Television, it has been proved, can be a significant feature of a change in educational structures.[33]

8.4 Priority Applications of ETV in South Africa

8.4.1 ETV for Pre-School Education

Papodopoulos (1980) states that

> "pre-school education remains a sector of great potential both for growth and change. This arises from the combined impact of a number of factors: research findings about the crucial role which the first years of life have on the child's learning and the need to take compensatory action in favour of those who are disadvantaged in their

> family circumstances; changes in the structure and condition of family life; the rapid increase in the number of working mothers; greater sensitization to the need for a more professionally based approach to the all-round needs of children themselves - all making for closer co-ordination of the various, at present disparate, services (education, care, socialization) that are provided for children.... .....on the basis of an analysis of current trends it can be safely assumed that the demand for services for young children between the ages of 3 and 6 will continue to grow over the next few years and governments will be hard pressed to make such services available, at least to all parents who want to use them."[34]

The need and demand for pre-school education in the South African context is particularly apparent due to rapid social changes in the society. The demand for relevant universal education is only possible from the first educational level upwards. High failure rates further up the educational ladder are, in many cases, directly attributable to poor early education, particularly in situations where the parents themselves are deprived individuals with little or no education. The use of ETV is particularly applicable in these situations. The need for pre-school education in South Africa is highlighted and summarized in the HSRC Report (1981) on the *Provision of Education in the RSA*. Since it is submitted that pre-school ETV should be a priority when considering the educative potential of television and that its potential in this area is great, it is

necessary to include this comprehensively:

"Since school readiness is a pre-requisite for success at school, especially during the initial period of education, and because environmental deprivation is the main reason for children not being ready for school at the normal school going age, the following arguments are advanced in support of the provision of education at pre-school level for the divergent needs of young children in different circumstances:

1. Environmental deprivation is prevalent among all population groups and is on the increase since more mothers with small children are finding it necessary to work because of economic pressure and factors.

2. The situation of some groups is more problematical than that of others because their children have not had an adequate preparation for formal education. Special and timely assistance at this stage is imperative because it is difficult to make up lost ground once children have fallen behind.

3. This high dropout and failure rates[35].....of Blacks in particular and to a lesser extent of Coloureds and Asians lead to economic loss because of additional and unnecessary expenditure that repeating standards at school involves. From an economic point of view this means a great loss of manpower potential; for the government it makes the task of administrative and political development

more difficult; socially, it causes tension between those benefitting and those not benefitting from the educational structure; for the individual it means a loss of human dignity and opportunity in life.....

4. Pre-primary education offers the child a wonderful opportunity to move over easily (from an affective-social point of view) to the more formal education of the primary school; in doing this it achieves more than school readiness and provides a wider readiness for life.

5. Formal education could meet with greater success from the start if in future more children were ready for school when first introduced to formal teaching.

6. Evaluation for subsequent specialized subject choices becomes easier and more reliable if a child is prepared thoroughly from the start.

Although the above arguments indicate that there is a justified demand for pre-school education, it is a well-known fact that at present this demand is nowhere near to being satisfied. None of the present systems of education provide a programme accessible to all, spanning the period from pre-school to compulsory education."[36]

It is evident from the conclusions that pre-school education has become a pre-requisite for educational and personal achievement but that, since it is not feasible to render it compulsory and institutionalized (mainly due to the cost factor involved for parents

and government), ETV is an ideal alternative. In suggesting that the potential of ETV is enormous in a comprehensive strategy for pre-school education, it is recognized that it should initially be restricted to areas and communities where the needs of small children are the greatest.

Like all pre-school education ETV programmes in this area should not be regarded merely as school-readiness programmes since, as Nokaneng states all future learning rests on it. "For it to succeed it must reach the child in his totality and help him to develop the skills of learning as well as the attitudes and values essential to the attainment of a worthwhile adulthood."[37]. This supports the argument that the true potential of ETV in pre-primary education lies outside of a formal situation and an imposed ideology. Asheim states (idealistically) that 'the real potential of pre-school ETV content lies in providing a background about people, places and things which may equalise experience for all children."[38]

Nokaneng summarizes the three reasons (given by Stimbert (1971)) why the pre-school child should be given high priority in the development of ETV:

1. The behavour of the young child is more susceptible to change than at later periods. According to Stimbert, pre-school educaton helps to establish so called "useful behaviours" early in life "rather than seeing the maladaptive patterns so often prevalent when developmental

processes are left to chance or to well-meaning but ineffective parent education."[39]

2. "Second, for a child to profit maximally from group learning situations or to be able to learn "on his own", he must have certain essential skills falling into the broad categories of attention, visual and auditory perception, and basic verbal and non-verbal concepts. Their skills are the intellectual foundations upon which later progress is based.

3. The third and final reason for giving a high educational priority to the pre-school years, is the development of that ill-defined but important set of behaviour patterns underlying the concept of personality."[40]

It is submitted that certain adult education programmes are a prerequisite in the provision of ETV for pre-school education since the guidance of the child by the parent at the early stages of life is indispensible. This applies particularly to disadvtanged and/or meagrely educated parents to enable them to maximally support the child and also to aid them in developing child rearing skills. When viewed in this context a high degree of organization is required since not only must the programmes meet the specific needs of the parents and children, but this audience must also be motivated to view and to act on the programmes.

By far the most well-known and arguably the most successful utilization of pre-school ETV to the present is CTW's *Sesame Street*. A brief analysis of this case-study in the next chapter will reveal that its method (of planning, programming, organization and utilization) are well suited to realizing the potential of ETV.

8.4.2 ETV for Primary and Secondary Education

The fundamental difference between pre-school and primary and secondary education is that the latter is generally compulsory, institutionalized, formal and often free. Primary education is often spoken of as synonymous with basic education.[41] Basic education in this context is defined as

> "the minimum education which must be provided in order to achieve basic literacy in other words teaching a child to read, write and calculate together with further consolidation of these skills, so that further independent learning of abstract materials may be undertaken and then developed by the teacher more easily and at an increased tempo in subsequent phases, because basic literacy has already been achieved."[42]

Consideration of the potential role of ETV in this phase of education must take account of a complex and difficult set of problems and constraints.

The first major obstacle is that the transitional, rigid inherited system of formal education is difficult to change, innovations such as television being regarded as an unnecessary threat to the authority and position of the teacher and a potential disrupter of the

timetable. "Stability of content usually (goes) hand-in-hand with unchanging methods of communication."[43] However, the critical situation in which South African education finds itself is reason enough to consider the use of ETV.

This so-called "critical situation" originates in the fact trat it is at the level of compulsory schooling that the brunt of the rapid expansion of numbers"[44] and the demand for education as a right, is borne. Most countries today subscribe to "the need for an extended basic educational experience common to all children, with appropriate differentiation to meet the needs of different groups."[45]

In addition to this major demand for extending primary and secondary schooling, other factors and consequences of using ETV in this phase must be taken into account:

> "(a) the persistence of the phenomenon of lack of motivation resulting in failure and poor school results for a sizeable proportion of the school population - which gives rise to the questions about a possible decline of educational standards;
>
> (b) the strong correlation which continues to exist between family background and choice of subsequent educational career, indicating the persistence of selective practices even within the comprehensive type of school arrangements;

(c) the dim prospects awaiting those who leave the educational system without adequate qualifications or marketable skills, who remain unemployable, uneducable and a high burden on society - problems which are not alleviated by the employment crisis."[46]

According to Nokaneng (1980) ETV in primary and secondary schooling fulfil two main functions:

(i) enrichment of lessons thereby linking the pupil to the outside world. "In didactic terms true education implies that the classroom teacher should not only confine his teaching to the bare examinable bones of his subject. The general aim for education as interpreted by a particular community will serve as a frame of reference for his teaching. For this reason these additional experiences are not specific and not clearly defined in most cases."[47] In this sense the potential of ETV in didactic terms is in its usefulness to the teacher who is willing (and permitted) to go beyond the set curriculum.

(ii) direct instruction is also a potential function of ETV in schools "particularly in subjects where the teacher may have inadequate qualifications or where educational materials are either lacking or outdated."[48] Of the many examples of the utilization of ETV in direct teaching programmes the Telescuola system in Italy is one which relies on television's wide distributive capacities to provide lessons for lower secondary school children who live in small communities in rural areas where no formal secondary school facilities exist.

Programmes are viewed at centralized points and the viewings are supervised by so called "teaching assistants". Homework is marked by correspondence.[49] While recognizing that this situation is not ideal or didactically perfect, it theoretically has potential in severely-deprived rural areas of South Africa for children who, without ETV, would have no education at all. This application of ETV in South Africa is recommended as a short term solution to the problem areas where no education exists at present. It should also be noted that in using ETV for direct instruction, the special capacities of television mentioned earlier should be exploited. Broadcasting a teacher teaching in a traditional institution in the ordinary "blackboard centred" manner is unacceptable since there is no comparison between the personal interaction in direct teaching and direct instruction by television. In utilizing ETV in this situation it is suggested that the whole method of instruction be reconsidered from grass-roots level. In 1966 Holroyde stated:

> "merely to transfer an existing teaching situation to television, without any real concession to the limitless possibilities of a new visual vocabulary is television at its most primitive and lazy."[50]

The true potential of ETV in the formal primary and secondary situation must be examined in terms of its advantages and its disadvantages. Nokaneng (1980) suggests that under primary school conditions learning via ETVcan only be effective if the teacher

or tutor is well placed and primed for its effective use and integration. The cost and administration of in-service training for teachers might prove prohibitive but it is essential since in primary years "student receptiveness and attitudes are largely determined by the skill, enthusiasm and attitudes of the classroom teacher."[51]

Some of the problems inherent in secondary school ETV are highlighted by Arnove in his analysis of its use in Samoa:

> "Students were bored by the overuse of rigid telecasts and felt that television teachers were often not aware of the level of understanding of students, that the level of televised instruction was either too easy or too difficult. Teachers, particularly high school teachers, resented the arbitrary structure of the lessons and thought the TV format did not allow them enough freedom to use their own ideas and training, to respond to individual needs of the students, and to expand upon the material presented. Some of the teachers wanted the option of deciding whether or not to use the television lessons regularly or as enrichment only."[52]

In spite of real and apparent problems, the potential of ETV cannot be ignored since the critical shortage of teachers (particularly Black teachers[53]) might well be alleviated, even solved, by using television. The advantages of "school-cum-media" education have been listed by Kupisiewicz (1984), including instances where he

believes the "school-cum-media" system has a significant advantage over school.

(1) An advantage of an organized combination of a medium like TV and school over school is that "in the preparation and presentation of lessons.....they are subjected to overall reviews before being broadcast and can thus be improved, the goal being more precisely defined and the content appropriately selected."[54]

(2) The submission that the true potential of ETV in primary and secondary education is its potential to go beyond the traditionally rigid system, is supported by Kupisiewicz when he states that:

> "To a far greater extent than in traditional teaching content selection in this system is characterized by width of choice, flexibility, authenticity and multi-sensorial appeal. This generates positive motivation in the student, arouses interest in the subject taught, concentrates attention and develops the memory, imagination and thought, in other words, it creates conditions favourable to the all-round development of children and young people."[55]

(3) Since broadcasting to and for schools requires such detailed and highly structured organisation and because

it is so expensive, a greater degree of monitoring and assessment is justified. According to Kupisiewicz

> The principle of instruction such as use of object lessons, gradation of difficulty, systematic approach and association of theory with practice, can be much better respected in the school-cum-media system than at school, thanks to the wealth of factual material and the variety of means of its presentation available, and the fact that the broadcasts can be repeated many times. Moreover, because it is the product of teamwork, this material can be critically analysed from every aspect, including the methodological and psychological, before transmission. A school co-operating with the media has at its disposal improved means of instruction and is thus better able to organize the pupils' independent research work as well as having more time for systematising, consolidating, monitoring and assessing the knowledge they acquire. This enhances the feedback between the pupils and the educational system which is essential if the broadcast programme is not only to enable students to memorize facts but also to educate and inform them, to train them to identify, formulate and solve problems, and

to think and act independently, while at the same time allowing the results to the instruction to be monitored and assessed."[56]

(4) As previously mentioned an advantage of ETV in the formal situation is that it can bring into the classroom material that would not otherwise be available in the traditional institution. In this way lessons can be made more interesting and effective and can in addition be tested in advance for didactic relevance and efficiency. Such checks, Kupisiewicz notes, do not usually occur in traditional teaching.

To sum up: the use of ETV in primary and secondary education has definite potential but its planning must take account of the advantages and the disadvantages of its incorporation into the system. Most important is the fact that it should be regarded primarily as an aid and should only replace the teacher in the most exceptional circumstances. In both situations it is the partnership of the teacher/tutor and the medium itself that is vital in making the sesson pedagogically meaningful and educationally sound.

8.4.3 ETV for Non-formal Education

In keeping with the rest of this dissertation the discussion of the potential of ETV for non-formal education[57] will be confined, largely, to specific apolications applicable to groups who have been identified as the most severely socially disadvantaged and educationally deprived - in this case adults. Having mentioned

the term "non-formal education" it is necessary to define it with specific reference to the South African situation, the use of educational technology and its applicability to adult education specifically since, as Schramm (1977) points out "non-formal education is not a sharply bounded concept."[58] It must be noted at the outset that in severall instances the boundary between non-formal and formal education is not clear.

Non-formal education is defined by Achmed and Coombs (1975) as a system which

> "refers to the motley assortment of organised and semi-organised educational activities operating outside the regular structure and routines of the formal system, aimed at serving a great variety of learning needs of different sub-groups in the population, both young and old. Some non-formal programmes cater to the same learning needs as the schools and in effect are substitutes for formal schooling.....
>
> But most non-formal education programmes...are directed to serving important learning needs and benefitting clienteles not generally catered to by the formal schools. These learning needs relate, for example, to health, nutrition, family planning, and other requisites for improving family life; to developing good personal character traits and positive attitudes; to increasing economic productivity, family incomes, and employment opportunities; and to streng-

thening local institutions of self-help and self-government and broadening participation in them. Most of the programmes are aimed at benefitting particular sub-groups in the local population - such as small farmers, craftsmen and entrepreneurs; older girls and women; infants and young children (through the education of their elders); unemployed out-of-school youth; members and leaders of community organisations such as cooperatives, farmer societies, and local councils. But overall multipurpose programmes - such as the Sarvodaya Movement in Sri Lanka - seek to serve all members of the family and community and a broad spectrum of learning needs.

The extreme diversity of non-formal education programmes not only in their target audiences and learning objectives but in their forms and structures and educational technologies and methods, precludes fitting them neatly into a refined classification system."[59]

Non-formal educational technologies like television are particularly relevant in instances where the familiar ritualistic forms of schooling are inappropriate or irrelevant, that is, in instances where alternative forms of education should be developed. Schramm (1977) stresses that the key idea is to localize the programme and Miller (1972) relates this to so-called "developing" areas by stating that:

1. Education must become less formal
2. Education must be freed from system restrictions and be developed through a variety of specific projects on a small scale.

3. Education projects must be recognised as experimental and must be monitored so that we may find out what works in specific situations.

4. Education must become more of a service within a complex of development efforts and less of an instructional programme for the sake of instruction."[60]

The potential relationship between non-formal education and instructional technology in the South African context is summarized in a working committee document which contributed to the main HSRC investigation into the provision of education in South Africa:

"Definition of Non-formal Education

Planned and organized education that lies outside the primary, secondary and tertiary structure of formal education systems, but does not include industrial training.

Areas Covered

Literacy

Health and social education

Agriculture (extension)

Adult education

Preparatory skills for the disadvantaged

Characteristics of Target Population

Very large numbers (running into millions)

Spread over the whole country

Non-captive: cannot be brought together in classroom-like situation

Disadvantaged: have no electricity supply; little formal educational background; socially deprived.
Little access to media."[61]

8.4.4 ETV in Adult Education

Adult education has been defined as "those programmes which aim at leading the adult to a progressive mastery of a body of knowledge or skill in a defined area and thus contribute to the development of the individual and to the better adaptation to a changing society."[62]

In South Africa the use of ETV for the education of deprived adults in particular, is justifed on several grounds. ETV has the potential to make a significant contribution toward enabling the deprived individual to improve his quality of life by increasing his knowledge of certain basic skills. Taking into account the fact that in 1981 40 percent of the Black population alone had received no formal education.[63] the urgency of the demand for ETV as an educational tool for those who are and have been neglected by the formal system, should be considered. Its use in literacy training in particular should be considered. This is summed up by Nokaneng (1980). If planned carefully and used circumspectly:

"there are exciting possibilities of educating...through open-circuit television. In this manner television programmes can be transmitted to reach communities which would normally not have been within the reach of proper

> schooling. Educational programmes will serve to make the adult conscious of his problems....and to make him question himself."[64]

The problems inherent in upgrading lives through education, especially those likely to come about as a result of teaching an adult to be critical of his situation, cannot remain unconsidered and should constitute part of the process of planning ETV for adults.

8.4.5 ETV in Teacher Training

> "Without a corps of well-trained and talented teachers any endeavour aimed at a system of education by means of which the potential of the country's inhabitants is to be realized, economic growth promoted, the quality of life of the inhabitants improved and education of equal quality provided for everyone, cannot be successful. The standard of the service provided in the educational system is determined mainly by two factors, namely the quality of the person being trained and the quality of the training that he receives."[65]

Teacher training (together with pre-school and adult education) is a priority area for the use of ETV in South Africa. The major reasons for this are: the critical shortage of professionally qualified teachers, particularly Black and Coloured teachers, the inadequate numbers of (even meagerly trained) teachers in the rural areas and the disparity in the position of teaching qualifications in the different population groups.

In a critical situation of this nature, which is exacerbated by a highly centralised, rigidly ideologically based educational system as a whole, the provision of education for teachers cannot merely be based on the formal system because "the possible contribution of the non-formal system and the private sector is often of decisive importance."[66] Since the role of the teacher is so fundamental to what is achieved by the pupil, alternative methods for pre-service and in-service training is vital. In general, this is particularly true in a period of rapid change such as the present, when long established traditional methods are giving way to child-centred methods, making much greater demands on the imagination and intellectual powers of the teacher."[67]

Before analysing the specific applications of ETV in teacher training it must be noted that, as stated by Nokaneng (1980) ETV for teachers is seen as part of a larger effort to change. With black education in mind he states:

> "It is within this context that television should be applied in Black education in a systematic way as part of a large effort to change, integrating the best theory and practice to bring about qualitative expansion in the educational system. With television the live or recorded relay of classroom procedures becomes possible."[68]

ETV has potential in three major areas of teacher training: student teacher training, in-service training and further teacher training. Student teacher-training rarely involves broadcast/open circuit

programmes. The use of closed circuit television is more common and relevant here, giving student teachers the opportunity of examining personal performance and demonstration lessons.

Broadcast television has potential to be of particular importance in in-service and continuing or further teacher training particularly where teachers are poorly qualified. The use of television, Nokaneng (1980) states, might provide in-service training to advance knowledge and upgrade skills and to maintain continuing communication with educationalists everywhere.

Harley (1975) mentions the following essential aims if in-service training where television could make a particular contribution:

> "(i) Enrichment of knowledge: The teacher should desire not only to maintain his competence but to increase it with or without additional qualifications.....
>
> (ii) Consolidation and reinforcement of knowledge: By viewing a television programme, the teacher will be in the position to know whether his is still on the right path and whether there is a need for improving his knowledge in a particular subject field.
>
> (iii) Acquisition of new knowledge: When teachers slip up really seriously in their teaching television could be used to bring new knowledge and new methods of teaching to schools.
>
> (iv) Curriculum development: Changes in the curriculum can be made known through the medium of television.

(v) Introducing of new insights into teaching. Teachers should have the opportunity to acquire a better understanding of the principles and methods of educational technology, especially if this was not imparted to them in initial training. Television can solve this problem.

(vi) Organisation and administration: If teachers get promoted, television can be used to give them adequate and systematic preparation for the larger responsibilities they have to assume.

(vii) Induction into the teaching profession of re-entrants: More substantial problems are involved in the induction into the profession of re-entrants, perhaps after an absence of several years...."[69]

8.4.6 Summary

It is theoretically possible to use ETV in most educational situations recognising that its capacities and limitations depend primarily on careful planning and contextual applicability.

Some of the potential applications of television have been examined and can generally speaking be applied in three distinct areas: direct teaching, enrichment and total teaching. The key to realizing potential, Nonakeng (1980) states, is the integrated planning of ETV and face-to-face teaching in which the special strengths of both methods may be drawn upon to provide richer learning experiences.

"That is why the partnership of the television teacher and the classroom teacher is a vital force in teaching,

even though the two teachers are geographically apart for both have effective learning as their goal. The challenge is to apply television to education from a position of knowledge and understanding. The problem seems to be how to introduce television in the didactic situation to actualise the psychic life of the child, because a didactic situation presupposes a lesson structure to fit the communications model to suit the requirements of a lesson structure. Television, as a didactic aid should satisfy certain basic didactic requirements, for example in an educational television situation, definite aims have to be formulated in relation to overall umbrella objectives. Thus, points to consider are the kind of tasks which educational television may be asked to perform; the didactic situations in which these tasks are to be carried out; the level of the audiences which are to be reached, the appropriate aims and content, the form subject matter has to take, use of the right methods, the application of correct evaluation procedures."[70]

8.5 ETV for Development Communication - Potential Areas of Application[71]

The potential of television for development education applies to the Third World population and conditions in certain areas of South Africa. Development agencies, facing the task of communicating the goals, methods and messages of development should seriously consider the potential of ETV to perform this function including serious

consideration of previous experience, in order to formulate a unique development strategy for a specific audience. It is quite clear, however, that the role of ETV will be more modest than that claimed and hoped for it in the past. However, as Katz and Wedell (1977) state this more modest role could yet be of crucial significance in helping developing areas (and the so-called "Westernized" developers) to understand their changed circumstances and to learn to live with them.[72] In ideal circumstances: "Broadcasts could be used to promote self-reliance, to help citizens to understand the limitations of current development policies, and to encourage a new, more anthropocentric understanding of development."

The general framework suggested by Jamison and McAnany (1978) for the use of radio in development education is equally applicable to television. This is particularly relevant in South Africa since, although initially expensive, the extension of television to rural areas is far from an impossibility. In summarizing the available evidence concerning the effective use of ETV in development the authors divide the purposes of development communication into four main categories: to motivate, to inform, to teach and to change behaviour. Secondly they consider strategies for development communication including open broadcasting, campaigns and regular viewing groups.

8.5.1 To Motivate

Motivation in this context concerns "arousing people to think about, and, hopefully ultimately to act on something."[73] Often (as it

has been shown is the case in South Africa at present) broadcasting is used to reinforce existing behaviour patterns and values which suit the media policy makers rather than using it as a persuasive medium to motivate positive behaviour change toward a realization of the advantages of self-reliance and mutual help. So-called "mutual help" is an ideal way in which to motivate people to change the conditions of their situation and it is possible to use television to promote this common activity. This can be reinforced by group viewing since it is argued that

> "apart from the economic necessity for the development of viewing centres, there is benefit to be derived from the common experience that group viewing provides. This may well not be merely a second best to the more usual Western pattern of a television receiver in each household. If group viewing experience (changes ETV viewing) from an individualistic to a collective act and both contribute to increasing participation by citizens in the resolution of the social issues that are brought to their attention by the medium and enhances the impact of extensive education in such areas as literacy, health and agricultural development, then this types of activity deserves to be encouraged in its own right."[74]

A practical and apparently successful use of a broadcasting medium to motivate took place in Kenya:

> "Kenya.....uses a humorous 15-minute drama each week to attract rural listeners to think about their families health problems. The use of dramatization, soap operas

> and stories are all common forms of motivating people to become literate, to participate in family planning programmes or to adopt an agricultural practice. Sometimes programming is created by community members themselves on the premise that such programming will more likely stimulate the audience to listen and participate in the community activities."[75]

As always the use of ETV to motivate is suggested as one element of a system reliant on the other media like radio and print. This has been done, for example, in Tanzania (in its health and food growing campaigns)[76] and in Cuba (in its literacy campaign)[77]. In both instances radio has been used, along with other resources, on a national basis to mobilize and motivate large numbers of people.

8.5.2 To Inform

Television's use as an information channel includes a wide variety of aspects (only indirectly educational in the conventional sense, but regarded as directly educational in the development context). These include: news, information about social activities and services and announcements concerning important events. Botswana, for example, used radio primarily as a means of informing its largely illiterate population of the contents of the first National Development plan.[78] It is envisaged that television be used in a similar manner.

8.5.3 To Teach

The use of broadcasting to teach in the development context includes using television and radio to encourage the acquisition of those

generalised cognitive skills that cut across many activities, most commonly literacy and numeracy, and work and general skills. Moreover, the use of the broadcast media for development is often in the area of non-formal rather than formal education.

In addition to the major aim of most educational broadcasting services, which is to supplement existing formal schooling, ETV's use in non-formal development education includes the acquisition of abstract cognitive skills (like reading and writing) as well as the ability to master basic numeracy and "a more generalised abstract skill often called learning-to-learn, or ability to transfer cognitive skills to a new learning situation."[79] In teaching skills television has an advantage over radio since the acquisition of a work skill is best acquired through observation.

8.5.4 To Change Behaviour

Taking into account the fact that television is a potentially powerful tool for propaganda, the use of television to change behaviour is referred to in a "neutral" sense of types of programmes advising people of a specific activity which does not require much explanation. Although this is regarded as educational in the development sense, formal learning is at a minimum and people are requested to simply follow certain directions eg. the mechanisms of how to get a vaccination, how to vote, how to register children for school, etc.[80]

The second dimension for considering the potential role of ETV in development education concerns strategies[81] for its use including

open broadcasting, campaigns and regular viewing groups.

8.5.5 Open Broadcasting

Open broadcasting in the development context encompasses all those uses of television that concentrate on producing and broadcasting messages "but do nothing to organize or send supporting material to audiences."[82] According to Jamison and McAnany, the primary emphasis of open broadcasting is the message and many projects of this nature are, according to Jamison and McAnany,

> "message-centred; typically reach people in their homes; do not attempt to teach complicated concepts or behaviours, but rather to motivate and across modest amounts of information; and are often geared to some simple behavour change."[83]

Open broadcasting highlights the direct educative value of entertainment and advertising techniques which are often dismissed by educationists as frivolous popular culture. In their summary of the advantages of open broadcasting Gunter and Theroux (1977)[84] suggest that development communication strategists adopt a more creative approach to their work. More time, research and money used to attract larger audiences should concentrate on improving existing programme quality. They cite three examples of how radio might be used to achieve this (all three being equally applicable to ETV):

> (i) Using advertising principles in order to motivate an audience to listen
>
> (ii) Creating programmes that involve community control and participation (which implies the localisation of broadcasting)

(iii) Using the quiz show format which has apparently shown a superior learning gain for participants over those who learned by a lecture method.

8.5.6 ETV Campaigns

Campaigns extend typically over a short period of time and focus on specific topics or the achievement of specific goals. If, for example, it was decided that mothers in a specific area should be educated in nutrition or child care, a television campaign could be used to reach the well defined audience. This again suggests the localizing of programmes. As a relatively unknown phenomenon in South African broadcasting, television and radio campaigns have potential usefulness in subjects including nutrition, health, family planning and agriculture.

8.5.7 Regular Viewing Groups

Working on the same principle as regular listening groups involving radio, regular viewing groups refer to uses of television that call for the "organization, supervision, and support of local (viewing) groups that meet regularly to discuss and often act upon (television) messages."[85] The television equivalent of radio school, radio farm forums and radio animation groups is envisaged. As is the case with campaigns, the use of regular viewing groups is unheard of in South Africa, but has enormous potential as an alternative to centralized, undirectional educational broadcasting.

The three possible areas of application suggested by Jamison and McAnany are summarized and applied to television:

8.5.7.1 Television Schools are distinguished from other listening/viewing groups by their bias in favour of teaching literacy, numeracy and certain skills in a non-formal manner. The authors suggest that this approach, if adequately supported and efficiently organized "can achieve a great deal for non-formal education and other development goals for rural adults.[86]

8.5.7.2 Farm Forums

Television farm forums are only possible where television is localized and available to rural dwellers, possibly in a community centre. It is recognized that the logistics and costs of such a venture are a formidable obstacle but that if implemented, such programmes will be of use.

A forum (like a radio forum) is envisaged as "a small group that meets regularly in order to receive special (television) programmes which members then discuss. On the basis of the programme and discussion they decide what types of relevant action to take."[89] As opposed to television schools which are envisgaged as acting purely as learning groups, farm forums are regarded primarily as decision-making groups geared to group action. The major advantages to be derived from the forum idea arise from the characteristic of combining broadcasting with interpersonal communication in the form of group discussion and feedback through a monitor.

Certain general advantages of farm forums are noted by Rogers:

"greater effectiveness seems to lie in a small number

of themes that are featured over a relatively brief period in an integrated manner; forums seem to be effective with illiterates as well as literates;...forums are more effective when group leaders have a basic training in leading discussion; forums are compatible with village experiences and cultural preference; and feedback from forums can help to change government perceptions about what rural people need."[88]

8.5.7.3 Animation Groups

In theory animation stresses participation of the community in defining its own problems. There are potential problems inherent in this approach including: excessive dialogue leading to lack of action inherent in the non-directive nature of the animation approach, and the dangers of co-optation by power-holders who are inclined to short-term solutions. However, the promise and potential of this strategy, according to Jamison and McAnany "make it worhtwhile for those development goals that involve participation."[89]

While there are, undeniably, many constraints on implementing alternative educational policies using television strategies, including structural, ideological, political and financial constraints, Jamison and McAnany's analysis (and its application to El emonstrates the underutilized potential of television in development education.

8.6 Summary of Current Educational Problems and Priorities for the Application of ETV in Sou Africa

(1) The potential of ETV in South Africa is circumscribed by political, sociological, educational, economic and geographical

factors, the combination of which is unique and unprecedented.

(2) Priority areas for the implementation of ETV (which fall into a developmental context) are: pre-school and adult education, and teacher training for those indivuduals and communities who live in deprived "Third World"conditions characterised by poverty, illiteracy, unemployment and lack of access to education and the electronic broadcasts media such as television (which are commonly centralized, urbanized and unsuited to their real needs)

(3) Current problems include

> Outdated sylabusses, ineffectual teaching methods and materials, disparities between planned and actual educational results, failure to provide equality of educational opportunity for (the) underprivileged....[90]

Lack of feedback, great distances to be covered, meagre electrification are also problematic areas.

CHAPTER 8 - REFERENCES AND NOTES

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12. The success of the *Sesame Street* series supports this contention.

13. The use of television in all facets of education, including teacher training, is possible and will be discussed.

14. See, for example JAMISON, D.; SUPPES, P. and WELLES, S. "The Effectiveness of Alternative Instructional Media: A Survey in *Review of Educational Research*, vol. 44, no. 1.

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33. ETV in the Ivory Coast and India bears this out

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49. HENDRY (1925), p.66.

50. HOLYROYDE(1966) in a Leeds University Pamphlet, p.8.

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78. *cf* COLCLOCH and CROWLEY (1974) in JAMISON and McANANY (1978) p.62.

79. JAMISON and McANANY(1978), p.63.

80. IBID., p.18.

81 NOTE: According to the definition of JAMISON and McANANY (1978) "strategies" refer to the way in which television and other resources are organized to achieve the purposes discussed.

82. IBID., p.19.

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85. JAMISON and McANANY (1978), p.19.

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CHAPTER 9

Educational Television for Development - Evidence from Case Studies

Educational technology has been used for almost every conceivable educational application:

> "Education technology, in its various forms, has been used to improve teaching at prestigious universities such as Cambridge, as well as for literacy programmes. It was used, among other ends, to improve the communication skills of various groups and communities, to offer medical services to Eskimos; to improve agricultural practices in many places; to support health, nutrition and population campaigns and projects in a number of countries; to train people in industry; to offer distance learning; to serve both formal and non-formal levels of different educational systems; to link (via satellite, microwave or otherwise) higher education institutions; to upgrade the competence of teachers, to implement new information and communication systems; to attack mass education problems; and to help implement massive educational reforms in primary education."[1]

The same author summarizes specific applications of educational technologies (many of them using ETV). These include projects to overcome illiteracy (like the successful one in Cuba; "others, to support changes in the ideology of success and community work (like

the United Republic of Tanzania), or in the communication of farming skills...or health practices. Most countries used technology to solve problems related to the shortage of qualified teachers (Brazil, Ivory Coast, Kenya, Samoa), to extend primary and secondary education to masses of urban or rural students.....o to meet several such objectives at once. Quite often the educational-reform programmes or other social interventions were associated with developments in the also underdeveloped or non-existent communications sector (Ivory Coast, Mexico, Sierra Leone etc)."[2]

In spite of the extensive use of educational technology, this dissertation is being written at a time when the use of educational television is being reassessed in the light of the disappointments and doubts that have arisen about the best methods of using it, particularly in developing areas. "Western models," Hawkridge and Robinson (1982) note "have not been universally successful when transplanted, and then used for exchange of information between developing countries has increased."[3] This view has been reinforced by Araujo é Oliviera (1983) who notes that in spite of the success of certain of the large educational intervention projects "it remains clear that education and communication technologies never did accomplish, at any one time, the great promises and expectations of the 1960s."[4]

Considering the fact that almost every country claims to use either educational television or educational radio or both (see Appendix 2) it is impossible to do a comprehensive analysis. However, in

in development, it is useful to examine the "classic" case studies for the purposes of demonstration and argumentation suggested by Marchl and Brunswick (1977): American Samoa, Tele Niger, El Salvador, Ivory Coast, Maranhão State (Brazil) and SITE (Satellite Instructional Television Experiment) India. All of these have been analysed in detail over the years.[5] The amount of detail of each case study in this dissertation will depend on its relevance to the potential of ETV in South Africa.

9.1 The Samoan ETV Project

The shortcomings of the Samoan educational system which prompted the introduction of ETV into that country are summarized in an American publication:

> "Observers of the school system at that time report that Samoa had no acceptable school plant, organisation, teaching staff, nor administrative structure; no discernible educational goals; and only the vaguest form of curriculum. The 43 village elementary schools, scattered throughout the islands were dilapidated. The Samoan classroom teachers, themselves products of Samoa's public schools, averaged only a fifth-grade education....English was the medium of instruction in the schools; yet the Samoan teachers understood and spoke it poorly."[6]

The role of the planned ETV project was seen as one which would improve public education significantly. The role of ETV was, according to Schramm (1967)[7] seen as a carrier of the core of teaching and adult education. The specific objectives of the project

were to equal the educational standards in the United States and to improve the Samoan's ability to speak and understand English, the mastery of which became equated with the upgrading of the school system.[8] Eventually, the main aim of the project became the teaching of English.

> "To achieve this "upgrading", the Samoan ETV network was set up to provide centralized control of all material taught in every public school classroom. Overall planning and curriculum coordination, teaching and lesson plan research, production, scheduling, and broadcasting of the TV lessons took place in the production studio. Most studio personnel were Americans, hired in the United States by the National Association of Educational Broadcasters, which managed the project. There were some Samoans in training."[9]

In summary, the major aims of the project were: to expand the twelve year school system rapidly, "to upgrade the quality of teaching, to adapt the curriculum to socio-cultural realities in the country, to spread competence in English. The aim was to reach every child in American Samoa in four years."[10] Teacher training (pre-service, in-service and upgrading programmes) and feedback were considered important.

9.1.1 The Results and Consequences of the Project

In spite -meaning intentions of the American developers the Samoan is regarded as a rather unsuccessful attempt

at imposing one educational and cultural system onto another. The basis of the criticism is summarized by Masland (1976):

> "...despite the installation of the educational television network and centralized control of public school education which made it possible, despite strict adherence by the American personnel to the overall programme for upgrading education as outlined by the planners of the Samoan ETV Project, despite the initial cooperation and goodwill of the Samoans, educational levels and standards in Samoa are still not those of the American public schools."[11]

The major reasons for the failure of the project can be listed:

(1) The bias toward the English language as the medium of instruction and the overriding importance of its acquisition. What planners failed to take account of was the fact that the Samoan language is used in the home and in the community.

(2) The negative results stemming from the (probably unconscious) paternalistic attitudes of the American planners who, according to Masland (1976) "considered (the Samoan) society picturesquely primitive, but essentially inferior."[12]

(3) The lack of real local relevance, commented on by a UNESCO group:

> "In American Samoa, local patterns are reflected in a course on Samoan life, but in little of other programming is there skilful and sensitive integration of the local environment into the instruction. The mission thought that some of the....efforts were insensitive on this score and probably counterproductive. For example, on one of the telecasts we observed, the stateside teacher used

> a Samoan adult as a prop, asking him to touch his nose, to go to the door, and so on. All the talk was done by the stateside teacher. This sequence may have implied an ethnic superior - subordinate relationship."[13]

(4) The ultimate, though not deliberate aim, was to acculturate Samoans to the American language and by implication its culture and way of life. The value of local culture was not consistently taken into account.

(5) In changing to the new system of education the Americans did not take account of the fact that the rate of change might, apart from all the deleterious cultural consequences, be too rapid for the local population. The American Governor Lee spoke of 'explosive change' as desirable, and Wilbur Schramm (1967) states:

> "The most striking feature of the rapid educational development in American Samoa is the heavy responsibility being placed on television. It is...counted upon to serve as prime mover in a very swift reconstruction of the entire educational system."

(6) Americans took the decision to install the ETV system while "the Samoans had little say in its use in the educational content which it transmitted."[14] Thus important cultural decisions were made by foreigners.

9.1.2 The Aftermath

In 1974 a Ministerial decision "shifted utilization from school to out-of-school application which must be considered a marginal factor in traditional education is obvious regression."[15] The reason

given by Masland (1976)for reducing television utilization in the classroom is that high-school students, particularly, became bored by the overuse of rigid teaching telecasts.

A positive consequence of the 1974 changeover was that it was decided that less emphasis would be placed upon attaining proficiency in English.

Masland's (1976) summary lists some of the most important cross-cultural aspects of the Samoan ETV experience:

"Planning and Goals

1. The need for change, goals of change, and pace of change were decided upon by the Americans rather than the Samoans.
2. Education of the Samoans was seen in relation to American education in the United States, not in relation to the needs of an isolated, pelagic people.

Curriculum and Telecasts

1. Curriculum and telecast content was not related to Samoan cultural values. Although special lesson plans and reading materials were written using characters with Samoan names and familiar materials such as banana leaves and shells, these efforts were superficial.
2. The lecture-type, "stand-up" teaching telecasts were monotonous. The medium was not used imaginatively to stimulate active participation of students.
3. On the plus side, there were frequent opportunities

for exchange of information and sharing between individual American and Samoan teachers through school visitations and workshops. Arrangements were made for feedback to evaluate lesson effectiveness. Teacher-training and in-service training were provided.

Resistance

1. The underlying attitude or belief that Samoan culture is deficient, primitive, inferior seems to have blocked effective cooperation between American planners and Samoan leaders and people.

2. The compulsory pervasiveness of TV education, dominated by American cultural values, language, and ideas, may have severely damaged Samoan cultural integrity and social equilibrium."[16]

The major criticism is the massive cultural disruption it caused, but if it is to be recommended for anything at all a salient feature would be the impressive size and sophistication of the technology used.

9.2. **Téle Niger**

Téle Niger began in 1964 (at practically the same time as the Samoan project) as a pilot project "limited to 22 one-room schools near the capital, Niamey, it reached 800 primary school children - less than 1% of the total school population."[17] The major objective of the project initially was to expand primary-school enrolment by enrichment of the traditional, formal curriculum; to teach French and to test the validity and potential of ETV. The project has been described as "the first instance of an African country using a TV to give young students complete instruction and it was the

first time a TV classroom monitor (i.e. supervisor) was implemented to offset a chronic lack of qualified teachers."[18] The monitors had the maximum of a sixth-grade education and received three months of pre-service training. No provision was made for training or upgrading the training of qualified teachers.

All programmes were broadcast in French (even though the pupils had not had much prior experience with the language).[19] Older students received four 14-minute televised programmes for five days a week. The organisational responsibility for the project was, for a long time, almost completely separate from the Educaton Ministry.[20] On the technical level, "the production centre was and is equipped with professional standard materials (3 studios)with about 400 programmes per year."[21]

9.2.1 Results and Consequences of the Project

As in the Samoan project, the influence of the colonial power (France) was pronounced in that its language was taught and used to teach. However in terms of success the project has been rated highly by various authors. Nwankwo (1976) notes:

> "(initially) no dropouts from the tele-schools; and the telescholars demonstrated much better mastery of French than children in ordinary classes. Even more remarkable, perhaps, the television classes made a sharp break with the severely authoritarian tradition of French education. Instead of stressing rote learning, telelessons and their follow-up exercises stressed pupil participation and pro-

> blem-solving approaches. The minimally educated classroom *moniteurs* succeeded remarkably well despite the brevity of their training."[22]

Arnove (1975) notes that unlike many Third World/Development applications of ETV which are utilized for the advantage to be derived from transmitting a uniform curriculum, to all children, Niger is a notable exception "where the televison unit is meant to serve as a stimulus for children to go out and explore their environment, (make up a) story, act out a y."[23]

Téle Niger has, in addition, been praised for its "careful visualisation and research into programme format."[24] As far as development applications of ETV go, Niger is an exceptional case where extensive research into local learning patterns, life-styles and the culture of prospective pupils preceded the curriculum planning and formulation.

Yet, in spite of the exceptional success and high quality of programming, the project never rose above experimental status and, according to Hawkridge and Robinson (1982) was terminated in 1976. Arnove (1976) states that "plans to expand the television project, with French government assistance, were constrained by the overall poverty of Niger and the plans of the government to limit education to less than 50 percent of the relevant school-age children."[25]

However, an important repercussion of the Niger experiment was that it encouraged the Ivory Coast to begin a similar type of ETV programme on a national scale in 1971.

9.3 El Salvador ETV

The use of ETV in educational reform in El Salvador formed part of a vast and complex system, the main aim of which was to bring about significant national development. The project which began in 1969 is described by Marchl and Brunswick (1977) as one in which "ETV was intended to be the motor of a fundamental educational reform (and brought about administrative reform in the Ministry of Education) with the objective to expand enrolment in the Plan Basico (seventh through to ninth grades) without a loss in quality, to introduce a new curriculum, and to address similar needs in other parts of the educational system. It actually doubled the enrolment in Plan Basico in four years."[26] Though accurate, this brief analysis is a little simplistic and certain other salient features mentioned by Ingle (1976)[27] will be summarized.

The project grew, rather unusually for a Third World country, out of an indigenous analysis of development and educational problems and, when eventually implemented, was carried out in Spanish, the national language. Although foreign financial and technical aid was used extensively, it is interesting to note that foreign advisers remained just that, never assuming decision-making roles as happened in Niger, American Samoa and the Ivory Coast. Furthermore, evaluation and research were institutionalised as integral features of the project from the beginning.

The context of the reform project was basically one of deprived circumstances so typical of the Third World. It is described as

"the smallest and most densely populated mainland country in the Western hemisphere"[28] characterised by an agarian population, "widespread poverty, malnutrition, poor health care, a high population growth rate estimated at 3.3 percent per year, limited arable land, concentration of wealth in relatively few hands."[29]. These are the major factors which prompted the El Salvador Government to use education as the basis of its development project. Educational television was envisaged as one component of a four component system:

> "Top priority were the re-organisation of the Ministry of Education; the strengthening of teacher training; the development of a modernized curriculum; and the creation of a Division of Instructional Television within the Ministry. These four major projects were to form the base from which the educational reform program would proceed."[30]

Although an American investigative team which conducted a feasibility study in El Salvador suggested that ETV should be aimed at primary education, the Salvadoran planners advocated using television for the Third Cycle of education which was seen as a bottleneck to development. The reason for this was that "better education in these grades would quickly lead to a better-trained labour force, which, in turn would attract foreign investment."[31]

The implementation of the Plan Basico created a dramatic change in the entire pre-university system. The structural results have been summarized by Arnove (1975). The change involved:

> "revised curriculum, administrative reform, wide-scale

teacher training, improved supervision and "guided promotion". With the elimination of tuition fees at the middle school level in 1971, enrolment expanded by 35 percent over the previous year. Schools had to go on double shifts, and teachers were required to taken on additional work with no increase in pay. The result: a teacher strike that shut down a majority of the schools for several months and disrupted the academic programme tied to a fixed schedule of televison broadcasts.

Future crises are likely at the secondary and university levels. According to the team evaluating the El Salvador educational reform, 95 per cent of the students plan to go further than "Plan Basico", and as many as 40 percent aspire to university studies. The researchers.....write that the two existing universities in the country could never handle this tidal wave of students."[32]

9.3.1 Other Major Results and Consequences

(1) Great emphasis was placed upon retraining classroom teachers in order for them to be proficient with the new method of teaching with ETV.

(2) Research and evaluation, as integral components of the project, were undertaken to monitor the overall reform and, in particular the use of ETV.[33]

(3) Although television and the other reform projects did not significantly overcome the effects of background characteristics on

basic skills tests (34) significant learning gains and vastly increased enrolment did occur leading to the hope that "where unequal performance among classrooms is the result of unequal provision of resources ETV can help to equalise student performance."[35]
(4) It was noted that, as with many Third World applications of ETV, the initial enthusiasm for and novelty of the new medium eventually lessened for both students and teachers and its potential as a motivator diminished.

This brief analysis has underscored the complexity of the comprehensive plan to reform an entire educational system, using ETV as an integral component of the plan. Television was regarded as but one element in a system that required a catalyst for beginning and then accelerating needed change. Its success was such that it indirectly placed strain upon tertiary levels of the education system, exemplifying the consequences of expanding the formal education system without considering the overall socio-economic changes that such reforms, if successful in a structural sense, would necessitate.

Marchl and Brunswick (1977) note that one of the major merits of the El Salvador project was "the scope of the educational reform it was set up to address but that even though partially successful, the fundamental educational reform had to be reformed and its scope reduced. ETV, as its motor and its objective, has not been used to its fuller potential."[36]

9.4 The Ivory Coast ETV

The Ivory Coast Educational Television project started in 1971 in response to the classic development problems which existed in the country. The general problems were:

> "room in the schools for only a fraction of the children of school age, an exceptionally high drop-out rate for those who do start school, a high percentage of repeaters, a grossly uneven distribution of educational facilities geographically, inadequate teaching quality, and bookish curricula ill-adapted to the practical needs of the country."[37]

Population characteristics are also extremely important to consider when examining this case study (particularly with respect to its relevance to South Africa). Of the 7 million people (more than 50 percent of whom are under 20 years of age) there are approximately 60 ethnic groups each with a different language and social structure.[38] In short, the population is extremely heterogeneous. The country, which has a stable government and high economic growth-rate inherited a French educational system that was, as was so typical of colonial Third World countries, ill-adapted and entirely unsuited to local needs. In 1971 it served only 54 percent of children of primary school age.[39]

The government decided on a massive and total reform of the entire public education system and, influenced by the ETV projects in El Salvador, Niger and Samoa, decided to use television as the instrument

to bring about this change. Changes envisaged were: expansion of elementary level enrolment, upgrading the standard of teaching through in-service teacher training, the introduction of a new and more relevant curriculum, a reduction of the dropout and failure rates and, ultimately the provision of basic education for adults. Hawkridge and Robinson (1982) note that in addition to this:

> "educational television offered some promise of integration of different subjects, of bringing large numbers of children the teaching of specialised teachers with high qualifications, of upgrading the work of classroom teachers through using television for regular courses of teacher training and of increasing motivation among both students and teachers."[40]

The feasibility of the project was tested by a massive study which was undertaken to examine all aspects of television teaching both practical and theoretical. After a lengthy and particularly thorough period of planning, broadcasting began in 1971 on a national basis. Significantly, the Ivory Coast Government put up one-third of the $24 million budget for the first five years. This, together with the country's willingness to commit itself to total educational reform, prompted outside agencies[41] to contribute large sums of money.

A major obstacle, the lack of electricity, was investigated and overcome before the project became operational. Grant (1974) notes:

> "Only one-third of the schools in the Ivory Coast have

mains electrical power supply - one of the major technological roadblocks such a comprehensive television teaching programme encounters in a developing country. Initially, at least, this problem was successfully met in the Ivory Coast by the use of battery-operated receivers. French-manufactured wet batteries similar to those used in automobiles were employed, in sets of 32 batteries for each receiver. The batteries had an expected useful life of a year and a half...."[42]

9.4.1 Objectives

The implementation plans, briefly stated were:

"(1) preparatory phase involving development of teacher training facilities, creation of the necessary infrastructure, setting up of the necessary infrastructure, setting up of the production complex (the TV and printed materials production facilities and associated teacher and staff-training facilities); (2) starting up of broadcasting at grade-one level (CP1) in autumn 1971 with 21 000 first-grade pupils, then addition of one grade per year so that all six grades would be "covered" by the school year 1976/77; and (3) achievement of total enrolment of the entire 6 - 12 year age group in ETV schools by 1986; this would represent a total estimated enrolment of about 1.5 million pupils by that time and with a target figure of 44 pupils per class, a total need for about 34 000 teachers and the same number of TV classes. It was planned that the ETV system and curriculum would be made available to the private

schools (numbers of pupils in private primary schools being expected to remain constant at the 1971 level of around 110 000."[43]

Grant (1974) considered implementation with respect to "five publics":[44]

(1) The Primary School Population - The goal here was to provide better distribution and unification of primary schooling, linked to development in general. With the aim of ultimately producing more successful school leavers, television brought direct teaching into the classroom which was then elaborated on and placed in context by the teacher. The teacher in these instances used guides "prepared by the TV production group, introducing vocabulary, structures, and concepts, and including suggestions about how local teachers can exploit the TV lessons in the classroom"[45]. In practical terms, according to Hawkridge and Robinson (1982), the intention in terms of primary school education was to minimise the dropout and repeat rates in each year of primary school and to improve output so that universal primary education could be achieved by 1985.

(2) Primary School Graduate - A two-year post-primary television course in trades was offered to those leaving primary school without the necessary qualification to continue to secondary school. The trades taught were biased in favour of rural utilization. According to Hawkridge and Robinson (1982) a secondary objective was:

"to install and use educational television in the schools at virtually no increased cost per primary school graduate. It was argued that the cost of television could be offset by savings due to students not repeating grades,

to say nothing of the benefits of better teaching and a more relevant curriculum."[46]

(3) "Pre-Service" Teachers - ETV was also aimed at pre-service training for teachers. According to Grant (1974), since 1969 approximately 1 000 local inhabitants have been trained each year to become teachers. "New elements in their curriculum include audiovisual instruction, programmed instruction, group dynamics, rural leadership development, intensive French language preparation, and the new mathematics."[47]

(4) In-Service Teachers - Teachers in the project were expected to participate in in-service training which consists mainly of programmes broadcast for 20 minutes in the evening to help them prepare for the lessons broadcast to their students the following day. There have also been seminars for teachers and school inspectors are known to give advice to teachers at the local level. Grant notes that in addition to this teachers are periodically brought back to the project centre in the country's second city Bouaké for "recycling." Significantly teachers in schools which have not yet converted to television are catered to by a weekly programme to prepare them for the change. Radio is not used for any other aspect of the project.

(5) The Out-of-School (Adult) Audience - The adult population constitutes the fifth public, for which literacy-training programmes will be developed, utilizing the school TV reception."[48] Unpaid primary-school teachers were appointed as animators. The duties

of these tutors, as listed by Hawkridge and Robinson (1982) were extensive:

> An animator was exptected to read guidelines and posters (*all in French*) *beforehand*; attend periodic workshops organized by the Out-of-School Television Department; notify villagers concerning the topics of forthcoming programmes through students, the town crier and any other possible way; open the classroom, turn on the receiver and summon villagers by ringing the school gong; translate the French commentary into local language(s) during or after the programme, or arrange for somebody else to do it, lead a discussion afterwards to test comprehension, answer any questions develop the subject further, repeat the main points, and be available generally to help villagers take action relatede to the programmes."[49]

General objectives for *out-of-school education* applied to both young school leavers and adults. First it was considered vital to promote what Hawkridge and Robinson (1982) call the "personal development" of young school leavers "to facilitate their integration into their own society, whether rural or urban."[50] Second, the promotion of an improved rural environment and the development of updated agricultural practices was given high priority. The intention in setting up the Department of Out-of-School Television was for collaboration to occur between it and various development agencies "and producing *programmes of good* televisual quality, and to organize communal

reception of these programmes by using the sets installed in schools to serve the school component during the daytime."[51] In 1974 these general objectives were re-assessed and modified to include "political awareness raising, thereby encouraging participation in the national development plan; improving the general standard of living; establishing a national identity; and stemming the migration of youth to towns."[52] By 1976 these objectives were further extended "to familiarize the population with economic, political and administrative structures, to motivate them to make use of the services these structures offered; and to promote awareness of current problems and solutions, without losing sight of certain traditional values."[53]

According to Lengiet, McAnany and Grant (1979)[54] two other changes occurred. The original aim to serve viewers who did not qualify for secondary school was not realised until 1977. Also, most television series were aimed at "sensitizing" rural people to the governments methods of bringing about change rather than training them to take up development work. "In brief, the series told people what to expect and how they should collaborate."[55]

9.4.2 Results, Consequences and Effects.

The project which has been described as "a crucial testing ground for African education and educational television."[56] and as "the world's most ambitious educational project to date"[57] has had both positive and negative results.

On the positive side, the introduction of television as a major

element in the teaching process has altered the teacher-student relationship to one which is less traditional where students are encouraged to actively participate and to work in small groups where spontaneity is encouraged. The television component of the revised educational system is "no mere frill to dress up traditional practices; rather it has stimulated far-reaching reforms, involving new principles and revised attitudes."[58] Moreover, the project is directly related to overall national development goals and has, in accordance with these goals, democratized education to the extent that the use of ETV has made provision for greater equality of educational opportunity thus making a higher standard of education more readily available. The emphasis placed on teacher training has produced a corps of new and retrained teachers in rural and urban areas. Previously, urban students had greater educational advantages over rural students because their teachers were better qualified. Another positive aspect of the television teaching system mentioned by Grant (1974) is the proximity of the television production centre to the main teacher-training college in Bouaké. This proximity, he states, "makes it easy to familiarize future teachers with both the philosophy and the mechanics behind TV lesson construction and production."[59]

In determining the pedagogical effectiveness of the project, a team of researchers from the Belgian University of Liége determined the particular value of television in the teaching of spoken French. Its use resulted in a marked improvement in language proficiency of those students in schools using television. Similarly, there

was a gradual but marked improvement in the understanding of new mathematics by second grade children who were said to understand the problems set for them better than children in "non-television" schools.

A unique and innovative feature of the project is its location within the Ministry of Primary and Television Education which has full Cabinet status within the Ivory Coast government. Also commendable is this body's insistence upon a thoroughly researched and systematic approach to the project and the use of ETV as the basis of a new system rather than as an appendage "tacked onto an outmoded system in the hope of renovating it (as so many Third World countries have done, unsuccessfully).

On the negative side, one of the most disappointing features has been the presence of a large number of expatriots during the main development phase of the project, whereas the original intention had been to include a significant number of high-ranking Ivorian staff. Grant (1974) states:

> "Of a total staff of over 200 (161 in production and 42 in teacher training), only 52% were Ivorian, and most of those occupied subordinate positions....Until 1972 not a single top-level Ivorian official in the Ministry of Education, devoted his full time to managing the project....."[60]

This is reinforced by Kaye (1976) who reported that in 1975 no less than 188 expatriates were employed (although this figure is lower now).

Secondly, certain aspects of the out-of-school component proved extremely problematic: "Not all primary school teachers involved in the project were willing to become animators, for which there was no pay."[61] A result of this was that more than half the schools made available for the out-of-school component remained closed. In addition to this, attendance was low and of the approximately one million people with access to a "television school" only approximately 7 000 saw the series (in 1976-7). However, this must be set against the fact that in 1975, two surveys indicate that approximately one million private owners constitute part of the audience for these same series.[62]

Another major problem area was the difficulty experienced in attracting and holding the out-of-school audience, especially rural illiterates, the series' primary audience. There is evidence, according to Grant (1974) that the lack of a comprehensive publicity campaign is to blame for this since potential student-teachers, parents, government cadres, and particularly teachers in the field fail to understand the purposes of the programme. Moreover, Len McAnany and Grant (1977) analysed why the out-of-school component is not being used effectively in rural areas:

> "Audiences do not attend, they say, because many schools are closed, animators are unenthusiastic (because they are unpaid), curiosity has waned and the programmes cannot be understood, particularly under such poor physical conditions. Those who do attend find themselves squeezed on to benches made for young children, the only light

> coming from the television screen. They cannot understand the French commentary themselves, and it is difficult for an animator to provide simultaneous translation. At the end of the programme, which lasts about half an hour, most leave. Those who stay are quite often more fascinated by images and the now silent screen than by discussion conducted in its ghostly light. This discussion is characterized by leading questions from the animator and a few timid answers from the audience."[63]

Another more fundamental problem with the project (due to the lack of a comprehensive information campaign) was the perception of the programme as foreign and Western and something for children rather than adults. Hawkridge and Robinson (1977) state that the majority of schools being constructed on the edge of villages were perceived as foreign and priviledged places for children rather than adults. Moreover, teachers are government appointees, often from another tribal group and not proficient in the local language and traditions, with little concern for local matters.

It must be noted, however, that there is evidence that this situation is changing somewhat. Once a stock of programmes was available (by 1977) it became a priority to train nationals to run the project. There now exist local animators responsible for co-ordinating a fortnightly seminar for project teachers. In addition to this a supplement for teachers appears twice monthly in the Party newspaper, to which all teachers subscribe. The Ministry is also

attempting to bring the training to teachers and technical production staff, often recruiting teachers as television production staff.

From an investigation into the effectiveness of lesson and programme content (ie. what is actually taught) the Belgian survey (previously mentioned) found that a large number of students, for example, did not master the first grade curriculum causing problems in the second grade whose syllabus depended on mastery of the first grade lesson content. It was noted that particular difficulty was experienced with graphical representations.

Hawkridge and Robinson (1982) also note that the original out-of-school target audience has not really been reached.

> "For example, a series on clean water supplies, broadcast in 1975, produced positive attitudes to change, but no action, according to Lenglet, McAnany and Grant. Villagers took no action about cleaner water because they lacked money and had no access to field experts. They may also have rejected or misunderstood the explanations on television concerning dangers to health. In general, their socio-economic context did not encourage them to take action, and the planners of the project failed to co-ordinate broadcasts with the activities of extension agencies and others who could perhaps help the villagers."[64]

Moreover the actual impact of out-of-school education is becoming more and more difficult to measure since, as the urban out-of-school audience has grown, programme content has been altered, becoming

generally informative rather than directly and intentionally informative.

Also regarded as a negative feature, is the fact that the project never ceased to rely on extensive foreign financial aid, the major donors being: Unesco, UNDP, Unicef, the World Bank, France, Canada, Switzerland, Italy and West Germany. As in other Third World applications, the costs of running the project itself have been very high, as have the costs of the necessary energy sources. Yet many argue that the overriding feature to consider when assessing the overall impact of the project is the fact that it achieved an almost unprecedented increase in school enrolment - from 100 000 to over 600 000 in eight years in the 1970s. It may seem surprising therefore that in spite of obvious areas of success, the Ivory Coast government is now considering disbanding the system altogether.[65]

9.5 ETV IN Brazil - The Maranhão State Project[66]

Brazil is a country which is characterised by its vast distances and sparsely populated areas as well as large cities. Since the late 1960s it has achieved remarkable success in the area of educational broadcasting, utilising both radio and television for applications ranging from overcoming teacher and school shortages and providing literacy training to encouraging a more critical approach to development and education.

This case study deals with the Educational Television Foundation

in Maranhão State (FMTVE) and it has been chosen for two reasons: first, to demonstrate that in spite of the inevitable handicaps which accompany Third World conditions, successful ETV can be achieved through careful planning and, second, for the possible potential application of certain features of the project to development - directed ETV in South Africa.

Maranhão State is located in the north-east of one of the least developed areas of Brazil and FMTVE, "like the State itself, operates under very difficult conditions. There are not enough adequately trained teachers; teachers' salaries are low; students leave school early; buildings are of poor quality, scarcely equipped at all."[67] FMTVE was established in 1970 mainly to combat the severe lack of public school facilities beyond the fourth grade.[68] According to Hawkridge and Robinson (1982):

> "In 1969, there were over 500 000 children in the State seeking primary schooling (grades 1 to 4), but enrolments were only 174 000. For grades 5 to 8, there were only a few private schools in the larger towns for children of relatively wealthy parents, and virtually no public schools at all. Yet the State has 840 000 children aged 10 to 15. A system of schools based on voluntary work (the Bandeirantes Project) was devised for rural areas. For São Luis, the State capital, a television-based school system was proposed that could in due course be extended to rural schools. FMTVE was established to operate this system.[69]

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