THE PROCESS AND STRATEGY OF PROMOTING AND DEVELOPING

AN AUDIOVISUAL PROGRAMME IN KENYA

BY

JAMES ASHIONO BUKHALA

D.F.A., Dip. Ed., Makerere University College, Kampala,
Uganda, East Africa, 1963
M.A. (Ed.), Syracuse University
Syracuse, New York, 1965.

DISSERTATION

Submitted in partial fulfillment of the requirements for
the Degree of Doctor of Philosophy in Instructional
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PREFACE

For a good number of years since becoming a teacher, I became intrigued by what constituted the "professionalism" of teaching. Unlike doctors or other practical professions which have tools of trade and a specific working environment, Kenyan teachers remain without exclusive tools of trade. Their working environment remains the bare old four walls and a blackboard on one of them. If by chance the teachers discovered some tools, then fashioned or participated in fashioning an environment within which the tools and skills could be refined and utilized, that might be the time when the "exclusiveness" of a teaching profession could be acclaimed.

I have also become intrigued with the gap between theory and educational practice; or for that matter, the inability to translate theory into practical action. One way of helping teachers to develop professional outlook, and closing the gap between theory and educational practice is the building of development oriented organization which will

not only help teachers enhance their professionalism, but one that will help to find and organize resources or knowledge for the solution of instructional or educational problems. This requires the adoption of instructional technology.

Several people have contributed to developing my thinking to this end. I should like to thank Dr. Robert A. Cox who sought me where I was and imbued in me the spirit of "audiovisual" approach to teaching. Special thanks go to Dr. Donald P. Ely, who as an advisor and an exemplary teacher provided me with the impulse to delve into fundamentals, practice and process of administering audiovisual programmes. By making it possible for me to receive an assistantship for the purpose of study at this level, he instilled in me the confidence, challenge and courage to try even harder. His interest, counsel, support and encouragement have inspired me all along. I appreciate his guidance as my academic advisor and a member of my dissertation committee.

making it possible for my family to accompany me; and to Mr. Gordon Hagberg of IIE for his assistance in helping me to receive the Fulbright Travel Grant.

Special thanks go to my wife, Faris, for bearing with a student husband. Her patience and company were always inspiring to me.

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CHAPTER I

BACKGROUND TO THE PROBLEM

A Spectrum for Educational Change

During the past decade and half or so, the
promotion of change through educational programmes has
been the most important objective in Africa. For most of
Africa's emerging nation states engaged in the process of
nation-building, education is not only considered as a
prime instrument to development and social change, but
it is also viewed as an economic and political investment.[1]
For as long as economic and political stability, and
social change for development and the over-all process of
nation-building still occupy the top priority in these
nations, there is and will be an increased demand for more
and better education.

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[1]This case was ably put by the Hon. Mwai Kibaki,
an economist, then Member of Central Legislative Assembly
and now Kenya's Minister for Commerce and Industry. The
text of his speech "Education for National Development" is
contained in The Kenya We Want, a report of the convention
on social and economic development in the emerging Kenya
Nation, held in Nairobi, August 12-17th, Nairobi. East
African Printers (Boyds), Ltd., pp. 70-74.

Trump and Dorsey have noted that increased

demands for more and better education often require more

and better facilities for learning and teaching.[1] In

Kenya where these demands were made in the wake of an

acute teacher shortage,[2] a growing heterogeneous student

population, and relatively inadequate learning and

teaching facilities and financial resources, there is an

obvious need for an organization which would control

and/or coordinate instructional efforts and resources

available. This control and coordination requires the

adoption of instructional technology, ("management of

ideas, procedures, machines and people in the instructional

process."[3]) The adoption of instructional technology

implies instructional change; this instructional change

requires a systematic application and/or utilization of

scientific or other organized knowledge to solve the

[1]Lloyd J. Trump and Baynham Dorsey, Focus on Change, Guide to Better Schools (Chicago: Rand McNally and Co., 1961).

[2]The teacher shortage was reflected in the Government Report, High-Level Manpower Requirement and Resources in Kenya, 1954-1970. Ministry of Economic Planning and Development (May, 1965); the increased demands for quality and quantity are reflected in the Kenya Education Commission Report, Parts I and II, 1964 and 1965 respectively and the Development Plan 1966-1970, pp. 305-314. These documents are available from the Government Printer, Nairobi.

[3]Charles F. Hoban, "Memo on Instructional Technology," prepared for the Commission on Instructional Technology, University of Pennsylvania (Mimeographed, 1968).

practical tasks related to how learning, instructional, or educational goals will be achieved.

Kenya's long-range educational goals foresee eradication of ignorance by providing a minimum of seven years of free education,[1] ensuring enough places at secondary and higher levels to educate those with recognized abilities, and organizing "the educational system to meet the manpower needs of the country."[2] In order to meet these goals, the need is for developing programmes, strategies, and facilities which are adaptive and creative in nature. If the programmes and strategies are to be successfully developed, directed and planned, the need is for innovative organizations devoted to instructional change.

Information Scarcity

For the purposes of managing, directing, and maintaining instructional change, developing countries are busy creating, or being encouraged to create, change-inducing and change-protecting formal organizations. In Kenya where "there is not yet a body of knowledge on the process of developing innovative institutions, and on the

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[1] An earlier expression of these goals was made in What a Kanu Government Offers You, a position paper issued during election campaigns by the now ruling party, the Kenya African National Union (Kanu), published by the Press and Publicity Department, KANU, 1960, pp. 4-5.

[2] Development Plan, 1966-70, p. 305.

strategic choices and critical decisions of institution

builders,".[1] these organizations are still faced with

problems of building, operation, and survival. Yet to

have this body of knowledge is crucial in Kenya, (and

all developing countries) which needs to develop organiza-

tions responsive to national instructional problems. One

such instructional change-inducing and change-protecting

formal organization--whose need for building prompted the

need for this paper--is the National Educational Media

Resource Centre.

To build and maintain a National Educational Media

Resource Centre Kenya and other developing countries need,

without copying, to "draw advantageously and productively

upon,"[2] practical experiences and intuitive insights of

practitioners in developed countries. Besides drawing

judiciously from technological resources of developed

countries, practitioners in Kenya could also use the

theoretical and research findings of scholars working in

the areas of social change, organizational behaviour,

administrative theory, and institution building in planning

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[1] Milton J. Esman and Hans C. Blaise, _Institution Building Research: The Guiding Concepts_ (Pittsburgh, Penn. University of Pittsburgh, 1966), mimeographed, p. ii.

[2] Julian Friedman, "Problems Facing New Nations," _The Kenya We Want_, op. cit., p. 38.

for building and operating particular organizations which
they require. These areas must effectively converge with
educational media practices for effective organization
and development of an audiovisual programme such as the
one Kenya has been attempting to promote.

This study, taking Kenya as a case in point, will:
(a) take note of Kenya's approach to media institution
building and the problems encountered, (b) reflect
the experiences and intuitive insights of change agents
and institution builders of developed countries, and
(c) attempt to merge Kenya's practical lessons of exper-
ience, intuitive insights of practitioners, theoretical
and research findings of scholars working in the areas
of social change, organizational behaviour, administrative
theory, and institution building[1] with educational media
practices to develop systematic action strategies which
would serve as guidelines in the building of the centre
in Kenya.

[1]Institution building as used in this study refers
to "the planning, structuring, and guidance of new or
reconstituted organizations which (a) embody changes in
value, functions, physical and/or social technologies;
(b) establish, foster and protect normative relationships
and patterns; and (c) attain support and complementarity
in the environment." Ibid., p. 2.

The National Audiovisual Centre--
An Abortive Attempt

Following the UNICEF and UNESCO effort in donating numerous pieces of equipment to Kenya,[1] the United States' Agency for International Development (USAID) had been giving massive support (personnel as well as financial aid) to the Kenya Government.[2] Encouraged by UNESCO,

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[1]Due to the lack of any inventory, and the fact that most of the equipment is scattered all over the country, the writer could not ascertain the exact number of pieces of equipment now held by the Kenya Government. Most of the equipment is, however, apparently held by the Department of Community Development in the Ministry of Cooperatives and Social Services.

[2]Apart from advocating the building of a regional centre to serve the Eastern African countries, the USAID has been instrumental to the development of several audiovisual services. These services include: (a) the audiovisual centre at the Kenya Institute of Administration; (b) the audiovisual programme for Agriculture and Animal Husbandry in cooperation with the Department of Cooperatives, located at the National Agricultural Laboratories site; and (c) the Ministry of Health's audiovisual programme (initiated by UNICEF). Although it had been anticipated that this centre would develop into a national centre, the programme ran into very early difficulties of location, management and personnel allocation. Thus the National Audiovisual Centre did not materialize.

UNICEF, and USAID, the Kenya Government has been trying,

without success,[1] to develop one single institution--

the National Audiovisual Centre--to take the place of

the existing facilities. Instead of integrating the

available services various ministries have gone ahead to

develop their own services. For a country with meagre

financial, human, and physical resources like Kenya, it

could be uneconomic to run many separate institutions

which, in most cases, are underutilized.

Problem Rationale

Of those institutions that have been established

in Kenya to foster the development of audiovisual programmes,

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[1] In 1964 the Kenya Government asked a UNESCO
expert to look into the organization of a National Audio-
visual Centre. The expert, Alexander Shaw, submitted his
report--"The recommendations to the Government of Kenya
for the reorganization of the National Audiovisual Centre
and for meeting the demands of the ministries for local
film production for mass education purposes and the pro-
jection of Kenya abroad." (Nairobi: UNESCO, January,
1965), later in the year, the Kenya Government Cabinet
Development Committee was invited to approve the establish-
ment of the new reconstituted centre to be organized by
the Ministry of Labour and Social Services. The Cabinet
expressed its approval, but no national centre was built.
In June, 1967, the Permanent Secretary, Ministry of
Economic Planning and Development, located the centre at
the Kenya Institute of Administration and put its control
under an inter-ministerial committee. Inspite of this
action, there is neither the national centre nor the inter-
ministerial committee.

some have been effective, while others have not been. Most of the equipment that was donated by UNICEF and UNESCO is not widely utilized, neither is it clearly known where the equipment is. The general problem appears to be related to why certain institutions being introduced in developing countries are accepted while others are not: Why, of those institutions that have been built, some have their impact felt and their innovations accepted for adoption, while others are threatened with apathy, indifference, and continue to fight for their survival.

It would appear that in many ways the process of setting up an acceptable audiovisual programme is in no way different from the task of introducing any new technological facilities. In this case, the National Audiovisual Centre and the programme it stood for (including audiovisual equipment donated by UNESCO and UNICEF) in Kenya was for all practical purposes an innovation. It was therefore subject to resistance like any other innovations being introduced by a foreign agent. The reasons for this resistance were as much the same

reasons for resisting any alien innovation, or else the

reasons could be indigenous and typical to Kenya alone.

It may be that the failure to integrate these

services could be due to: (a) the lack of an advocate

and an effective agent of change;[1] (b) the fact that the

power group was not convinced of the need for an integrated

centre, and neither were they committed to building it;

and (c) the lack of relevant information of action

strategies and choices in planning for the building and

maintenance of the centre. It was thus postulated that

the perception of the need for the centre, the securing

of a commitment or legitimacy for building and maintaining

the centre, and the winning of support from the power

group and the social system and/or environment are critical

phases in the promotion and development of an audiovisual

programme. Because of the separatist movement and the

lack of an advocate and a committed support from the

leadership, the National Audiovisual Centre remained an

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[1]An advocate is defined as an individual or agency
sponsoring an innovation for the express purpose of gaining
its acceptance by others; and an agent of change refers
to an individual or agency, in a consultation and collabora-
tive relationship with a potential acceptor of an innovation,
whose sole purpose is to facilitate the acceptance and
integration of an innovation within the norms and values
of a social system. He advises on the consequences of
rejecting and/or accepting the innovation within a change
situation.

establishment on paper, yet in search of physical existence.

Hypothetically, the inauguration of such a programme like the one USAID, UNESCO, and Kenya Government have unsuccessfully tried to start must take into consideration the characteristics of indigenous political power structure, cultural variables, and the sophistication levels of those to build and operate the centre. In order for the institution to be accepted and effectively respond to the needs of the social system, it must take into account the needs and characteristics of indigenous cultural variables. If theories guiding the centres' building are to be accepted for application in developing countries, they must take into consideration matters and problems or phenomenon of local practical concerns.

The Problem

In order to avoid a recurrence of the past obstacles, an initial problem that this study is addressing itself to is to learn why, despite the many attempts to build an integrated audiovisual programme, Kenya has not been successful.

The motivation is to understand the nature of
failure to integrate existing audiovisual centres in Kenya,
and why those that are already-built flounder, as a prelude
to successful building, operation, and maintenance of the
prospective National Educational Media Resource Centre.
This desire to avoid possible resistance to the centre
and build an integrated audiovisual centre to guarantee
permanence of instructional change in Kenya called for a
careful study of change phenomenon, institution building,
how innovations are introduced, and the characteristics
of what is likely to be rejected or accepted.

Questions and Purpose of the Study

This study is undertaken in an effort to develop
a guideline programme and/or strategies of developing and
promoting audiovisual programmes. It will attempt to
provide answers to the following questions:

1. How best can a media specialist demonstrate
   the need for a national audiovisual centre to local
   power groups in order to get their commitment
   and support for building it?

2. What are the ways and means of planning,
   structuring and guiding the building,
   growth, and internal maintenance of the
   centre?

3. Once built, what approaches does the centre
   adopt in order to <u>survive</u> while simultaneously
   and successfully <u>introducing</u> and <u>guiding</u>
   <u>significant</u> <u>instructional</u> <u>changes</u> in a social
   system and/or environment.[1]

Since answers to these questions are crucial if
the past mistakes are to be avoided, this study will attempt
to identify:

1. Significant procedures and strategies that
   could be used to <u>convince</u> the <u>power group</u> of
   the <u>need for</u> the <u>centre</u> in order to get their
   commitment to building it.

2. An organizational structure, administrative
   strategies, and psychosocial variables that
   could serve as guidelines in the <u>building</u> and
   <u>internal maintenance</u> of the centre.

3. Significant procedures and strategies that the
   centre could adopt to gain <u>acceptance</u> and

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[1]A social system and/or environment may be defined
as a population of individuals functionally engaged in
collective collaborative problem solving crisis management
or tension reducing behaviour; an environment is taken
to mean a set of organizations and individuals with which
the (centre or) institution is interdependent in performing
its functions and services.

continued support while simultaneously
introducing significant instructional
changes within the environment.

Assuming that there are strategies and procedures

for convincing the power groups of the need for the centre;

that there are administrative strategies and psychosocial

variables that facilitate the planning, building, maintenance,

and utilization of the facilities of the centre; that there

are ways and means which could be used by the centre to

solicit and gain the acceptance of their innovations, then

Kenya would be the initial beneficiary.

Assumptions

In considering the strategy of promoting and

developing an audiovisual programme, the following assump-

tions have been accepted:

1. The building and internal maintenance
   of an audiovisual centre or an institution
   takes precedent over the programme the centre.
   has to promote.[1]

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[1]Apart from observing that "the introduction of changes
takes place primarily in and through formal organizations.
These organizations symbolize, promote, sustain and protect
innovations," Esman has noted that given the choice of protecting
an organization and promoting its change objectives (in this
context the objectives of an audiovisual programme for
instructional change) the leadership must always act to
"protect the organization. . .because the survival and viability
of the organization is a necessary (though not sufficient)
condition to the achievement of its change objectives"
(Esman, 1967, pp. 1-2, and 62-63, respectively).

2. There are "constants" of administrative
   and change strategies that could serve
   as guidelines in generating the need for
   the centre, its building, maintaining, and
   securing its survival.

3. The promotion and development of an audiovisual
   programme is an activity of planned instructional
   change involving "a change agent, a client
   system, and a collaborative attempt to apply
   valid knowledge to client's problems."[1]
   The promotion of an idea of building an
   audiovisual centre is an act of collaborative
   planning involving an advocate and/or change
   agent and a Government or a social system. It
   also requires knowledge about the social systems'
   educational or instructional problems.

4. The action strategies that a change agent or
   an advocate uses to create a need awareness
   for the centre, are also useful for the centre
   to create the need awareness and the eventual
   adoption of innovations.

5. That the above assumptions can be applied
   with reasonable confidence in cross-cultural
   and international situations. In this case
   it could be assumed that Kenya can benefit

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[1] Warren G. Bennis, et al., The Planning of Change
(2d ed.) (New York: Holt, Rinehart and Winston, Inc.,
1968), p. 65.

from (a) practical experiences and
intuitive insights of other successful
institution builders, and (b) theoretical
and research findings of scholars working
in the area of administrative theory, social
change, organizational behaviour, and
institution building. Further, that these
could be merged effectively with Kenya's
lessons of experience and educational media
practice in the development of action strategies
which could serve as guidelines in the promoting
and developing an audiovisual programme.

6. The task of setting up an audiovisual programme
in any social system is in no way different
from the attempt to introduce any one of a
variety of technological facilities. In this
respect, an audiovisual programme is an
innovation subjected to resistance as any
other innovations. The reasons for the
resistance to any innovations being introduced
in any country by an alien agent could be akin
to that particular country or they could be univers

Guiding Propositions

The purpose for this study was established in the
light of problems confronting the integration of existing
audiovisual services. In initiating effective treatment

of these problems, the following propositions became latent:

1. The presence or absence of a committed advocate invariably affects the rate of institution building process.

2. A systematic collaborative planning effort is necessary for creating an awareness of a need for and gaining a commitment for building a particular institution.

3. Institution building--and then maintenance--is a critical initial process in the actual work of planning for and introducing instructional change.

4. Characteristics of innovations, elements of diffusion, and the relationship between the institution and the environment are critical factors to be studied in the process of an institution's gaining of acceptance and continued support if it has to introduce significant instructional changes in the environment.

Design of the Study

The design of this study has two basic components which are simultaneously integrated. First, the <u>formulation of a conceptual model</u> of change based on (a) a survey

and review of pertinent literature, and intuitive insights
of practitioners, (b) visits, observations of, and inter-
views at selected institutions, and (c) the analysis
and synthesis of the information derived therefrom.

The second component is the application of the
model in (a) the analysis of Kenya's abortive attempts
at integrating the audiovisual services, (b) the formula-
tion of the administrative strategies and psychosocial
change variables for (i) generating need awareness and
securing a committment for building the Centre. (ii)
institution building and maintenance, and (iii) motivating
a social system to change, and facilitating change and
acceptance of innovations; (c) incorporating the
administrative strategies and psychosocial variables into
principles, practices and intuitive insights to form a
basis of action strategies being investigated, and
(d) developing major variables in the cumulative strategy
model, and in providing hypothetical statements explaining
the different rates of growth in institutions.

Organization and Limitations

This is primarily a hypothesis generating analytical study. The case in point is Kenya, and the areas of study to be merged are social change, administrative theory, organizational behaviour, institution building, and organization and administration of educational media practice. The study does not deal with financial allocation or sources of financial support for the programme. It is an essay on the politics, psychology and the theoretical basis of certain commonly used procedures in setting up audiovisual programmes.

While the Introduction has provided the nature of the problem, Chapter II will attempt to provide a conceptual model of change. Evidence in support of this model will be drawn from intuitive insight, and observation of men and institutions in real life situations. Finally, theoretical basis as presented in literature will be reviewed. On this basis, a theoretical foundation of prospective administrative procedures to be applied in the analysis of the case study country's problems will be laid.

Chapter III will operationalize the conceptual change model by putting it in the perspective of Kenya. the chapter seeks to establish that a discrepancy exists between what Kenya aspires to be and what Kenya is actually heading for. The discrepancy will be established through an examination of a variety of problems facing educational planners and instructional systems designers. The purpose for the analysis of the problems is two-fold. First, it means to establish a problem awareness and thereby develop the need for an audiovisual programme in Kenya. Secondly, it tries to demonstrate the need for an audiovisual centre and the various ways in which the centre might affect and be affected by the social system and/or the environment. Presenting the centre as a system, the chapter develops an input-activity-output model to show how the centre might develop conversion functions (services) in response to the inputs put to it from its environments' needs.

Preparing for building an audiovisual centre often requires establishing the need for the centre to be followed by a survey of existing facilities. Chapter IV seeks to

establish what Kenya's existing facilities are. The purpose
for this approach is not only to illustrate the application
of the conceptual model (mobilization of own resources)
but also to determine the sources of failure in the establish-
ment of an integrated programme. To facilitate better
analysis, Lippits diagnostic orientation considerations are
also applied.

While the building of a centre requires that the
builder learn from the past mistakes (identified in
Chapter IV), it is also important that several conditions
be fulfilled. Chapter V seeks to identify these conditions
by reviewing and synthesizing research findings and
theoretical conclusions of scholars working in the area
of institution building, social change, organizational
behaviour, and administrative theory. A conceptual frame-
work representative of "action strategies" or considerations
for building the centre are developed therefrom.

Chapter VI develops an overview of the nature and
function of educational media and the National Educational
Media Resource Centre. Conversion functions (what a centre

does in order to convert the inputs--requests and needs--
into outputs or services) related to the needs generated
in Chapter III are presented.

Chapter VII attempts to present a hypothetical
explanation of the abortive attempts and the different
rates of institutional development and growth. A cumula-
tive strategy model is extrapolated.

The over-all plan to be followed in this document
is to pick from observations of everyday experiences about
motivations to change, and therefrom project the various
situations in which change is likely to occur. Pertinent
theoretical basis for the everyday phenomenon will as far
, as possible be supplied.

Summary.

The advent of independence in developing countries
often reveals a stark reality of cultural, social, political,
economic and intellectual inadequacy. The burden of this
inadequacy has often led to a greater stress on educational
programmes. Due to insufficiency of resources, educational
programmes cannot establish the idealized states in the

short time that is often expected. Coupled with a greater demand for quantity and quality there is a need for innovative approach to the solution of the insufficiency of resources if the demands are to be met.

The increased demands for educational quality and quantity require the incorporation of instructional technology in the instructional process of learners and the preparation of teachers. To initiate, promote, and protect instructional technology, there is a need for organizations within which the "innovation (instructional technology) can be fostered. Despite the lack of information on the building of such organizations, the Government of Kenya, with the support and encouragement from UNESCO and USAID, tried to introduce a national audiovisual programme through a number of audiovisual centres. Since 1965 the Government of Kenya has attempted, without success, to integrate these centres into one, the National Audiovisual Centre.

Kenya's practitioners need and can benefit from proven theoretical knowledge from scholars with a bias toward social change, administrative theory, organizational behaviour, and institution building. These areas, it was hoped, could be effectively merged with educational media practice, synthetized, and analyzed, and therefrom develop action strategies to be incorporated in the strategies for building the National Educational Media Resource Centre.

In a brief survey, the present chapter has sought to present the basis of Kenya's instructional or educational problems. Noting the lack of institution building information and how this has led to abortive attempts at the solution of the problem, it became obvious that a search for information related to a study of change phenomenon, institution building, and characteristics of what is resisted or accepted was necessary. Accepting this challenge, this study was conceived as a contribution to the understanding of why Kenya has not been successful in integrating her audiovisual services, and perhaps also add to the understanding of why there are differences in institutional

rate of growth. Taking Kenya as a case in point, the study will incorporate (a) Kenya's lessons of experience, (b) practical and intuitive insights of institution builders, and (c) theoretical findings of scholars working in areas of social change, administrative theory, organizational behaviour, and institution building in the development of action strategies for the analysis of Kenya's problems, and the subsequent development of Kenya's audiovisual programme.

CHAPTER II

THEORETICAL PERSPECTIVE

Discussion

The lack or presence of motivation to change
revolves around certain idealized or referral states.
These states vary from person to person, group to group,
or institution to institution. They vary from time to
time, and from environment (or situation) to environment.

Institutional idealized states include among
other things, the search for equilibrium, and good will
with potential customers. Institutional aspirations include
efficiency and/or effectiveness.

Individuals or group referral states include the
search for painlessness, happiness, enjoyment or personal
comfort. The advent of new situations that create a
discrepancy in the hitherto accepted states present an
obstacle to attaining the aspired states, and the
obstacles created, and the situations from which they

arise constitute a threat to the institution or individuals.
On the other hand, the advent of new situations that
eliminate discrepancy, disequilibrium, and obstacles that
instead enhance, perpetuate, or bring about better ways
of attaining desired states are often attractive to
institutions or individuals.

Thus the acceptance or rejection of an innovation,
the acceptance or resistance to change is dependent upon
the extent to which change or innovations are threatening,
blocking, or attractive in the attainment of referral
states which are painlessness, personal comfort, efficiency
and effectiveness etc.

Conceptual Model of a Change Phenomenon

The conceptual model of change phenomenon postulates
that a move towards changing does not begin until new
internal and external threats to idealized states are
perceived (Figure 1), or that the motivation to change is
stimulated by the advent of attractive states necessary
for eliminating phenomenon blocking the attainment of the

CHANGE CONCEPTUAL MODEL
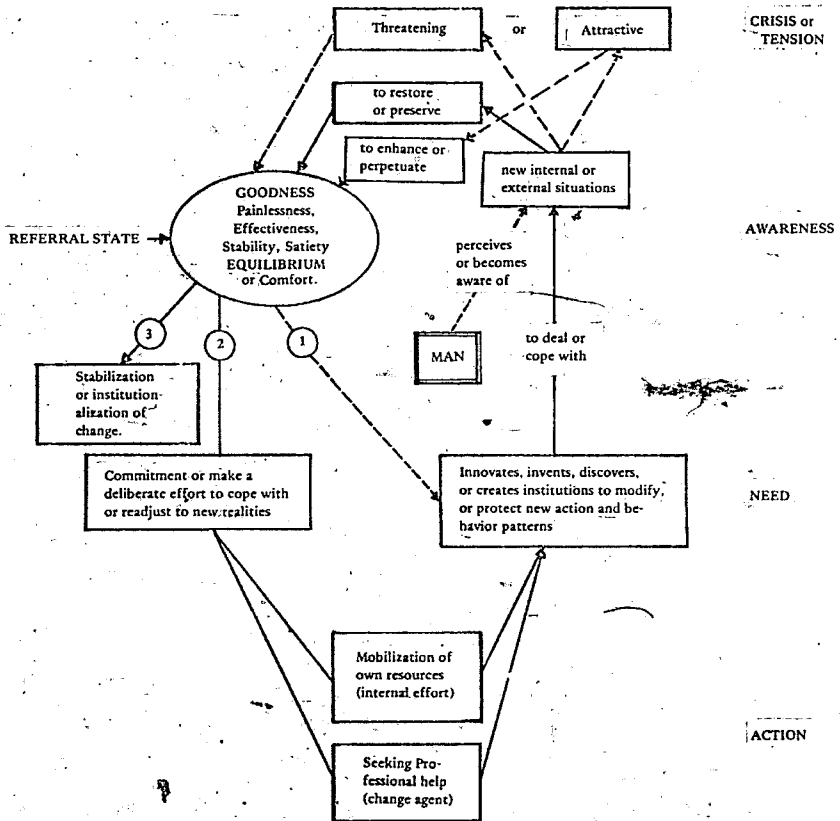
Figure 1

desired, and idealized states. The perception of external
and internal threats or attractive situations result in
the need to invent, modify or adapt and/or adopt existing
or new patterns of behaviour or seek information which is
necessary in dealing with whatever is threatening, or
incorporate whatever is attractive. This is followed by
decisions to make a deliberate effort to cope with the
hitherto unrecognized external realities. The decision
is followed either by the mobilization of the system's
own resources or by a search for outside help. (In Kenya,
this has taken the pattern of self help projects, and
the search for technical aids). If a decision to seek
external help is followed, then there is a need to open
meaningful communication and establish a helping or
collaborative relationship between the external helper
(the change agent) and the system. The effort of mobilizing
internal and external resources is directed to finding
information or new ways of inventing, or modifying patterns
of action to deal with and control new realities, or
restore and perpetuate an accepted state, or attain
idealized states.

Invoking Problem Perception

Not all social systems which need to change acknowledge the existence of a problem. To initiate problem perception, several action strategies have been suggested besides crisis prediction or tension creation. The first technique is referred to as shock technique.[1] Shock technique includes the dramatization of discrepancies between what a social system is and what it ought to be, and between professed and accepted values. Another aspect of shock technique is the use of organized feedback system which seeks to reveal the discrepancy between what a social system thinks it is expected to do and what it really is expected to do.

The second technique is the use of infiltration agents or opinion leaders whereby the social system's most sensitive group or opinion leader is utilized to stimulate sensitivity of others to the problem. The opinion leader, being more innovative than his peers holds a position of influence in respect to adoption of decisions. He holds this position because of his prior

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[1] A fuller account of these strategies of developing sensitivity to problems is contained in Ronald Lippit et al., The Dynamics of Planned Change (New York: Harcourt, Brace & World, Inc., 1958), pp. 147-159.

experience in innovations. This potential influence is what is maximized. The third technique is what is often referred to as "observer technique" where the observer seeks to win acceptance but remains a persistent questioner making thoughtful inquiries about some aspect which needs improvement. The fourth technique is stimulating an aspiration for improvement by portraying "images of potentiality," or creating a "special social atmosphere in which "a social system comes to "recognize the existence of problems and the need for help,"[1] as the accepted standard or convention.

The Basis of a Collaborative Relationship

There is a need for a collaborative relationship between the social system and a change agent. (A change agent is "any agent used by a client system to help bring about improved performance.")[2] Collaboration is necessary if the social system has to cope with the threatening situation, or if it has to incorporate the attractive situations in its patterns of action. Collaboration is also

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[1]Ibid., p. 155.

[2]Warren G. Bennis et al., The Planning of Change (New York: Holt, Rinehart and Winston, 1961), p. 17.

necessary if the change agent has to participate helpfully, and yet remain an objective observer.

While observing that "It is not easy to do this in the atmosphere of group difficulties,"[1] Elliot Jacques makes a case for collaboration as an effective means of participating helpfully. He argues that collaboration enables a community to incorporate social science knowledge and techniques in order that it may cope more adequately with its own community problems.

Collaboration assumes two basic parties who are both willing to affect and be affected by each other. There must be a change agent who is not only sensitive to the social system's problems, but also who has the necessary competence in theoretical knowledge and intuitive insight. This competence would enable him to diagnose problems and advise on the consequences of taking or not taking a certain line of action. The social system must not only perceive the problem, but they must also acknowledge the problem's existence. Above all, participants in the social system must be willing to affect, and be affected by,

[1] Elliot Jacques, "Social Therapy: Technocracy or Collaboration?" Journal of Social Issues, Vol., 2, Spring 1947, pp. 59-66.

the change agent.

Effective collaboration thus assumes the presence of a competent change agent who is willing to make his services available to a social system, a threatened social system, a problem, threat, or discrepancy to be dealt with, and the social system's acknowledgment of the change agent's ability to help them in the solution of their problem.

Very often a social system may not perceive a problem; because of his perceptive insight, the instructional change agent perceives the problem before a social system does. The problem before the change agent is thus how to invoke the perception of the problem in the social system. The techniques of invoking problem perception vary from group to group and agent to agent. This section has suggested shock techniques, opinion leader, observer techniques, portraying images of potentiality, and problem census.

Facilitating the Change Agent's Involvement

Besides the sensitivity to the problem, and the search for external help, there are other tendencies that are advantageous to the change agent's involvement.[1]

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[1]Lippit, et al., op. cit., refers to these as forces or stimulus toward innovation, pp. 4-5.

The tendencies include human readiness to: (a) seize
new opportunities which can be used to modify natural
resources or technologies; (b) utilize and adjust to
changes that are constantly being created as a result of
modifying the natural resources and technologies;
(c) engage in a competitive process, and thus show
readiness to discover improved and changed ways in order
to establish superiority or supremacy over fellow man;
and (d) realize that familiar and conventional ways are
no longer functional in any new environment that might
be created.

The motivation to change is thus seen as the
beginning of a problem solving effort aimed at restoring
or reestablishing, attaining, or enhancing idealized states.
A change agent will be more acceptable: (a) if he has
new relevant, improved and difficult to obtain information,
or if, (b) he advises appropriately on the consequences
of certain courses of action in the light of the changing
environment.

The conceptual model thus far developed takes cognisance of Lewin's three phases; "unfreezing (if necessary) the present level, moving to the new level, and freezing group life on the new level."[1] This was later expanded by Lippit to[2]

1. Development of a need for change ("unfreezing")

2. Establishment of change relationship

3. Working towards change ("moving")

4. Generalization stabilization of change ("unfreezing")

5. Achieving a terminal relationship

An important factor presented in the conceptual model, but only implied or assumed in these phases is the awareness and the perception of a problem or acknowledgement of the existence of a discrepancy. As part of the first order in the five phases, the conceptual model starts with the perception and acknowledgement of the existence of a problem as a basis of stimulating the need for change. Thus only after a discrepancy is observed, and an accepted or desired state is threatened, is the

[1]Kurt Lewin, "Frontiers in Group Dynamics," Human Relations, I (1947), 5-41, 34.

[2]Lippit, et al., op. cit., pp. 158-130.

need for change developed. It is equally true that it is not only the perception and recognition of a problem, that leads to the need for change, but also the acknowledgment of the problem's existence and the willingness to be affected by a change agent.

Evidence from Intuitive Action

There are in life, sufficient examples to support the conceptual model illustrated in Figure 1. The evidence is numerous and impressive. For example, the twentieth century man, remembering the devastation of the last world war and faced with the possibility of another war is now exploring the possibility of attaining world peace in order to preserve idealized state of affluence and what is often referred to as civilization. While exploring the possibility of attaining peace, man is also harnessing technology to repair the damages of the previous war, to develop and perpetuate creature comfort or affluence, and to protect himself against the possibility of another war which would lead to a total destruction of civilization.

Once troubled with hunger and famine, hungry nations look for new sources of food, while harnessing agricultural technology to restore equilibrium of food production in relation to population growth.

Nations which are overwhelmed by the unprecedented growth of knowledge have often harnessed technology in order to avoid the discrepancy caused by the growth; other nations have established information clearing houses in order to avoid the increase of ignorance.

In life, therefore, there is sufficient evidence of intuitive action to support the view that: (a) man does not act, and neither does he collaborate with anyone unless he has a task to accomplish, or a tension to reduce, a crisis to manage or a discrepancy to eliminate; (b) that man tends to look for new ways or utilize available resources to his advantage, and not to his disadvantage; and (c) that he needs to recognize that old ways become obsolete as new circumstances and problems arise.

The instructional change agent has a better chance

of inducing change if he collaborates with a social system
which has perceived and recognized the existence of a
problem, and if it has resolved to manage the crises,
recognized the competency of the change agent, asked
him to avail his services to them, and decided to solve
the problem in collaboration with the change agent.

Theoretical Evidence

Of special significance to the instructional change
agent are principles of crisis management discussed by
Gross, tension reduction discussed by Jacques and Page,
problem solving and systems preservation discussed by Chin,
and the systems' desire for good-will with their environment
as discussed by Lippit. The theoretical evidence implied
in these principles provides further examples to support
the view that collaboration does not start unless there is
a crisis to manage, tension to reduce, problem to solve,
or a system or idealized threatened state to preserve;
that the threatened party must acknowledge the problem
and be willing to resolve the problem; that the party
must be willing to engage in a problem solving collabora-
tive effort with the change agent.

The following section will give examples of
theoretical basis of tension reduction, crisis manage-
ment, and systems preservation, in that order.

(a) Tension Reduction

Already in existence are theories which are
suggestive of instructional change agent's possible action
strategy. Max Page observes that "There is present inside
social groups a self regulating mechanism tending to
reduction" Page states that: "Reduction of tension is
necessary to the satisfactory functioning of a group."[2]
and he goes on to observe that this reduction of tension
through a mechanism of self regulation is a

> collective process that implicates the whole
> of the particular social group or enterprise.
> Change can take place inside such a group
> only when the whole of the group recognizes
> its problems, succeeds in diagnosing them, and
> is able to plan a corrective form of action.[3]

On this basis an instructional change agent has to bring
about the recognition of a problem, a commitment to deal
with the instructional problems, and the involvement of

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[1]Max Page, "The Sociotherapy of the Enterprise,"
in Bennis, op. cit., p. 176.

[2]Ibid., p. 179.

[3]Ibid.

all those concerned. The change agent has to secure collec-

tive participation from those who are concerned. To be

able to do this, the instructional change agent must

facilitate effective communication between him and the

social system, as well as between the elements concerned

with the problem.

In addition to Page's theory, Chin adds that

"Tension reduction within the system's subsystems and/or

between the system and the environment is essential for

the survival of the system."[1] As a mechanism of survival,

Chin noted that a "system is assumed to have a tendency to

achieve a balance among the various forces operating within

it and upon it."[2] Systems often resist these external

forces by refusing to acknowledge the existence of the

force, and by building a protective wall against intrusion,

or by bringing into play anything that might restore

balance, or accommodate the tension by achieving a new

equilibrium.

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[1]Robert Chin, "The Utility of Systems Models and Developmental Models for Practitioners, Ibid., p. 204.

[2]Ibid.

(b) Crisis Management

Similar to the concept of tension reduction is the concept of crisis management implied in Gross's observation that "The perception of imminent crisis is usually a neces-sary (although not sufficient) condition for the emergence of national planning."[1] If planning is taken to mean intended self-generated adaptive rationality aimed at coping with new circumstances, then management of the new situation is essential to the functioning of a social system. The concept of planning also involves collabora-tion in the management of a crisis arising from the new circumstances. Like tension reduction, the directionality toward planning for change begins with the perception of a crisis, or the setting up of objectives representing the idealized state.

Both the concepts of crisis management and tension reduction accept the perception and acknowledgment of a problem as a _sine qua non_ of beginning the process of changing.

[1] Bertram M. Gross, "National Planning: Findings and Fallacies," _Public Administration Review_, XXV, No. 4 (Dec. 1965), 265.

c) Systems Preservation

Another theoretical concept which is a useful way of looking at a change phenomenon within an institution is Chin's systems model.[1] According to this model, the departments, the working group in an institution or organization, or management, could constitute subsystems within an audiovisual centre. The external system is made up of clients, and the environment or subsystems within which the centre is built.

In his systematic analysis of an institution, Chin introduces a cluster of major concepts. The first concept is a system which recognizes the need for "interaction, interdependency, and integration of parts and elements"[2] within the organization or institution. The second concept of a boundary specifies what is inside and outside. Because of the defined boundary, systems have an inherent tendency to preserve and perpetuate themselves by shutting themselves from outsiders. The third cluster of concepts revolve around equilibrium or a "steady" state. Any phenomenon that threatens this state is said to bring

[1] Chin in Bennis, op. cit., p. 202.

[2] Ibid., p. 203.

about <u>tension</u>, <u>stress</u>, <u>strain</u> and <u>conflict</u> to the organiza-
tion or institution. While avoiding these negative states,
a system has a tendency to achieve an equilibrium between
its subsystems on the one hand, and between itself and its
external systems on the other hand. The final concept is
that of <u>feedback</u>. Arguing that a system is never closed
completely from the environment, Chin asserts that the
system is affected by the environment's requests (inputs
from external systems) and reactions to the system's
presence or existence.

As the system affects the environment, "Systems
gather information about how they are doing. The information
is then fed back into the system as inputs to guide and
steer its operation."[1] This feedback is essential for the
maintenance of goodwill between the system and its
environment. Thus institutions aspire to attain both
internal and external equilibrium, and goodwill for their
own survival.

[1]<u>Ibid</u>., p. 206.

Phases of a Change Situation

To help the instructional change agent to guide and facilitate change during the various phases of tension reduction or crises management process, Lippit suggests the following strategy:[1]

1. The development of need for change (tension creation, crises prediction etc.)

2. The establishment of a consulting relationship (between the instructional change agent and the target social system).

3. The clarification of the client problem.

4. The examination of alternative solutions and goals.

5. The transformation of intentions into actual change efforts.

6. The generalization and stabilization of a new level of functioning group structure.

7. Achieving a terminal relationship with the consultant and a continuity of change-ability.

This is in agreement with what was discussed earlier: (1) the need for instructional change agent to perceive a crisis, tension and then get the social

[1] Ibid., p. 161.

system to identify it; (2) the need to establish a collaborative relationship; (3) the need to recognize and identify the hidden or unperceived problems; (4) the need to solicit a commitment to deal with the problem; (5) the need to examine available facilities,[1] and (6) the need to act by building the centre.

Thus an instructional change agent could derive effective change strategies implied in the theories of tension reduction, crisis management, or Toynbee's challenge responsive, Lewin's Quasi-stationary-equilibrium, and Lippit's dissatisfaction and the need to move to a better state. Likewise, once the centre is built, it could adopt a similar strategy to gain its own acceptance in order for the social system to see it as intrinsically valuable. Whatever strategy is used, it is essential to heed Page's observation that "Any strategy of change is doomed to failure that is founded upon communication to the group of a diagnosis or of a plan of action not arrived at by the group itself."[2] This is why this paper has so

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[1]The basis for examining available facilities is either to prepare a strategy of developing a discrepancy, or indicate what available resources could be used in tackling the new circumstances.

[2]op. cit., p. 180.

far stressed the need for a systematic collaborative effort of planning for the centre.

In view of the foregoing theoretical perspective, it is evident that the collaboration between an instructional change agent and a social system is facilitated when the agent initiates the perception of a crisis, tension, a discrepancy, thus stimulating the social system's awareness of the need for and a commitment to building the audio-visual centre.

The Process Strategies in a Planned Change

In summing up, the establishment of a collaborative relationship between the social system and the change agent marks a commitment to the beginning of the process of planning for change. The strategy of planning for change calls for a number of process strategies.[1] First, is the recognition of a problem or crisis on the basis of which objectives (representing an acknowledgement of the existence of the problem) can be formulated. The second process strategy is the diagnosis of the root of the problem, and the identification of the hitherto unseen problems.

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[1]This is in agreement with Max Page's successive phases in the process of a planned social change. He lists (i) Recognition, (ii) Diagnosis and (iii) Action, Ibid., p. 178.

The third one is an _action_ to bring about the management of the problem, or the realization of the goals or objectives. A necessary factor of action strategy is the gathering of data, the development of several alternatives, and the establishment of priorities among the alternatives. The final stage is the _evaluation_ of outcomes on the basis of the goals set, and the _feedback_ on the basis of which corrective measures can be taken.

The entire process of feedback in the process of planning for change is very much dependent upon open lines of communications. Without these lines of communications, relevant and important information or data necessary for decisions during all the phases might not reach the destinations for which it is intended.

Stabilizing Change--Institution Building Guiding Principles

Very few institutions have been built which deal with planned change. One of the first studies to deal with this problem was undertaken in 1964 under the auspices of "Inter-University Research Program in Institution Building."[1] The study was undertaken in Nigeria, Equador

[1] This is a consortium of four universities: Pittsburgh, Indiana, Syracuse and Michigan State University.

Thailand, and Turkey with a view to refining, and enrich-
ing the conceptual framework which had been developed by
Esman and Blaise earlier.[1] The study aimed at identifying
"operational methods and action strategies that will be
helpful to practitioners" and those who are "actively
engaged as change agents, particularly in cross-cultural
situations."[2]

The concepts that were tested, and which were
later refined and/or confirmed included "a set of institu-
tional variables which attempt to explain the systematic
behaviour of institutions." These variables included:
(1) leadership, its nature and technical ability;
(2) doctrine, its specificity, and the relativity to
the social system; (3) programme, its consistency,
stability and contribution to societal needs; (4) resources,
their availability; and (5) internal structure, including
effective "distribution of roles within the organization,
its internal authority patterns and communication systems."
The second variables that were tested were linkages.
Admitting that an institution does not exist in isolation,

[1]Esman and Blaise, op. cit., (1966).
[2]Esman, op. cit., (1967), p. 1.

the programme had developed four types of linkages:
enabling, functional, normative, and diffused linkages.
Each of these linkages was related to the different
environments that affected, or were going to be affected
by the institution and its effect as a change-inducing
and change-protecting agent. The third concept that was
tested was institutionality, which was defined as the
"end state . . . [and the]. . . standard for appraising
the success of institution building efforts."[1]

Of particular interest in this study is the fact
that the above concepts were applied in international as
well as cross-cultural situations, and that the concepts
were

> found useful by a group of experienced scholars
> from several disciplinary backgrounds working
> in four countries on three kinds of activities:
> public administration training, teacher education,
> and university administration.[2]

Blaise and Rodrigues commented in their report that

> the institution building concepts provide
> quite a complete set of working elements
> on which to base; and from which to derive
> the approaches and the interpretation of the
> change situations.

[1] Ibid., p. 5.

[2] Esman, op. cit., p. 59.

[3] Ibid., p. 59.

The institution building approach provided the necessary (though not sufficient) conditions for the building of institutions. It seems feasible that these conditions be tentatively incorporated in the building of the National Educational Media Resource Centre.

The question of whether stress should be laid on the audio-visual programme or the institution organizing the programme is also dealt with.

> There is an inherent dilemma between (a) institutionalizing an organization, and (b) ensuring its capacity to continue to invigorate its innovative thrust; leadership in the organization and in linked organizations, and groups will inevitably prefer the former to the latter because (the former) tends to guarantee stability and predictability.[1]

> . . .innovative thrust can be achieved only when (a) it is an explicit and prominent theme in institutional doctrine, and (b) it caters to the interests and needs which are perceived in[2]

the social system or those which the institution helped the social system to perceive through tension creation or crisis prediction.

Institution building research programmes imply that given the choice of choosing between protecting the

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[1]_Ibid_., p. 63.

[2]_Ibid_.

audiovisual centre and promoting an audiovisual programme (the centre's change objectives), they would protect the centre; the survival and viability of the centre is a necessary factor in the centre's achievement of instructional change. Thus they urge that "Institution builders should first emphasize building the organization, then promoting and propagating its change objectives."[1]

This observation underscores the importance of the audiovisual centre's attainment of internal equilibrium. Internal equilibrium puts a great deal of emphasis on the leadership's ability to open communication lines within the institution, encourage effective human relations and to minimize internal conflicts.

A good number of writers (Mayo, 1933; Barnard, 1938; and Metcalf, 1940) have written stressing the need for effective executive functions as a means of guaranteeing organizational viability.

[1]Esman, op. cit., p. 63.

Seeking Acceptance of the Institution

The extent to which an institution is accepted by
a social system is dependent upon a number of factors:
(a) the source of the information about the institution
and the relationship between the source or sender of the
information and the social system; (b) the extent to
which the information content and the institution are
needed by the social system in the modification of
behaviour and action patterns in dealing with new realities;
and (c) how the information about the institution is
conveyed.

(a) Message Sources and Social
    System Relationship

In his analysis of the general ways of knowing or
fixing beliefs about something, Pierce concluded that there
are four methods of knowing.[1] The first method of tenacity
refers to a social system firmly holding information as
the "truth" because it has always held it. Such a method,
Pierce points out, is often enhanced through frequent
repetition of such "truths."

[1]J. Buchler (ed.), Philosophical Writings of
Pierce (New York: Dover, 1955), Ch. 2.

A second method is that of authority, whereby a social system might accept and hold to something because some established expert, prominent socialite or public figure says so. In this respect, if the knowledge or information about the institution has the weight of the top power groups, experts and/or public sanction, then it is likely to be accepted as the truth.

The third method of knowing is the a priori method or the method of intuition[1] whereby information is accepted because it is self-evident or agrees with reason. The problem in this method is one of determining whose reason to accept.

The fourth method of knowing is the scientific method in which a social system could hold knowledge as true because: (1) it is self-correcting; (2) it has built in checks, and (3) it is entirely independent of human opinion.

The analysis of information source divides a social system into four categories: (1) the traditional-conservatives who accept information if it has always been or appears to be held as the truth, (such information is often enhanced by being consistently and frequently told);

[1] M. Cohen, and E. Nagel, An Introduction to Logic and Scientific Method (New York: Harcourt, 1934), pp. 193-196.

(2) the _authority oriented_ group who will accept informa-
tion if it is from an authority who might be a subject
matter expert, or a power authority;   (3) the _intuitive_
or _a priori_ _oriented_ group who will accept information if
it appears to be or is self-evident and stands to reason;
and (4) the _scientific oriented_ group who will accept
information only if it is self-correcting, if the method
used in obtaining it had built in checks, and if it is
free from human opinion.

Rogers, on the other hand, has isolated two types
of sources; the impersonal-personal sources for direct
face-to-face exchange between the communicator and the
receiver, and the cosmopolite=localite sources.   The
cosmopolite sources are sources external to a particular
social system, and localite sources are sources within
the social system. Noting that each of these sources is
required for different stages during the adoption process
for different innovations, and adopter categories,[2] Rogers
concluded that "impersonal information sources are more
important at the awareness stage, and personal sources are

[1]Cosmopoliteness is defined by Rogers as "the
degree to which an individual's orientation is external
to a particular social system," p. 183.

[2]E. Rogers, _Diffusion of Innovation,_ The Free
Press, 1968, pp. 179-182.

most important at the evaluation stage;" and that "cosmopolite information sources are most important at the awareness stage, and localite information sources are most important at the evaluation stage."[1]

From the categorization of information sources, it appears that a careful study of a social system and the relationship between information source and the social system is necessary before any information concerning the institution and what it has to offer is communicated to the social system and/or environment.

There is also a need for a judicious understanding of what social system accepts what information at what stage in the adoption process; and whether the social system prefers information given impersonally, personally, from outside (cosmopolite) or inside (localite) the system.

(b) Relative Advantage

The conceptual model of change postulates that man would innovate, invent, or discover and accept information only if such information is useful in helping him to cope with the new threatening or attractive realities. This is

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[1] Ibid., pp. 98-102.

in agreement with the acceptance of an innovation because
of its relative advantage; especially if the information
or innovative ideas are helpful in the solution of a
threatening situation, or perpetuating, enhancing, or
bringing about a desired state. If the information is
accepted for its relative advantage in perpetuating a
desired state, then it is deemed as compatible with the
established norms and values.

Relative advantage and compatibility of information
or innovation as a pre-condition of accepting innovation
is also implied in Esman's observation that:

(a) , the greater the value and doctrinal congruence
between the external technical assistance team and
their indigenous institutional leadership, the more
likely the realization of change goals, (b) the
more resources (benefit) external assistance personnel
have to trade for doctrinal or pragmatic changes, the
more effective they will be promoting change objectives.[1]

Thus the institution must not only be communicated by
and from appropriate sources, but it must be seen by the
social system as having relative advantage and also
compatible with the established norms and values.

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[1]Esman, op. cit., p. 63.

(c) Communicating with the Social
     System and/or Environment

The need to understand the appropriate strategy
of communicating information about the institution to the
environment is implicit in Gallagher's pragmatic and
utopic advocates.[1] While the pragmatic advocate pays
"special attention" to communication, he collaborates
with and makes a special effort to understand the social
system's power structure, authority (expertise) relationship,
and norms and values. By using sanctions, the utopian
advocate, on the other hand, manipulates the social system
to gain acceptance and achieve results. The primary
approach being to do things to or plan for the social
system, in which case cooperation is immaterial. Implicit
in the utopian approach is the denial or sanctions technique
which presupposes a thorough knowledge of what is vital to
the social system. Whether to use the pragmatic or utopian
approach, the advocate must have an understanding of the
social system, its vital values, power and authority
structure and relationship, and effective means of dealing
with the social system.

[1] Art Gallagher, Jr., "The Role of the Advocate
and Directed Change," in W. C. Meierhenry (ed.), Media
and Educational Innovation (Lincoln, Nebraska: University
of Nebraska Press, 1967), pp. 22-44.

The preceding analysis shows that if an institution
is to be accepted by an environment or a social system,
it must be seen as having relative advantage to them.
Besides, the institution must have the capacity to inno-
vate and an effective means of, and a relationship for
communicating these innovations, in a given time (when
it is most needed), to a specified social system.[1]
This observation is in agreement with Katz's model of
tracing of an innovation, over time, through specific
channels of communication, and within a social structure,[2]
which in turn is in agreement with Laswell's communication
maxim of "who says what, in what channels, to whom, with
what effect."[3]

In view of the foregoing analysis, institutions
need to have the difficult to obtain or rare information
and commodities when the social system needs them. It is
on the basis of reducing tension, or alleviating a crisis
within the social system that the system can begin to
see how invaluable the institution is. The instructional
change agent can maximize the various strategies implied

[1] Rogers, Diffusion of Innovation, The Free Press,
pp. 12-20.
[2] Elihu Katz, "The Social Intenerary of Technical
Change; Two Studies on Diffusion of Innovation," Human
Organizations, 20: 80-82-MS. Also quoted in Rogers.
[3] Harold D. Laswell, "The Process and Function of
Communication in Society," in Layman Bryson (ed.), The
Communication of Ideas (Institute for Religious and Social
Studies, 1948), p. 37.

in this theoretical framework. He can very often "resort
to several of them either simultaneously or in a succession."[1]
The idea of successive or simultaneous utilization of
strategic approaches indicates a need for the development
of a cumulative strategy model, which is the concern of
the last chapter in this document.

Summary

It was the purpose of this chapter to establish a
conceptual model of change, and a theoretical framework
from which certain action strategies of analysing Kenya's
abortive attempt at integrating audiovisual programmes,
and promoting, and developing an audiovisual centre could
be derived. It was also demonstrated that certain intuitive
administrative strategies have a theoretical basis.

If an instructional change agent (the prototype
audiovisual institution builder) wanted to create an
awareness of the need for an audiovisual centre, and at
the same time get the power group committed to building
the centre, the best approach is one of predicting crisis,
or sensitizing the social system to the existence of a

[1]Bennis, op. cit., p. 185.

discrepancy, then developing a <u>systematic collaborative</u>
<u>planning</u> <u>relationship</u>. This collaboration which is based
on the understanding of the social system should be
<u>initiated by the social system itself</u>; the instructional
change agent should remain an active outsider utilizing
whatever communication skills available to him.

It was demonstrated that the social system did not
act until it was faced with crisis, or tension, a problem
to resolve, or until a discrepancy was observed. Therefore
the institution builder should help the social system
perceive a crisis, discrepancy or something more attractive
than prevailing methods, so that they can see the institution
as averting the crises or providing the attractive situation.
In other words, chances of an institution's survival are
greater, if its <u>building</u> <u>emerges</u> <u>from</u> specific purposes
related to <u>specific</u> <u>problems</u>; if it is advocated by an
appropriate power or authority source, and if the institu-
tion is viewed as instrumental to averting problems or
to perpetuating desired "creature comforts." Thus crisis
prediction, and opening of communication lines is a

necessary strategy in creating a need awareness for, and
securing a commitment for building an audiovisual centre
and its eventual acceptance.

In its attempt to secure acceptance within a
social system, the leadership of the centre should adopt
the approach implied in the conceptual change model
(Fig. 1). The problem of planning for change is crucial.
In this respect, institutional variables, linkages, and
institutionality are of paramount importance. In attempting
to induce change the approach would be:

1. Generating problem, discrepancy or crises
   awareness.

2. Creating a commitment to change (reflective
   of the decision to deal with the problem or
   eliminate the discrepancy).

3. Establishing a planning and/or collaboration
   forum and facilitating open channels of
   communication.

4. Analysing the nature of the problem and
   deciding on priorities among the problems.

5. Developing alternative ways of dealing with
   the problem which includes, examination of

available facilities and the needed
facilities for dealing with the problems.

6. Mapping action strategies, in terms of
allocating resources, deciding on the
nature of innovations that could best
deal with the problems identified.

7. Operationalizing or implementation of
plans, and then evaluation.

The over-all process of change could very easily
fail if (a) communication lines carrying messages necessary
for crisis management, or tension reduction are cut off or
suppressed; (b) the need for the centre is imposed rather
than emerging from the social system; (c) the real
nature and source of the problem is not well identified,
and finally, (d) there is no commitment to dealing with
the problem.

The most feasible approach appears to be working
with the social system to open communication lines and
diagnosing rather than prescribing solutions. Finally,
there is no boundary drawn as to when a certain strategy
should be used.

In the following chapters, the conceptual model of change and some of the principles discussed will be applied in the analysis of Kenya's abortive attempt to build an audiovisual centre. The model and principles discussed above will be used in developing a new audio-visual centre.

CHAPTER III

CREATING NEED AWARENESS

Strategy Rationale

The preceding chapter advanced the premise that when a change agent identifies a need for change of which the social system is not aware, it is necessary for the agent to adopt a mechanism of sensitizing the social system to the existence of a discrepancy and a problem so that its existence can be acknowledged. In order to sensitize the social system to the need to change, several strategies were suggested. The strategies which were discussed in Chapter II and which will be simultaneously applied in this chapter include: (a) a focus on the discrepancies between where Kenya is headed and what Kenyan politicians promised the country would be; (b) use of organized feedback to establish the existence of a discrepancy between what Kenyan politicians think they are expected to do, and what they are doing to eliminate ignorance;

(c)   use of change agent-opinion leader position to
stimulate problem sensitivity, (d) to raise questions
about educational practice which need improvement,
and finally, (e) suggest how similar problems have been
dealt with elsewhere.

The purpose of this chapter is two-fold, first to
provide further intuitive and theoretical evidence of
need awareness as a prelude to building an audiovisual
programme in Kenya; second to establish the need for an
audiovisual centre in Kenya by describing problems that
educational and instructional systems designers might
consider if Kenya is going to achieve the stated educational
goals.   In some cases the analysis represents idealised
situations, nevertheless feasible for Kenya of the future.

The creation of problem awareness and the sensiti-
zation of Kenyans to the existence of discrepancies is
implicit in the conceptual model of change. This chapter
will operationlize this aspect of the conceptual model.

Sensitivity to a problem, the discovery, and the
acknowledgement of an existing discrepancy are not a

sufficient means to change. The cycle is only completed
when problem or discrepancy perception are followed by an
appropriate action. The following section will focus on
the description of how man intuitively reacts to various
problem or discrepancy situations.

Intuitive Moves to Change

Intuitive moves to change are evoked by the percep-
tion and acknowledgment of a crisis or discrepancy. In the
U.S.A. for example, the launching of the Sputnik I in 1957
by the Soviet Union evoked the enacting of the National
Defense Education Act (NDEA) two years later.[1] In New York
State "the rate of instructional innovation in . . . : elemen-
tary and secondary schools more than doubled within 15 months
of the firing of the Soviet Sputnik I on October 1, 1957."[2]
Thus the firing of the Sputnik I was a factor in the enact-
ing of NDEA which, under different titles, set the pace of
reorganization for educational and instructional innovation
in the U.S.A.

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[1] In a way the enacting of NDEA could be seen as evoked
by the perception of a discrepancy between the new reality of
the Soviet leadership in space technology as opposed to what
hitherto may have been thought. On the other hand, it could
be seen as growing from the crisis created by the fact that
1) if the Soviet Union controlled the space, U.S.A. would
be vulnerable to the Soviet Union's attack from the space.
Explicit in this action is also a spirit of man's desire to
compete with another man, i.e., what came to be known as the
race to the moon and the question of who gets there first.

[2] Henry M. Brickell, Organizing New York State for
Educational Change (Albany, N.Y.: State Education Department,
1961), p. 18.

Increased Knowledge and information discovery in the U.S.A. evoked the establishment of the Educational Resources Information Centre (ERIC) which now codes, stores, retrieves and disseminates research information.[1] The perception of a gap between researchers, and theory, on one hand, and practitioners and application of theory on the other hand led to the establishment of twenty regional educational laboratories. One of the laboratories, the Eastern Regional Institute for Education (ERIE), grew out of "an awareness that existing research programs were not effecting improvement in education."[2]

Furthermore, the crisis of poor instruction and the falling standards in American Somoa, prompted the Governor to accelerate the pace of educational development by using television. In Hagerstown, Washington County, Maryland, a crisis of few expert teachers against a large number of learners brought about a commitment from the superintendent in the use of television as a means of "sharing the expertness" for the benefit of all the children. Niger (West Africa) did not start on her

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[1] The history and some of ERIC's major accomplishments in this area is contained in "ERIC: Development through June 1968," EO. 020-250.

[2] Eastern Regional Institute for Education, Syracuse Office Publicity Material. The ERIE was established in 1966 under Title IV of the Elementary and Secondary Education Act, of 1965.

radiovision programme until it was realized that her
resources were not sufficient to satisfy the educational
needs. Thus the crisis of "insufficiency" of resources·
produced a commitment from the French-Government, and
Niger's Ministry of Education to use radiovision and
television, with the latter serving as the pivot of
instruction toward which all the activities of the class
gravitate, including the television follow-up.[1]

Problem perception alone is not a sufficient
condition for effective instructional change. Problem
perception, or discrepancy discovery only leads to change
if the power groups respond appropriately to the challenge
created by the crisis or the discrepancy. The challenge
created by the possibility of the United States of America
being outwitted by the Soviet Union in space technology
was responded to by the Congress enacting the National
Defence Educational Act in 1959 which set the pace for
building organizations within which to induce instructional

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[1]An account of Niger's experiment is contained in
Educational Television in Niger by Robert Lefranc. In,
New Educational Media in Action: Case Studies for Planners,
Vols. II, Paris, UNESCO/11EP, 1967, 13-47. A general
review of the cases cited are also contained in the same
publications, Vol. II-III, and reviewed in The New Media
Memo to Educational Planners, Schramm W. et al., Paris,
UNESCO/11EP, 1967.

change in the American school system. The challenge
created by the knowledge rise and the lack of effective
means of acquiring and transmitting it as soon as it is
available was responded to by the creation of ERIC centres.
The challenge of the gap between research and educational
practice was responded to by the creation of ERIE, among
other regional public education agencies. So was an
appropriate action also necessary in American Somoa,
Niger, Washington, and Maryland.

These intuitive actions support the idea that
crisis perception and a commitment to dealing with the
problems is a necessary condition for bringing about the
building of an organization to plan instructional change.
In the event that the power group does not perceive the
problem, the change agent's approach could be one of
evoking the perception of a discrepancy within the social
system.

Theoretical Perspective

The intuitive actions in support of crisis percep-
tion as a prerequisite for getting a social system to

become change oriented have been discussed. Support for
the intuitive action is found in a number of theoretical
basis described by Gross's "crisis management," Chin's
"tension reduction," Toynbee's, "challenge responsive,"
and Lewin's "quasi-stationary equilibrium." Similarly
revealing educational crises, tension, challenge, or
disequilibrium in the Kenyan situation could be instrumental
to the adoption of better facilities and methods of teaching.

A number of writers (Gross, Akzin and Dror)[1]
indicate that crisis perception motivates the social system
into action, while Rogers points out that a "crisis
emphasizes the relative advantage of an innovation and
affects its rate of adoption."[2] When motivating a social
system into changing by predicting a crisis, it is assumed
that the social system not only acts, but that it identifies
the advantage of the innovation. The innovation will thus
be seen as a means of averting the crisis or eliminating
a discrepancy.

Another theoretical basis is inherent in Chin's
tension reduction. To create a tension in a social system

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[1] Bertram Gross, "National Planning: Findings and
Fallacies," Public Administration Review, XXV, No. 4
(Dec. 1965), and Benjamin Akzin, Yehezkel Dror, Israel:
High-Pressure Planning (Syracuse: Syracuse University
Press, 1966).

[2] Rogers, Diffusion, op. cit., p. 125.

would make the social system want to reduce the tension for its own survival, and thus motivate the system to change.

In summation, the evidence from intuitive action and theory show that maximizing created need awareness or crisis and discrepancy perception is a prerequisite to introducing innovations. Similarly, the creation of the need for an audiovisual programme (through crisis and discrepancy sensitization) could be a prerequisite to the building of an audiovisual centre in Kenya.

The following section attempts to state briefly what Kenya's national objectives are, and the various obstacles in the way of realizating these objectives. The section will thus develop a sensitivity to the need for an audiovisual programme by discussing problems facing Kenya's educational planners and policy makers. The section will also attempt to show that a discrepancy exists between what Kenya aspired to be and what it is heading for. As far as possible, the section will show how similar problems have been dealt with elsewhere.

The Demands of New Circumstances

Background

In a document stating policy as to what Kenya
aspired to be and how these objectives would be met, the
government of Kenya reiterated the need for "equal
opportunities," and the need to satisfy the principal
condition of drawing "on the best of African traditions,"[1]
as a basis for development.

The document further stipulates that the

> . . .progress wanted cannot be easily won and it
> cannot be achieved by reverting to pre-colonial
> conditions. The best of Kenya's African social
> heritage and colonial economic legacy must be
> reorganized and mobilized for a concerted,
> carefully planned attack on the lack of education
> in order to achieve social justice, human dignity,
> and economic welfare for all.[2]

There was a promise to plan vigorously in order to "ensure
uniform standards and relate educational development to the
needs and resources of the country."[3] For less developed
areas, the Government promised "every effort. . .to ensure
that opportunities are provided. . ." for them and that
"in the expenditure of public development funds. . ."

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[1] *African Socialism and its Application to Planning
in Kenya* (Nairobi: The Republic of Kenya, Government
Printer, 1965), p. 3.

[2] *Ibid.*, p. 1   [3] *Ibid.*, p. 54.

their needs "will be given special consideration."[1]

The colonial conditions inherited included
"uneducated, untrained, and inexperienced" human resources
with an alarming illiteracy, especially among the older
generation. To eradicate ignorance, these older citizens
were thus promised equal opportunities with their young.
The conditions also revealed an acute teacher shortage
and inadequate teacher preparation programmes; a rising
demand for more education and better standards of living;
unbalanced educational opportunity, and a multiplicity of
other social problems.

Facing the Realities

Ideally, Kenya's society of tomorrow will not be
what the present society is now or was a decade ago.
Formal and informal modes of instruction and enculturation
now requires--as it will continue to require--that a
greater number of learners be accommodated in complex
instructional programmes for a greater period of time.
During this time, presumably, a greater amount of knowledge

[1]Ibid., p. 56.

and information and more complex skills will be given to
these learners. They need this multiple and complex
approach because they will live in a much more sophisticated
world. They now live, and will live, in a much more complex
and fast-changing world which is making (and continues to
make) much more complicated demands on them than were
required of the present generation ten or more years ago.
Under the present instructional approach,[1] the Kenya
Government cannot possibly prepare the youth for these
new demands and situations.

Because of the desire to build a better Kenya and
the abundance of more up-to-date knowledge, there is a
growing demand for a higher level of education with
greater concern for excellence and quality. In view
of the shortage of resources (funds and teachers) with
which to build and maintain better schools; the alter-
native is to institute a system which not only teaches
more in a short time, but one which will facilitate an
effective utilization of the available meagre resources--
teachers, schools, and money. There is a need for a system

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[1]As of 1968, only one school, the Starehe Boys
Centre, is built in such a way as to promote media utiliza-
tion, and with access to the Library from the classroom.
Otherwise, most of Kenya's schools are the regular four-
wall classrooms with the standard black wall with chalk.

which will provide excellence and quality without factual erosion.

In Kenya, the demand for quantity, excellence and quality has already been expressed in the need for high level manpower to man the government machinery and private sector.[1] This demand is complicated by the severe shortage of teachers; the complex socio-ekistic[2] and occupational problems; the use of knowledge; instructional specialization; media selection problems; material content and cultural variables; meagre economic resources; and political manipulation in technical aid programmes.

Socio-Ekistic and Occupational Considerations

(a) Population Increase

Kenya's population is estimated to increase at the rate of three percent every year.[3] This unprecedented population increase has resulted in higher school enrollments (Table 1). The demand for more spaces at schools has given rise to the need for building more schools. This building of more schools has given rise to the need for more teachers,

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[1] Government Report, High-Level Manpower Requirement and Resources in Kenya, op. cit.

[2] Ekistic refers to the study of human settlement.

[3] Development Plan, 1966-1970, p. 13.

TABLE 1
SCHOOL ENROLLMENT PROGRAMME

(i) Primary Schools--1966 and 1967

	1966	1967	Percentage Increase, 1966-67
Standard 1	193,909	228,769	18
Standard 2	166,110	183,634	11
Standard 3	152,919	165,640	8
Standard 4	130,282	146,912	13
Standard 5	120,850	123,832	2
Standard 6	132,714	136,848	3
Standard 7	146,192	147,544	1
Standard 8*	440	--	--
TOTAL	1,043,416	1,133,179	9

*Standard 8 no longer exists in primary schools.

(ii) Secondary Schools

	1963	1964	1965	1966	1967	Percentage increase 1966-1967	1966-1967
Form 1	10,214	12,712	19,015	24,108	31,805	211	32
Form 2	8,174	9,122	12,566	18,503	26,592	225	44
Form 3	5,829	7,035	7,760	11,210	16,880	190	51
Form 4	3,791	5,625	6,784	7,068	10,756	184	52
Form 5	667	864	1,130	1,356	1,622	143	20
Form 6	445	563	721	948	1,124	153	19
	30,120	35,921	47,976	63,193	88,779	195	41

School Building Programme

	1963	1964	1965	1966	1967	1966-1967	1966-1967
Schools	165	244	367	465	542	228	17

Source: Adapted from, Newsletter No. 31, October 1969, Kenya Mission to the U.N., N.Y.

who, it is conceded, are already few. The rising
expectation in school enrollment, the building of more
schools, the shortage of and great attrition in teachers,
(if seen against the political commitment for universal
free education) means that more children will, and should
be, accommodated in the few schools and will be taught by
fewer teachers than before. The demand cannot be met
in light of meagre financial and human resources.

(b) Teacher Shortage

"Our greatest problem which we are tackling is the
serious shortage of locally trained teachers."[1] The Hon.
J. Nyagah, Minister of Education, acknowledging the teacher
shortage, implied that the political commitment to universal
free education was threatened. Even if there were an
adequate supply of teachers, it is doubtful whether the
calibre or quality of teachers now being prepared and/or
serving could cope with the changing occupational needs of
the society which is increasingly calling for more complex
educational skills than the teachers themselves may have
been prepared to give. Moreover, changing occupational

[1] Kenya Today, Vol. XII, No. 1 (April 1967),
The Ministry of Information and Broadcasting, Nairobi, Kenya.

needs have opened new places for teachers as well, and

they are moving into more lucrative jobs, thus, teacher

attrition grows even greater.

(c) Dispersed Population and
     Settlement Patterns

Kenya, like other developing countries, faces a

growing concentration of population in urban areas on the

one hand, and a scattered population thinly distributed

over the rural areas on the other hand. The problem of an

isolated rural population is complicated by the nomadic

nature of some of the communities, particularly the Masai,

the Samburu and the Turkana.[1] The growing urbanism,

coupled with scattered families in rural areas, and nomadic

nature of some potential learners calls for a very complex

system of educational planning and instruction if everyone

has to be educated. Faced with a general lack of effective

and practical means of all forms of communication, the

scattered social units or communities are hardly accessible,

and the knowledge gaps between the communities could rise.

In the face of increasing educational and knowledge gaps

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[1] An excellent evaluation of population Movement
in Kenya is contained in Land and Population Movement in
Kenya, by Prof. S. H. Ominde, North Western U.P., 1968.

between the communities, the government would have no
alternative (short of building portable schools acceptable
to the roving social units of the nomadic communities)
but to build clusters of boarding schools, or to establish
schools of the air which would give rise to the need for
a central place where the lessons and instructional material
would be prepared.

(d) Increasing Mobility

One final aspect of Kenya society which should be
considered is that it is characterized by growing social
and physical mobility of moves from rural areas to urban
areas and vice versa. This mobility calls for a
consistent instructional system so that if a pupil moves
from one community to another, from the urban areas to
rural areas or otherwise, he would have a comparable
instructional environment. The mobility requires
an institution that would help maintain uniformity of
material as well as techniques of instruction.

In summation, the population growth rate which
has led to the building of more schools in the wake of a

shortage of teachers means that a greater number of pupils might not be taught, and that the increased number of schools might not be utilized. There is, therefore, a need in Kenya to explore the possibility of effectively "sharing the expertise" of the few available teachers to serve the need of the many children.

There is a growing gap between the knowledge and educational experience level of the nomadic and the settled communities and also between the rural and urban communities. If this widening gap is not closed, Kenya might find herself developing the "class" society of those who "know" and those who "don't know." There is, therefore, a need for Kenyans to commit themselves to eliminating ignorance equally from the nomadic and settled communities. There is also an urgent need for a system which would provide an equal experience for rural and urban children.

Because of the similarity of the problem, maybe Kenya could learn from Peru's Telescuela Popular Americana, Australia's Schools of the Air, and Niger's Radiovision programmes.[1]

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[1]W. Schramm et al., The New Media, Memo to Educational Planners, Paris, UNESCO, 11EP, 1967.

Knowledge Rise and Ignorance

Aside from socio-ekistic problems, Kenya is
confronted with the lack of facilities for information
acquisition, storage, and retrieval systems. The developed
world is already actively involved in an unprecedented
discovery, organization and structuring of knowledge,
so much so that its very abundance might precipitate the
problem of ignorance in Kenya. Yet Kenya is committed
to eradicating ignorance. As a result of the knowledge
increase created in developed countries by extensive data
gathering and research activities, developing and developed
countries alike are threatened by the lack of transmission
system to those who need it. Materials are created and used,
and no one knows how effective they have been. Ideas are
advanced, and sometimes not tried.

From places of studies overseas to his home in
one of these developing, or ignorance-threatened countries,
a promising scholar could plunge into a system which is
intellectually dead. Most of the time, the gap created
by this ignorance, particularly in terms of the contemporary

and recent knowledge, grows wider. A student is thus
threatened by decadence. There is, therefore, a need for
an institution which will involve itself in the search for
new ideas on instructional techniques, knowledge and
information storage, and retrieval systems. There is a
need for an institution that will link the major knowledge
and information acquisition and storage centres in other
parts of the world with the social system in developing
countries.

The rise of ignorance is also giving rise to a
growing concern over the increasing gap between the
researchers and the teachers, between research and the
implementation stage.[1] It takes a very long time before
research findings are implemented by practitioners or
are given to teachers. The prevalance of ignorance in
developing countries has also precipitated a knowledge
gap between them and developed countries and in some cases,
it is giving rise to decadence and obsolescence of knowledge
and skills. It is these gaps between nations, between
research findings and implementation, between what is known

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[1] During the DAVI convention in Houston, Texas, which
I attended, there was a general concern related to this very
subject. In Kenya too, although it has not been explicitly
stated, one notes that in the absence of research information
dissemination system, there is a definite gap between the
researchers and the practitioners.

and what is unknown, to which media institution would
address itself by serving as a necessary link, as a
clearing house, in order to promote development.

To sum up, the growing gap between knowledge
acquisition and utilization, between developed and develop-
ing countries, between researchers, theorists, and
practitioners hastens the advent of the very antithesis
of knowledge boom--"ignorance boom"--in both developing
countries and among practitioners and students who need
it for application. Kenya is no exception among those that
are threatened with ignorance boom. The gap between Kenya's
field officers and policy makers, the teachers and researchers
accelerates the advent of ignorance boom among teachers.
Perhaps the gap could be shortened by establishing an
effective information acquisition and retrieval system, or
establishing a development oriented institution to translate
theory into practice, or put programmes into action.
Problems of this nature are being handled by the United
States' Federal Government's establishment of the ERIC, and
ERIE organizations. ERIC to acquire, code, store, retrieve and

transmit information, and ERIE to utilize existing research findings and developed programmes to effect improvement in education; thus forging a link between research and educational practice. Kenya, therefore, needs to harness the resources of technology and initiate a programme which would not only foster widespread acquisition and adoption of new ideas and practices but also foster a widespread integration and application of the ideas in the solution of educational problems.

Media in Instruction

'Reviewing the role of media in the instructional process, Carpenter expressed the concern that by concerning itself with the perceptual, cognitive, and effecting phase, instructional technology has tended to fulfill the stimulus and display phase;[1] rather than fulfilling evaluative feedback and learner's self-regulatory activity, much instructional media has tended to be regulated and manipulated by someone else.

Furthermore, media usually allows no room for evaluative feedback to the learner. As Kenya adopts

[1]C. R. Carpenter, "A Constructive Critique of Educational Technology," Audiovisual Communications Review (Spring, 1968), pp. 16-24.

instructional technology there will be a need for re-examining the role of media in teaching.

There is a shift not only in emphasizing learning theory but also toward an instructional systems design based on explicitly stated teaching/learning, instructing or training behaviour. The climate of a classroom is also important if the quality of instruction is to be enhanced. In view of this shift of emphasis, Kenya needs to develop reliable indices of student and teacher performance. The development of such indices could contribute to the growth of the much needed professionalism of teachers. Aside from the indices, perhaps media can enhance the teachers' professionalism just as medical professionalism is enhanced by its tools of trade.

Another concern is related to the new emphasis on the need for a teaching theory; [1] this is the shift of emphasis from the instructor to the emphasis about the learner and what he needs. This is coupled with a shift of emphasis from mass instruction to individualized instruction. This shift is more crucial as it becomes more

[1] W. C. Meierhenry, "Media and Educational Innovation," esp. the paper by Truman Pierce (Lincoln: University of Nebraska, Extension Division, U.N.P., 1964).

recognized that Kenya's learners do differ in terms of
motivation, social cultural background, occupational
choice, their basic skills, and individual characteristics.
To satisfy the learner's individuality and best help him
actualize himself, there should be greater stress in
stating the kind of behaviour that a learner should exhibit
after being instructed. The individualisation of instruction
requires explicit statement of resultant behaviour of the
learner. Nonetheless, the statement of objectives is not
complete in itself unless a learner has some means of
knowing whether he has achieved what he set out or was
expected to do.

This leads to another concern advanced by cybernetic
scholars who are calling for some means of assuring the
provision of feedback and the learner's ability to exercise
control over his own responses in relation to his own
environment.[1] It now has become evident to cybernetic
scholars that feedback regulation of behaviour is a central
factor in learning. There is, therefore, a need for
designing a learning and training situation to enhance

[1]An evaluation of cybernetic principles and their
relationship to learning is contained in Cybernetic Principles
of Learning and Educational Design by Karl U. Smith and
Margaret Foitz Smith (New York: Holt Rinehart and Winston
Inc., 1966).

the learner's ability to control his own pattern of learning behavioural response. This becomes more and more necessary in individualised instruction. Other authors have called for greater flexibility for an individual student's own decision in terms of when, where, what and how he approaches his own learning task.[1]

Perhaps the greatest concern in our time is the inability to decide on whether the role of instruction is to impart factual knowledge or to impart concepts and modes of learning. It is being asked whether teaching facts is more important than teaching how to get the facts. In other words, is the role of a mathematics teacher one of teaching facts or mathematics to his pupils, or is it one of teaching them the skills of a mathematician and hence the process of becoming a mathematician? Historians, or social studies teachers are also preoccupied with imparting the skills of good citizenship, and thus they are calling for inquiry skills. It is thus evident that the emphasis is more on the skills or tools of a scholar than the facts he receives from someone else. This presupposes an information

[1]A precise statement on flexibility in environment and strategies for learning is contained in J. L. Trump and D. Baynham, Focus on Change, Guide To Better Schools (Chicago: Rand McNally & Co., Second Printing, 1961).

retrieval centre from where learners can get the

necessary information. Such a centre does not exist

in Kenya. How can Kenya incorporate inquiry skills in

her instructional process without effective information

gathering, classification, coding, storage and retrieval

system?

Whatever course of action is decided on, there is

a need to re-educate Kenyan teachers in the matter of

making a judicious decision of what and when to teach,

how and where to teach? This judicious decision is needed

as a basis for gauging concepts and skills which result.

Teachers also need to develop a criteria which show when

the individual learner has mastered what he is learning.

Because there is so much knowledge to be transmitted

to learners, educators elsewhere (as would soon be in Kenya)

have wondered whether to use multimedia presentations

or single channel presentation.[1] There is disagreement on

whether effective teaching/learning could be accomplished

through flooding the learner with information through

simultaneous multiple presentation or presenting information

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[1]An excellent reassessment of the process is made by
Robert M. W. Travers, in Research and Theory Related to
Audiovisual Information Transmission, Revised Ed., U. S.
Department of Health, Education and Welfare, 1967, pp. 88-117.

at a relatively slow rate through one sensory channel.
There is also disagreement on whether to utilize techno-
logical facilities along with or in place of teachers'
face-to-face relationship with their pupils. This dilemma
and the decisions to flood the learner or not, to use
multimedia or single media presentation or not needs
further experimentation and research. There is a need for
a framework within which these could be experimented
within the developing countries.

Teachers in Kenya also will need to be prepared to
cope with the new instructional modes created by the attempt
to deal or cope with these concerns. As the socio-ekistic
problems and those related to the knowledge increase have
precipitated into ignorance and instructional problems,
they have also critically affected the teacher;[1] so much
so that his role in Kenya may have to change gradually.
If he has to cope with the new and future instructional
situations and demands, the teacher's role must change
from the traditional role of imparting knowledge to the new
role of imparting skills and fostering abilities that help

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[1] An evaluation of the teacher's role and dilemma is
contained in H. Schueler et al., Teacher Education and New
Media, Washington, D.C. A.A.C.T.E. and Lesslie J. Briggs
et al., Instruction Media, Monograph No. 2, American
Institute for Research.

the learner to become what he aspires to be. The learner

needs new modes of instruction if he has to cope with the

rate of information increase. Moreover, the teacher will

no longer be the only source of knowledge, for soon, there

may be many more libraries, educated and informed parents,

and other sources from which the learner gets this

knowledge such as television and radio. The growing

abundance of sources and means of information transmission

channels or systems means that the teacher will no longer

be the only and necessary source of new information and

knowledge.

Teachers have not only to learn to develop a

judicious ability of deciding well in advance what the

individual learner wants to be able to do and the behaviour

or skills the learner needs, but teachers also must clarify

what they want the learner to develop. The teachers also

need to be equipped with the alternative ways of providing

instruction; they should also strive to create the most con-

ducive environment in which the individualised instructional

process could be carried on. These decisions not only

call for a high diagnostic skill in the teacher, but also
call for a careful understanding of the learner's needs,
background and his personality as an individual. As of
now, teachers are not prepared to cope with the resulting
technological innovations.

The teacher of tomorrow.will, and must become an
effective planner and manager of learning facilities and
environments conducive to effective self- and individualised
instruction and learning. If the learner has to be
independent, and the teacher's role becomes that of
teaching the learner the tools of becoming a scholar, then the
teachers' future role will be those of teaching the learner
in the use of books, the library, and information storage
systems, such as microfilms and the machines that go with
them.   There is, therefore, a need for an institution which
will plan for and help the practising teachers to cope with
the growing and changing instructional demands.

In summation, there are widespread differences as
to what media can and cannot do. Neither is the question
about what a "live" teacher does and what "machines" can

do resolved. In view of the realization of the
"individuality" of learners, it is not yet resolved
as to what constitutes this individuality. In view of the
growing demands made on the teacher, there is a need for
a system which would help the teacher comply with these
demands. Even though most of the instructional problems
discussed in this section are prevalent also in developed
countries, Kenya especially needs to be in a position to
handle these problems.

Material Content and Cultural Considerations

The preparation of educational materials for use
in Kenyan schools should, while being prepared by Kenyans,
take into consideration Kenyan social cultural variables.
The material should also take into account those cultural
aspirations reflected in the curriculum content.

The teaching of social studies in Kenya's primary
schools aims at stimulating "in the child an interest in
and an understanding of man's development. . .his customs
and traditions, his way of living, his relationship with
his neighbours."[1] Moreover, sessional paper number 10,

[1] Primary School Syllabus, Ministry of Education,
1967, Government Printer, Nairobi, 1966, p. 101.

to which reference was made earlier,[1] sought to draw on the best African traditions as a principal condition of development. In view of these aims, educational materials should reflect Kenyan customs and traditions if they are to be used in Kenyan schools.

As of 1967 there was no local educational films production unit, and neither was there an organization concerned with the integration of the best of Kenya's cultural traditions, into educational materials.[2]

Most of the films and materials used in schools were made outside Kenya for general educational purpose, and not for a specific instructional purpose.

Moreover, Kenya has different communities with different cultural practices that are worth communicating to other Kenyans. This sharing of communal cultural heritage is crucial if the concept of a Kenyan culture is to develop. The communal cultural exposure can and could begin in the classroom. There is need for a means of bringing a variety of cultural practices (cultural permeation) to other communities. One way of doing this is the local production

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[1] _African Socialism_ and _Its Application_ to _Planning in Kenya_, op. cit.

[2] There is nonetheless, the Curriculum Development and Research Center (CDRD) which by 1967 was primarily manned by Americans and British, with a Kenyan head. The Centre's were more concerned with reading material, than production of audiovisual material. There is then the Kenya Film Unit, which is concerned with the production of publicity public relations films, other then educational material for classroom use.

of "cultural heritage" films based on different ethnic
groups' cultural norms. How could Kenya develop and
transmit a cultural heritage when the materials' used
incorporate no inherent Kenya culture? How could Kenya
develop a national culture when the different social
groups have no opportunity for sharing their cultural
experience with the rest of Kenya?

In summation, the films, slides and other educational
materials prepared abroad have not been mindful of the
social cultural variables reflected in Kenya school curriculum.
The existing cultural and group isolation in Kenya could
be a hindrance to the creation of one national cultural
heritage. Much as it is à hindrance to the creation of a
national cultural solidarity, the isolation creates
cultural deprivation. National unity can only be forged
when the various ethnic groups in Kenya are presented with
an accurate portrayal of what their fellow Kenyans are doing.
Besides, the content of most existing films, filmstrips,
and other programmes is incompatible with Kenya's cultural
aspiration. There is, therefore a need for Kenya to utilize

media to teach Kenyans about other Kenyans.

Media Administration, Technical and Economic Considerations[1]

(a) Media Selection Problems

The increasing abundance and sophistication of instructional media could make it increasingly difficult for Kenyans to know which system to buy or use. Besides, most of the equipment is designed and produced by people who are not engaged in the day-to-day process of instruction. The abundance and increase of sophistication could leave the Kenyan teacher so overwhelmed that his inability to select and operate the new media could, in most cases, lead to his reluctance to use the new media at all. The fact that the teacher would not be party to the design and production of the equipment may make him view the equipment as originating from the outside, and this could in the future account for resistance to using it. A teacher not only has to decide what to use, why, when, how and for whom, but he has to learn to operate with constantly changing equipment. The local instructional media coordinator is

[1]This information is based on the author's experience as media centre director. He often received inquiries from interested schools and institutions about what equipment to buy. In determining the equipment to buy, the author could not find in Kenya, a consumer report or a media index with facts and figures like what one could get in the U.S.A.

also faced with the problems of what to buy, why and
where to buy the media or equipment. There is an explicit
lack of knowledge on what different equipment will do,
and the circumstances under which they will operate. There
is no clear knowledge of the efficiency and effectiveness
of the pieces of equipment. The coordinator's decision has
been, by and large, dependent on the evaluation and
persuasive techniques of the salesman who, in most cases,
was interested in selling his commodity.

While the coordinator in a developed country is
challenged by the abundance and increasing sophistication
of media, the coordinator in a developing country such as
Kenya is challenged by lack of variety in the equipment
that is on the market. In Kenya, the only overhead
projectors on the market were either Bell and Howell or
3M.[1] The range of 16 mm. projectors available includes
only Bell and Howell, Kodak and perhaps R.C.A. to a small
extent, and practically no locally based instructional
film producers.

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[1] This was the case as of 1967, Aug. The author
came to this conclusion on the basis of a visit and survey
he made during a Kenyan Trade and Agricultural fair in August
1966. This was followed by a survey into the Capital City
(Nairobi) 1967 made for the purpose of this study.

Thus, while teachers and instructional media coordinators are overwhelmed by the abundance and sophistication of the new instructional media, their counterparts in Kenya could be overwhelmed by the scarcity and obsoleteness of some of the equipment. There is need, therefore, for developing some guiding criteria of media selection either for classroom use or for purchase. Such guidelines will not only help the practitioners in deciding on the right material for use where and when it is needed but also in the kind of adjustment to make in order to make it suitable for local use.

(b) Economic Considerations

Most instructional media equipment that is produced commercially is tailored to the economic capacities of countries producing it. It is manufactured to operate in special environment within the countries of origin. This environmental tailoring include such components as electrical systems. In Kenya for example, it is necessary for electrical appliances to be wired for 220-240 volts, and operate at 50 cycles. It is cumbersome for Kenya to import equipment

from elsewhere like the United States of America where

electrical appliances operate on 110 volts. Importing

equipment from other parts of the world not only involves

extra costs of a transformer or rewiring the appliance,

but also it means .that the rooms where equipment is to

be used must be adapted for them. This adaptation of

rooms costs money as well.[1]

Audiovisual aids produced commercially are expensive.

This cost is increased even more by customs duty and by

any local taxes that might be imposed once they are

shipped to new areas. Developing countries which already

are spending a large portion of their entire national

budgets on education programmes cannot afford to spend

their entire education budgets on audiovisual materials'

adaptation alone.

Instructional technology requires a new and

appropriate environment. Adoption or adaptation of imported

instructional aids will dictate a remodeling of existing

school facilities. Moreover, there is insufficient personnel

to plan for adaptation and adoption of programmes as well

[1] As an AV Centre Director, the author often found
himself in the problem of this nature. Most of the equip-
ment that came to the Kenya Institute of Administration
came from the U.S.A. In some cases the equipment had to
be rewired at an extra cost.

as advising on the remodeling of learning spaces; training such personnel could cost quite a lot of money to the governments of developing countries.

When teachers and schools administrators are unenthusiastic about using audiovisual equipment, it may not only be because they don't know how to operate it, but also because they find the material and equipment too expensive. Their lack of enthusiasm is their defense mechanism response to the high costs and their own inability to operate it. Most equipment often is made for use with other material that goes with it, e.g., the language laboratory requires language tapes to be used; 16 mm. projectors require 16 mm. films; slide and filmstrip projectors require slides and filmstrips with a content reflecting local needs. The purchase of current software to go with the hardware involves not only cultural incompatibility of their content with the cultural norms of the social system, but also involves great costs of adoption and perhaps conflict with copyright laws. It is no wonder that in most of the developing countries,

there is equipment without appropriate software to go with it. Kenya is no exception.

Moreover, because most of the software has to be updated once in a while it is clear that the material used in developing and underdeveloped countries may be either out-of-date or obsolete because of the expense factor.

The equipment is often sold by an agency that offers no maintenance service and the parts for this equipment take a long time to come. Meanwhile, the ruined equipment does not function any more and often ends up in the storage rooms, yet another "white elephant," for the school.

Throughout the course of this study, it became increasingly evident that the reluctance of school systems or training institutions to use audiovisual equipment could not only be a product of the high costs involved in buying any single piece of equipment, but that the equipment could be too sophisticated, and unconventional. In covering for their own ignorance about its operation, the tendency could be rationalized by blaming the high costs. To put

it succinctly, Kenyan educators could be afraid of changing to the unconventional and thus unknown. And the few educators who have bought audiovisual equipment could find it difficult to get the software that would be used with the equipment.

There are not many people available to advise and report their experiences on the costing and use of media. A need exists for a centre which not only will supply the necessary information on cost analysis, but also one which will help in updating the material, adaptation of equipment, and if necessary, the production of the software. The centre will need to coordinate its activities with the overseas producers in the production of material that is functional on a cross-cultural basis. This collaborative arrangement will minimize the high costs involved in the purchase of imported goods and therefore make it easier for the poorer local school systems to afford instructional media.

Besides minimizing the costs of the equipment, the centre will have to minimize the apathy by restoring the customer's confidence in the use of the equipment, perhaps

by demonstrating that the sophistication is only apparent
and by incouraging a positive attitude toward the use of
media.

(c) Procurement-Time Factor

Very often the few schools that do utilize media
have had to wait for a very long time before their media
or equipment comes once it is purchased. So do they have
to wait a long time before any spare part that might be
needed comes. When the spare part fails to turn up, the
equipment ends up in the storage room, and thus adds to
the growing collection of "white elephants." The crisis
is thus one of time wasting between the actual purchase
of equipment and its delivery and utilization. In some
cases there is no one to demonstrate its utilization.
There is thus a need for rapid procurement of both the
equipment with its parts and the relevant media or software
that goes with it.

(d) Separationism or Integration Problems

In Kenya (as of 1967) like any other place, there
is a competition of interests. A competition exists among

the following: the so-called National Audiovisual Centre

housed in the Ministry of Health's premises at Kenyatta

National Hospital; the Ministry of Agriculture and Animal

Husbandry's Audiovisual Services housed in a temporary

building on the National Agricultural Laboratories premises;

the growing collection of audiovisual equipment and soft-

ware by the Ministry Cooperative and Social Service's

Department of Community Development (though they have not

established any department or office for this); the Kenya

Institute of Administration's audiovisual aids centre, and

the Ministry of Education's visual aid centre advocated

by the Science Teachers College. All these aim at one

objective: the improvement of instructional and/or

training process. They are thus likely to purchase similar

equipment at varying costs. This means that instead of

buying one piece of equipment, the government indirectly

buys many, depending on the social units operating the

separate facilities.

This separation of facilities is an expensive

exercise; it amounts to duplication of equipment, personnel

and effort that any developing or underdeveloped country
cannot afford. In some cases, the separation of services
leads into under-utilization as well as over-utilization
of personnel and equipment. For example, while the Ministry
of Agriculture's facilities were under-utilized, those of
the Ministry of Health were over-utilized to such an
extent that they were incapable of meeting their customers'
time schedule, in which case they developed a policy of
giving the first priority to orders of their own Ministry
and related departments. This meant that no other ministries
were served even though this centre had been conceived as
serving the national interest.

The audiovisual centre at the Kenya Institute of
Administration devotes itself to serving the needs of the
Institute. Although it is the only centre with qualified
personnel in audiovisual techniques, the personnel cannot
be used for the benefit of other institutions because
of the separation policies developed by the separate
institutions.

Mention also should be made of the film establish-
ment of the Ministry of Information and Broadcasting.
Though the bulk of their films are for information and
propaganda purposes, one would have thought that their
photographic and film experts could be utilized to produce
educational and instructional films.

Thus there is need for coordination of effort and
activities to reduce the production costs and to use
effectively the existing talents that might otherwise be
under-utilized in separate service centres.

Separation is a temptation that befalls any young
country, and Kenya has not been an exception. These
separate service centres have developed an effective
resistance to the creation of any institution that would
organize audiovisual services on a national basis. The
more the resistance grows, the greater the recurrent
costs of running the separate facilities and the lower
the calibre of work produced.

Indeed, the advantages of integration of services
in a National Audiovisual Centre not only involve minimising

costs, but, as the draft paper for the Development

Committee noted, effect a

> full utilization of professional staff and expensive
> equipment, [so] there is the added factor that many
> of the visual aids designed and tested by the National
> Visual Aids Centre at request of a particular ministry
> could be used with or without modification by variety
> of teaching institutions.[1]

Further, Mr. Prosser (the adviser on social

development) had warned that:

> It would be a mistake to set up two separate
> institutions for visual aids. . .[as]. . .
> often the material constructed on one side can
> be used on the other without slight adaptation.[2]

There is therefore, a need for an institution to coordinate

the purchase and utilization of instructional media and

equipment.

(e) Technical Aids and
    Local Politics

Technical aid has its own pros and cons. While it

accelerates the solution of a problem on the here-and-now

basis, it typically does not address itself to future

problems. Thus, while a section of audiovisual services

might be set up in the Ministry of Agriculture and Animal

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[1] Draft "For Development Committee Paper, National
Visual Aids Centre," 23/1. Treasury.

[2] In an interdepartmental note No. DV. 65/9/04,
14th April, 1965.

Husbandry to help in Agricultural extension now, we
cannot predict with certainty what the future of such a
centre would be, particularly if the sophistication of
the equipment is not matched by sophisticated local
experts.[1] The search for such a local person often
perpetuates the foreign experts stay.[2] In some cases,
there are instances where the expert makes the decision-
makers believe that there is no local counterpart capable
of filling his post, thus perpetuating his stay.

Another problem related to technical aid is the
manipulation of the receiver by the donor, in such a way
that the receiver buys only the equipment manufactured by
the donor country as well as bringing the maintenance
service personnel. In Kenya, for example, there is
audiovisual equipment which originated in the U.S.A.,
Nordic countries, France, Germany, and lately Russia.
Thus, Kenya had no choice of what to buy.

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[1] In Sierra-Leone for example, at the departure of
Indiana University technicians, the centre that they had
built almost failed due to a lack of technicians of com-
parable skills.

[2] The USAID Audiovisual project with the Ministry
of Agriculture in Kenya has had a problem of finding a
local expert to replace the USAID technician. There has
therefore a prolonged dependence on the USAID expert for
more than it had been anticipated by both USAID and Kenya
Government.

When one has a collection and cluster of equipment which originated in different countries, their maintenance service is problematic. It means that one has to arrange for the purchase of spare parts as well as provide technicians to maintain the equipment from all over the globe. The cost could be so great that the enthusiasm for technical equipment fades. Moreover, because there is so much time spent in waiting for a spare part to arrive from the various parts of the world, the enthusiasm for their use is diminished.

With the various equipment originating from many countries as far afield as U.S.S.R., some European countries and the U.S.A., it is difficult to trace the origin of some of this equipment as the donors of the equipment may have terminated their technical aid programmes many years earlier. Experience shows that when the donor country goes, so does the knowledge of operation and maintenance of their equipment. When knowledge of operation and main-tenance of equipment is gone, so goes its utilization. This intensifies the problem of crisis to which the

equipment was addressed. If the problem is seen to increase, the social system tends to generalize from this single incident that all the audiovisual facilities do not help solve the problem. The need for a local institution to pick the thread and transfer this single negative experience into many more positive useful experiences can not be understated.

There is, therefore, the need for a local institution which not only would advise on what equipment should be donated but also how the equipment will be serviced. Furthermore, such an institution would not only look into currency restriction, but also trade problems. The institution would also address itself to the future state of audiovisual services and functions initiated by the technical aid programme.

It was not the intention of this chapter to give an impression that problems, concerns or crises facing educational planners, instructional systems designers, teachers and any other media utilizers and coordinators are exclusively what has been identified: rather the

intention was to demonstrate the wide nature of those factors which might dictate the need for the institution being proposed. Insofar as these factors that have been identified serve as a means of directing the attention of the proposed institution and therefore determine its strategy and process of developing and promoting an audio-visual programme, they are a necessary approach to institution building. Because they are the most appropriate indicators of the institution's doctrine and objectives, they provide a basis for the institution's input-activity-output model to be discussed.

In summation, it is evident that Kenya, like other developing countries, faces a variety of educational problems. Ranging from media administration and technical problems, the social, cultural and ekistic problems reflect the need for providing qualitative instruction; the need to deal with teacher attrition, and the teacher's inability to cope with changing demands; the need to deal with all forms of knowledge gaps, and the problem of extending learning facilities to all Kenyans wherever they

may be. Further, there is the great need to deal with
illiteracy; the need to extend education to those who
never had an opportunity; the need to promote cultural
permeation to create a Kenyan cultural heritage; and,
above all, the need to facilitate language teaching.
Other countries have had similar needs and have adequately
met them through the use of instructional technology.
These needs point to the existence of a discrepancy between
the aspired state and what is; and the need for an
effective means of dealing with them if this discrepancy
is to be avoided. Experience from other countries show
that such means could be an organized audiovisual programme.

Input-Activity-Output Model

Arising from the problem analysis is the need for
a programme or institution which would respond to these
needs. For effective response to these needs, an input-
activity-output model is developed (Figure 2) as a guide.
For the purpose of this analysis, an input is defined as
any request or demand that a social system or the environment
makes on the institution. In the context of the problems

INPUT-OUTPUT MIX MODEL FOR
THE NATIONAL EDUCATIONAL MEDIA RESOURCE CENTRE
OF KENYA

OUTPUT

Clearing house Services:
Information and Research findings
Innovative and Innovation Diffusive thrust:
Specialised publications, Newsletters,
Exhibitions; Conferences, Demonstrations,
Workshops, etc.
Advice on adaptation and adoption:
Architectural designs for learning spaces
Instructional Programme and material
development
Selection for use and Purchase Criteria
Change enabling strategies
Materials Production Services:
Graphics, Audio, Instructional films
Slides and Filmstrips
Video tapes, Radio Broadcast materials
Resource Materials Services:
Instructional films, filmstrips and
slides library
Recordings of magnetic tapes, disks,
Videotapes
Equipment scheduling for use with the
material requested
Distribution and Maintenance Services:
Projection equipment system
Audio equipment system
Telecasting and Receiving system
Video Tape Recorder system
Evaluation study services:
Programme effect studies
Programme modification procedures
Feasibility studies and future trends
projections
Instruction and Training Services:
Equipment operation and utilization
Material and equipment selection and use
Theoretical foundations of Instructional
Technology

TECHNICAL ADVICE AND PROFESSIONAL SERVICES

THE NATIONAL EDUCATIONAL
MEDIA RESOURCE CENTRE

PROFESSIONAL AND
TECHNICAL
SERVICES

Innovation
and Innovation
Diffusive thrust
adaptation or and adoption.

DEVELOPMENT

INPUT

Information acquisition, storage,
and retrieval facilities
Instructional Technology Programme
Planning
Instruction and Training
Equipment maintenance and Price
Criteria
Media demonstration and Experi-
mentation
Change facilitation
Research and development facilities

Requests and
needs arising from
perceived problems and
crises.

BENEFICIARIES
Government Ministries, departments and
Institutions
Statutory bodies
Other non-Governmental Organizations like
the Kenya National Union of Teachers, in
general, the entire nation state of Kenya
and any other member or neighbour nation
States like those constituting the East
African Community.

Figure 2

discussed in the preceding pages, the input might include a request for better instructional systems design to cope with problems of individualised instruction, teacher shortage, population increase, the migration from rural to urban areas and vice versa, or teacher instruction in the utilization of media. Activities are incorporated in the strategy that the institution develops in response to the challenge from the customer-client. With respect to instructional problems, the institution's activity might be designing instructional systems, training teachers in utilization of technology, innovating and diffusing new ideas, producing instructional materials, consultation facilities, research activities, etc.

Outputs are defined as the activities that the institution has done or items it has produced to meet the needs of the client-customer system. These include items such as installing computers to receive, store, retrieve and transmit information; training teachers and instructors in the selection and utilization of media or technology; conducting research, etc.

Inputs

On the basis of Kenya's problem analysis in this chapter, the input into the institution might be demands or expressed need for facilities for the following:

a. Convenient and quick information or knowledge acquisition, storage, retrieval, transmission or dissemination.

b. Instructional systems design, instructional technology planning, development and promotion.

c. Instruction and training in media selection and use.

d. Equipment maintenance and price appraisal criteria.

e. Research, development and planning activities.

f. Innovation and diffusion of innovation to facilitate change.

To these demands, the institution might envisage pertinent activities (conversion functions) aimed at dealing with these requests. These might be broadly stated as:

a. Storage and circulation activities for knowledge, information and equipment.

b. Production activities.

c. Research, development, and evaluation activities.

d. Training, instruction, advice, and consultation activities.

e. Equipment maintenance activities.

f. Innovation diffusion activities--publication activities for professional journals, newsletters, and memos, etc. Conferences, workshops and demonstration sessions, etc.

Outputs

With these areas of activity stipulated, the institution will now come out with the following services:

a. Some kind of clearing house established to handle knowledge and information, thus bridging the gap among researchers and practitioners, centres of knowledge in developed countries and those of developing and underdeveloped countries, member government department, ministries, institutions and any other social units.

b. Locally made or adapted instructional
    materials such as movie films, slides
    and filmstrips, video and magnetic tapes,
    and any other graphic materials that are in
    demand.

c. Advice and consultation expertise in the
    provision of information on new architectural
    designs for better learning spaces for schools
    of the present and the future, appropriate
    technological appliances either adopted,
    adapted or locally made. Coordinate
    instructional systems planning, designing
    and promotion. Develop media purchase,
    selection and utilization criteria.

d. Innovations, and innovation dissemination
    activities carried out through professional
    publications, newsletters, memos, workshops,
    and demonstration sessions, conferences and
    any other contacts that the institution makes
    to effect its innovative and diffusive thrust.

e. Storing and loaning, either on a permanent or
    temporary basis, of equipment. This calls for
    an inventory of all equipment within the country.
    The institution should see to it that the
    equipment is mechanically maintained so that
    it can be used whenever needed.

f. Storing and lending sofrware such as
    films, slides, video, and magnetic tapes,
    radio-telecast materials, microfilms, etc.
    This will require established media library
    facilities.

g. Trained, instructed and well-qualified
    personnel who will both utilize and operate
    the equipment and material that the centre
    produces. Trained evaluators and research
    assistants to conduct follow-up studies.

h. A trained development team to be responsible
    for translating into action theories and
    research findings.

i. Evaluation and follow-up studies to help
    determine the future trends and needs or
    studies leading to modification of material
    being tried in the field.

j. Operation of pure, applied and development
    research activity, and thus creating a centre
    of:

    i. Research information where all those
        involved in research activities can
        obtain bibliographical information, as
        well as depositing their findings for
        practitioners.

ii. Planning and conducting surveys, evaluation and experimental studies in instructional processes and systems, appropriateness and relevancy of instructional material and equipment, and the extent to which objectives are met.

iii. Coordinating all research activities locally as well as working with outside agencies that might require local cooperation in research.

iv. Working with practitioners in planning, developing and trying out instructional strategies and systems for specific curriculum they develop.

v. Interpreting, evaluating, and reporting research reports from other sources.

vi. Studying to improve, or offer alternative instructional systems, and strategies.

From this analysis, it is evident that demands and requests put to the institution are a product of the perception of a crisis or a problem, and that these requests determine the number of sub-systems or departments that an institution

has to set up. It is equally true that, without the

inputs, the institution cannot justify its continued

existence, and neither will it be able to create the

activities or departments. It is similarly true that

crisis perception enables the development of prototype

media institution based on "institutional purposes and

objectives." The institution is not, and should not be,

a closed system. Because it is based on specific purposes

and objectives, it remains in contact with the environment

and/or the social system. The institution affects, and

is affected by, the social system and/or environment.

It is affected by the environment's _inputs_ (in terms of

requests from and reactions to the institution's innovations,

or responses to specific requests). The media institution

affects the environment by its _outputs_ (in terms of its

innovations being diffused, or the responses to the environ-

ment's requests or inputs into the institutional system).

As the institution affects the environment, it gathers

information about the _effect_ of its innovation on the

environment. This information is then fed back (input)

nto the institution, and with it, the institution then
teers its future operation towards attaining external
quilibrium. The institution thus is built on an effective
eedbacksystem.

This chapter sought to: (a) put the conceptual
odel of change, especially, crisis awareness as a prelude
o change, in the perspective of Kenya by (b) analysing
he problems and the various discrepancies that exist in
enya as a means of (c) sensitizing, Kenyans to instructional
roblems to be considered by Kenyan educational policy-
akers, instructional systems designers, media programme
lanners, and thus (d) create a need for a National
udiovisual Centre. The chapter discussed problems
manating from ekistic and demographic considerations,
nstructional considerations, media administration and
echnical considerations, and finally, cultural and political
onsiderations. From these problems or need considerations
n input-activity-output model has been suggested. Put
ore precisely the chapter demonstrated why Kenya needs
national educational media resource centre.

CHAPTER IV

SURVEYING AVAILABLE FACILITIES

Rationale

Surveying available facilities as a prelude to the ntroduction of an audiovisual programme is inherent in he conceptual model of a planned change phenomenon. It s also implicit in Lippit's forces towards a changing rocess.[1] In the conceptual model, the process is under- aken as an action aimed at mobilizing available resources. t has also been widely used in a variety of ways for a umber of reasons.

In Thailand, for example, when the Thai Government anted to introduce educational radio, they used the survey f available facilities as an opportunity to: (a) survey he needs of the social system and the environments; b) interview officials and practitioners in order to nderstand local conditions; (c) identify educational nd training needs, and (d) find out what participants

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[1]Ronald Lippit, et al., The Dynamics of Planned hange (New York: Harcourt, Brace and World, Inc., 1958), p. 73-77.

in the social system think they need from the new services
if offered, and what extra facilities (on top of what they
have) they would want to use.[1]

Apart from being used as a means of stock-taking
and mobilizing internal resources, the surveying of
available resources leads to the discovery of inadequacies,
hence making it easier for the external agent to identify
what needs to fulfill without being redundant. Apart from
the survey serving as a useful means of identifying
potential subsystems of the larger system, the process is
also necessary for facilitating the establishment of
"consulting relationship" (Lippit) and the collaboration
necessary for identifying the limitations of available
facilities, and determining where to get and who needs
extra facilities. Besides, during this stage, an opportunity
for the "examination of alternative solutions" (Lippit)
in terms of what to use to avert a problem is maximized.

Diagnostically, surveying available facilities also
offers an opportunity for clarifying the source of failure
in the social system's existing efforts to the solution of

[1] Wilbur Schramm, et al., The New Media: Memo to
Educational Planners (Paris, UNESCO: iiEP, 1967), p. 33.

the problem. To facilitate an effective diagnostic survey of available facilities the following points are also raised:[1]

1. Whether there is appropriate distribution of power and resources, and whether the distribution is too diffuse or too centralized.

2. Whether productive energy, skills and available resources are utilized or blocked.

3. Whether there is an open communication between the subparts of those owning or operating separate available facilities.

4. Whether there are decision-making and action-taking skills.

5. Whether there is a clear commitment to goals for action.

6. Whether there is a correspondence between external reality and the situation as perceived by the social system.

The following pages will seek to put this rationale in the perspective of Kenya. A description of available facilities will be made in order to make decisions related to: (a) what kind of help is needed; (b) the direction

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[1]This is implicit in the Lippit, Watson and Westley diagnostic orientation questions. Ibid., pp. 21-48.

along which improvement is desired and expected;

(c)   maximizing the utilization of existing facilities;

(d)   incorporating the operators of existing facilities

in the planning and decision-making for the future course

of action;   (e)   what operators of available facilities

or subunits need in terms of linkages; and (f) weakness

in the past approaches.

Available Facilities

A stock-taking of the available facilities in

Kenya, revealed that as of August 1967, the following sub-

units of audiovisual services were in operation:[1]

1.   The Health Education Unit, is located at
     Kenyatta National Hospital and is run by the
     Ministry of Health. This is probably the
     oldest programme.   Started in the Ministry's
     Health Education programme; it has received
     a great deal of aid from USAID and financial
     donations from other Ministries.   It had been
     hoped that the centre could serve the entire
     government and thus it was designated the
     "National Audiovisual Centre."   But due to

[1] Contained in the author's memo T.29/13 to the
Principal, Kenya Institute of Administration, the Principal
had asked the author to act on the Director of Personnel's
letter AT.45/65/025 (18) of 22nd June, and the Permanent
Secretary, Ministry of Economic Planning and Development
letter EPD 173/01 9th June 1967 asking the Principal to
draw on the K.I.A. experience and set up a National Centre.

lack of staff and a commitment to the entire
government service, the centre was unable to
meet the requests of other ministries. The
centre has since then seen its role as
primarily serving the Health Education Unit.

2. While the health education unit was functioning,
   UNICEF, UNESCO, and USAID were simultaneously
   donating equipment to the department of
   Community Development. Despite the numerous
   pieces of equipment, it was not clear as to
   how much equipment was held by this department
   as they had no inventory and no centralised
   place to coordinate the utilization of the
   equipment. Most of it was scattered throughout
   the country.

3. The Ministry of Information and Broadcasting
   which is the central government's agency for
   mass media, has television and radio production
   studios and transmission units. It has film
   and photographic units and a small-scale
   printing outfit. Apart from school broadcasts
   on radio, this organization remains an agency
   for entertainment and information purposes.
   Only recently has the University College,
   Nairobi, started to use it for adult study
   programmes. Although this agency is a

national services agency in principle, in
practice, it gives its first priority to
information and broadcasting functions. They
see their role as primarily public relations·
and improvement of Kenya's image abroad.

4. The Ministry of Agriculture and Animal
    Husbandry, in conjunction with the Department
    of Cooperatives in the Ministry of Cooperatives
    and Social Services, operates a joint audio-
    visual service funded by USAID. Their centre,
    which is located at the National Agricultural
    laboratories is by far the better utilized
    of the government outfits. The centre has
    several mobile vans equipped with generator,
    film and slide projector. The centre maintains
    a film processing unit and simple graphic
    material making equipment. Their services
    are primarily for agricultural and cooperative
    extension work in the country.

5. The Ministry of Lands and Settlement has a
    photographic unit in its survey department,
    specifically for serving the Ministry and any
    premier of the public who wants to buy their
    maps.

6. The Police Department of the Ministry
   of Home Affairs has also a photographic
   section, primarily for police.

7. The Kenya Institute of Administration has
   an audiovisual centre which was established
   and built under that Kenya Government USAID
   contract programme. Unlike other areas in
   the Government, the audiovisual centre at the
   K.I.A. is the only one which is specifically
   equipped with equipment for regular classroom
   use.

8. The Ministry of Education, on the other hand,
   does not have any organized audiovisual pro-
   gramme. The Ministry has to rely on the "visual
   aids" lessons that teachers get from inadequately
   equipped teacher training institutions.
   Nonetheless, there are related institutions
   like the Curriculum Development Centre that
   tries to make visuals along with reading
   materials being prepared for primary
   education.[1]

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[1] In all the cases consulted, except Thailand,
almost all the initiative for instructional change comes
not from the Ministry of Education, but from another agency.
In almost all cases, the Ministry of Education is always
the last agency to develop an audiovisual programme. A
similar trend is apparent in Kenya.

Inadequacies

A schematic analysis of the four major services
(Figure 3) indicate that there is no physical structure
large enough to house an institution capable of responding
to the needs cited in Chapter III. It was equally apparent
that there are not enough human resources capable of
handling the sophisticated audiovisual equipment implicit
in the input-activity-output model. Neither have the
existing facilities been extended to rural areas. Both
television and radio programmes are almost unavailable
to, and ineffective in, rural schools. Thus, the problems
as indicated in Chapter III remain unresolved.

Problems Encountered

Maintaining separate services and centres could
have some advantages and disadvantages. An analysis of
Kenya's services appear to reveal some uncoordinated
effort which could be a waste of resources. For example:

a.   While it is claimed by the Health Education
     Unit that their services are over-utilized,
     some of the services like the process cameras,

FIGURE 3. MAJOR AUDIOVISUAL SERVICES AVAILABLE IN KENYA

INSTITUTION	USER	CLIENT	PRIMARY PURPOSE
The Audiovisual centre at the Kenya Institute of Administration	Lecturing staff at the Institute	Student Body	Preparation of instructional materials, storage and coordination of AV materials
National Audiovisual Centre at Kenyatta National Hospital	Ministry of Health's Health Education Unit (Health Officers)	Communities with health problems	Preparation of materials storage and loaning of equipment used in health education campaigns
Audiovisual Services at the National Agricultural Laboratories	Agricultural and Cooperative Officers	Farmers, cooperatives societies and members	Preparation of materials for Agricultural extension and Cooperative member education programmes.
Ministry of Information Broadcasting and Tourism	Departments of Information and Broadcasting	Kenya Public with Radios and Television	Public Relations

the litho-off set equipment etc. were
not used to their fullest capacity. The
audiovisual centre at the Kenya Institute
of Administration, which was capable of
providing instruction in the selection and
utilization of media, is also not often used.

b. The quality and quantity of production is
always insufficient. For this reason, the
Health Education Unit which had been design-
ated a "National" centre wound up serving
only the Ministry of Health, and particularly
the health education section.

c. In almost all cases, it is difficult to
coordinate and is not easy to have a common
picture of the effect of the programmes each
unit organized.

d. The aggregate cost of maintenance and production
is not clear; since the centres have kept no
record account of expenditure on the programmes
or missions accomplished.

e. Most of them have no qualified staff to prepare
and utilize the instructional material.

f. They have no long range action programme;
they only react when requests were made.

g. They have no record of what is produced,
   where it was used and its effect. Thus
   they lack systematic field testing and
   evaluation of the material they produce
   and the equipment they use.

h. The few "experts" that they have are often
   either under-used, over-worked or misplaced.

Attempting to Coordinate

In recognition of this expensive and uncoordinated
approach to developing an audiovisual programme, the Treasury
of the Government of Kenya asked the UNESCO expert,
Alexander Shaw's advice on the organizational problems of
a national audiovisual programme. It was envisaged that
the separate programs could be coordinated for better
benefit to all departments of the government. Shaw's
recommendation reiterated the need for establishing one
national centre on the basis of integrating the existing
centres, with the exception that the film section would
be organized by the Ministry of Information and Broadcasting.[1]

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[1] The Ministry has a film unit, but no "instructional"
film has ever been produced. Their films still remain
"public relations."

This need for coordination was also supported by A.R.G. Prosser, the advisor on Social Development to the Kenya Government, when he noted that "It would be a mistake to set up separate institutions for visual aids. . .[for] . . .often material constructed on one side can be used on the other with or without slight alteration."[1] Besides, the Director of the Department of Extramural Studies at the University College, Nairobi, R. C. Prosser (no relation to A.R.G. Prosser) also observed that "There is a good argument for coordinating all these provisions, radio/ television, cinematography, general adult education techniques, under one umbrella--extending training facilities on an East African basis."[2]

The Development Committee in the Treasury, in response to the recommendation by Alexander Shaw recognized that:

> The advantages of a National Visual Aids Centre
> are obvious. As well as the economics that are effected
> by the full utilization of professional staff, and
> the expensive equipment, there is the added factor
> that many of the visual aids designed and tested by
> the National Visual Aids Centre at the request of a
> particular Ministry could be used with or without

---

[1] Interdepartmental Memo DV 65/9/54, 14th April, 1965.

[2] In a Note to Mr. Cox, Advisor to the Department of Community Development.

modification. . .[besides ensuring]. . .·
uniformity of teaching.[1]

In this paper, the Committee proposed that the "National

Visual Aids Centre will have two broad divisions, one

concerned with formal education, and one concerned with

informal education with particular emphasis on design

work." Despite the realization of the expenses involved

in running separate institutions, the Treasury Department

and the Development Committee continue to authorize funds

which have gone into developing the same separate

institutions that it had discouraged in 1965. There is

either a wrong accounting procedure, or the Kenya Govern-

ment was not really committed to integrating the audio-

visual programme.

Lessons of Experience

Two factors contributing to the delay in building

an integrated audiovisual centre were the lack of a fulltime

institution builder and the general lack of commitment to

a national centre. The decisions about its building were

made by one Ministry, the Ministry of Economic Planning

and Development, which is primarily a "service" ministry
which is not supposed to advocate any one thing or
project. The ministries whose separate services the centre
had counted on were not involved from the beginning. There
was therefore no opportunity to talk it over and get the
whole group committed to integration. At any rate, the
Ministry of Economic Planning and Development has not always
had the mandate to order any other ministry. This lack of
mandate in the ministry rendered its role weak. Without
the support from the power groups, the centre had no
political legitimacy. Because there was no political
pay-off, the other ministries saw no reason why they should
support it.[1]

In addition, the Ministry of Economic Planning and
Development could be viewed by other ministries as an
"outsider." Similarly the doctrines and objectives
advocated by this Ministry and other advisors, like the
Prossers, could be received as coming from the "outside."
If this is the case, doctrines, or objectives could be
seen as incompatible with the existing ministerial objectives.

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[1]In his The New Media: Memo to Educational Planners,
(Paris, UNESCO, 1lEP, 1967), Schramm stresses the need for
"strong support from top authority" as this is indicative
of unity of purpose, p. 102.

The Ministry of Information and Broadcasting could not
see how its "public relations" function could be served
by a centre which appeared educational in emphasis. Neither
could other ministries see how their "specialised" needs
could be served by one single centre, which to their mind
lacked specialized skills. Because of a diffuse power or
legitimacy source, not enough energy was mobilized for
building the centre.

In the United States audiovisual centres are either
attached to universities, in which case they derive their
legitimacy from the university, or they are attached to
large professional organizations like the National Educational
Association's Department of Audiovisual Instruction. The
Federal as well as State Governments have also played a
leading role in establishing institutions such as the
federally-advocated Educational Resources Information
Centre, and various other audiovisual departments within
State Education Departments. They have legitimacy and
legal backing.

Although the names and locations of the institutions differ, their concern is to help facilitate the control, flow and transmission of information and knowledge to: (a) the practitioner who wants to apply it; (b) the teacher who has to draw the learner's attention to it, and (c) the learner who has to internalize it for his own acculturation and self-actualization process. Besides the control in the flow and transmission of knowledge from researchers to the utilizers, there is the inherent problem of acquisition, organising for easy storage, retrieval and dissemination the information or knowledge as soon as it is discovered or made available by researchers.

In Kenya, the situation is different. The University College, Nairobi, started in the fifties, has been going on without a media department. Only recently has there been a move to establish an instructional communications system attached to the Department of Education. But the move is hampered by the general lack of personnel to get the institution going. It is understood that the main advocate for this joint set-up between the Ministry of Education

and the University College is UNESCO. The Government
of Kenya, unlike the United States' Federal and State
Governments, has not provided the necessary legitimacy
and commitment for such a single institution.

The problem is not only one of finding more and
more knowledge related to an innovative instructional
technology programmes and supplying it to developing
countries, but the problem is also one of finding, within
a social system, what might be called "agents of infiltra-
tion" to carry on with what has been advocated from without
the social system.

Despite the popularity of the idea of starting
centres for instructional communications in developed
countries, and the readiness with which these countries
have sought to promote similar ideas and enthusiasm abroad,
there is neither the leadership with the necessary commit-
ment, nor the guiding principles which would help the
outside advocate to predict with certainty the survival
of the institutions they advocate.

Some institutions are often advocated so hurriedly

that there is no opportunity to bring about understanding

participation in the decision-making process of establishing

the centre. Under such hurried advocacy for an institution,

the institution's objectives and doctrine remain vague to

the social system as it is to the institution itself. The

National Audiovisual Centre had no explicitly stated

objectives. Whenever the doctrine or objectives of the

institution are known only to external advocate, chances

are that as soon as the advocate goes, the institution

flounders.

It is suggested that there is a critical stage of

an innovation during which it is put to "trial"[1] with a

view to either accepting it or rejecting it. The proposed

National Audiovisual Centre was subjected to this in its

initial stages. The Department of Community Development

gave some funds, but when the services were not provided,

the Department withdrew its support. To the Department of

Community Development, the new innovation—the National

Audiovisual Centre—had not provided the services for which

it had been built. Thus, the "expected" role function was

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[1] E. M. Rogers, _Diffusion of Innovations_ (London: The Free Press, MacMillan, 1968), p. 84.

unfulfilled, and on this basis, the department withdrew its support at the most critical stage because the institution did not bring change when it was most needed.

To the Ministry of Education which had its own set of expectations, there was a discrepancy between the centre serving as an adult educational material designer, and not as a "formal education" material designer. (The adult education programme was not then under the auspices of the Ministry). Thus, to the Ministry, the centre would not be capable of handling the needs for formal education, and the adult and informal education programmes. The Ministry remained unenthused about the whole idea.

The Ministry of Agriculture saw the centre as incapable of providing the specialized services of agricultural extension programmes. Moreover, they had just trained their own staff, and they would not have liked to see the staff used to serve other ministries who had not financed the training of the staff. Above all, the centre was seen as threatening the building of their own facilities.[1]

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[1] With the help of USAID, the Ministry has since built excellent facilities at the National Agricultural Laboratories site, two miles from the centre of the City of Nairobi.

The Ministry of Information and Broadcasting
viewed the centre's functions as incompatible with the
Ministry's primary function of propagating government
policy. This was expressed in the Ministry's decision
to handle the film section, and not the production of
educational materials.

Thus the centre was met with resistance for a number
of reasons. First, to many people it was another audio-
visual aids production centre. Second, there were no
qualified people in the country who could have spoken with
expertise about its diversified functions. Thus, from the
start, the institutions lacked the necessary professional
staff with technical preparation to run and organize such
a specialized institution. Third, information about the
institution was inappropriately communicated. The general
promotional work had varied from the treasury department,
the Ministry of Economic Planning and Development, and
finally the Director of Personnel. Because these depart-
ments and ministries already had assigned roles, they
could not make room for the new role, thus the institution

remained a centre in search of a committed advocate.

The draft of the Development Committee paper, to
which reference has been made, proposed that the centre
be put under the responsibility of the Ministry of Labour
and Social Services. This proposal was based on the
assumption that the Ministry was "neutral," and that because
of its neutrality and a lack of vested interest, it could
discharge its services without bias. However, without the
commitment and a qualified staff, with the ability to
develop the necessary working doctrine, the Ministry could
not develop the centre.

One other problem lay in the fact that the creation
of the institution threatened the "expansionism" tendency
that is so common to bureaucracies. The Ministry of Labour
and Social Services had received no cooperation from those
that had been asked to give up their equipment and personnel.
Moreover, although the Cabinet had recommended that the
Ministry of Labour and Social Services run the institution,
there were no corresponding funds allocated for the building
of the Institution.

It has been implied that the main limiting factors were the lack of legal backing and a strong and professionally qualified personnel pool to inaugurate and run the institution. The Ministry of Labour and Social Services was not involved; neither did it have a leader who was personally involved and committed to the institution's building. The Ministry failed to bring "forth difficult-to-obtain skills" which were badly required at that critical moment. Further it was found that there were no statements of goals or styles of action stated either by the Ministry or by the Cabinet. Thus, without leadership which was

> operationally competent, committed to a change
> oriented doctrine, and actively seeking to achieve
> programmatic goals by building a strong organiza-
> tional base and extending its influence to other
> linked organizations. . . .[1]

the Ministry of Labour and Social Service found it difficult to establish and build the proposed institution. Since then, the National Audiovisual Centre has remained an institution in search of a rationale for coming into existence; it never found this rationale. It had no

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[1] Esman, op. cit., 1967, p. 11.

explicitly stated doctrine, no leadership and no linkages.
Without these, the institution failed to "obtain support
and complementarity" in its environment or within the
social system.

Analyzing the Abortive Attempt In A Theoretical Perspective

If Gallagher's model in respect to the sources of
strain in directed change were put in perspective of Kenya,
it would appear that the Ministry of Economic Planning and
Development found itself unable to decide whether to use
the utopic or pragmatic model. Thus it could not "keep
from vacillating between the two models in a given change
environment."[1] It was risky for the administration to force
the issue of the Audiovisual Centre on the basis that they
knew what the country needed (thus risk being accused of
colonial tactics--which were becoming very unpopular) and
therefore could go ahead and do it as in the utopic model,
or plan with those concerned (as in pragmatic model). A
second area suggested is that when a social system has been
made to expect change, they are bound to be enthusiastic

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[1]A. Gallagher Jr., "The Role of the Advocate
and Directed Change," Media and Educational Innovation,
W. C. Meierhenry (ed.) (Lincoln: University of Nebraska,
1967), pp. 43-44.

about an institution proposed to induce the change, but then the enthusiasm fades away if the institution does not effect the expected change. There was no evidence in the course of this study to imply that failure to establish the institution was due to the unsatisfied change expectancy, but rather due to the institutional advocates' inability to generate the climate of change expectation. Neither were consequences for its acceptance or refusal explained.

Reference is now made to the way an individual or a group of people in a social system come to know, or come to hold and fix a belief about an idea (in our context, the innovation of a media institution on a national level). Of the four methods of knowing, proposed by Charles Pierce,[1] only three are related to this inquiry: they are methods of tenacity, authority and a priori.

It has now been concluded by psychological evidence "that men will often cling to their beliefs in the face of clearly conflicting facts. And that they will also infer "new" knowledge, new generalizations from propositions

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[1] J. Buchler, (ed.), Philosophical Writings of Pierce (New York: Dover, 1965), Chapter 2, and as adapted in Fred N. Kerlinger in Foundations of Behavioural Research (New York: Holt, Rinehart and Winston, Inc., 1967), p.6.

that may be false."[1] On this basis, when the idea
appeared of integrating the services, personnel and
equipment in separate ministries under the auspices of
the National Audiovisual Centre to be administered by the
Ministry of Labour and Social Services, many departments
and ministries clung to their establishment thus inferring
that the new institution was irrelevant and would not serve
their purpose.

A second method of knowing is that of authority,
where, when an idea or innovation such as the one under
study has the weight of authority and tradition plus
public sanction behind it, then it is what it is, as well
as what the powers that be have said it is. If therefore,
the President, or the Permanent Secretary and the head
of the Civil Service, in his office had decreed its
establishment, it would have given it the initial legitimacy,
prestige, respect, personality and status. (But there
was no evidence of such weight of authority and tradition
behind the proposal for the institution under study).

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[1] Kerlinger, op. cit., p. 6.

The third method of knowing that is of equal
application to this analysis is by; a priori, where
through free communications, intercourse, and deliberate
consultations, referral and planning activities, a clearer
and better picture of the institution's doctrine and role
would have emerged and been made explicit to the social
system or government departments and ministries concerned.
As it came out, in the course of this study, there was no
evidence of such an approach; thus, the institution was
evaluated on false and vaguely conceived propositions in
its initial stage. ·

The centre should not only be a system of communic-
ation but a system of logical decision-making. No better
statement for concluding this chapter could be thought of
than the sombre note that an institution does not, by
itself, produce innovations, and neither does it bring
about change. It requires a willing social system or
environment which is ready to supply the inputs into the
institution through requests based on their concerns, and
needs arising from perceived crises. It is also a system

of communication as it is a system of logical decision-making. As such, a media institution has a definite role to play: the role of planning and inducing change in the instructional process. The advocacy of building a media centre need not be an affair where an advocating institution behaves like an outside advocate who descends on the social system, makes proposals of starting a new programme of local institution building without ever selling or making the doctrine of the prospective institution explicit to the social system or those who will continue with its administration.

Finally, the building of the centre is not a process of coming into a social system, prescribing the building of the institution and then departing. Such short and abruptly terminated encounters are usually fruitless. The encounters should build a continuous process of collaboration, constant interaction and relationship between the institution or advocates of change and the social system or client-customer system. Neither should the prospective

change agent's function be that of an outsider descending

on a social system and/or environment, then making

proposals or casting an innovation and then retreating

to his base. Rather it should be one of deliberate

collaborative efforts of planning, trying and evaluating

the system between the agent and social system and/or

environment. Perhaps the situation of Kenya's experience

could be aptly summed up with what Wilbur Schramm noted

when he observes:

> Let the project not begin with a piece of new
> technology which someone thinks could or should
> be in use. Above all, let it not begin as an
> excuse for adding technology which is primarily
> for all purposes. Rather, let it begin with
> an educational problem which is serious and widely
> recognised.[1]

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[1] W. Schramm, et al, The New Media: Memo to Educational Planners, UNESCO, IIEP, p. 93.

CHAPTER V

STABILIZING INSTRUCTIONAL CHANGE

Diffusing The Idea of an Institution

Assuming that the social system recognised the
problem and diagnosed the sources of the problem, they
should be aware of the need to create an organization
within which to plan the necessary change. The logical
step would be for the institution builder to get the
necessary commitment to building the institution from the
power groups. In practice, this commitment should carry
with it the necessary legitimacy to enhance the institu-
tion's survival from the start. Where it has never
existed before, the institution is an innovation in
itself. Insofar as it is an innovation, the institution
might be subjected to resistance for a variety of reasons.
Therefore, it will require a strategic way to diffuse
the idea in the social system in order to get a commitment.

In his discussion of stages in the adoption process, Rogers suggests five stages: (1) awareness, (2) interest, (3) evaluation, (4) trial, and (5) adoption.[1] Obviously, this model is only applicable up to the third stage. That is, it is possible for the institution builder to generate enough awareness of the need for the institution with the social system and/or environment. The first way of generating the necessary awareness is for the institution builder to make a survey of the broad areas to be served by the new organization by finding out what the existing facilities are and what limitations they have. In this survey the following environmental factions are identified: (a) those which oppose the new organization; (b) those which support the institution; (c) those to be used as agents of infiltration (rogers would refer to them as "early adopters") and (d) those which require specific strategic linkages.

The second task for the builder would be to interview the related officials, including teachers and other potential users of the centre. This interview might stress the

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[1]Everett M. Rogers, _Diffusion of Innovations_ (London: The Free Press, Collier-Macmillan, 1968), pp. 81-85.

local conditions and educational needs, finding out the kind of help they need if an organization were set up. This approach is useful because it includes potential acceptors in decisions about the proposed National Educational Media Centre.

Participation in decision-making and action is a concept that was proved invaluable by Kurt Lewin. In dealing with the problem of persuading people to act contrary to what they had done before, he found that people responded more favorably when they are given a chance to discuss the problem or idea.[1] This is the principle behind the approaches suggested. It is assumed that during the interview and problem analysis, Rogers' interest stage would seek additional information about the proposed centre. If crises prediction were successful, then this survey is what Gallagher refers to as "creating expectations" of the institution.[2]

The prediction of crises sets the stage for Rogers' evaluation stage. The social system would then mentally apply the organization to its present and anticipated

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[1] Reported in *Mass Media and National Development* by Wilbur Schramm (Stanford University Press, Stanford, Calif.: 1967).

[2] A. Gallagher, "The Role of the Advocate and Directed Change," in W. C. Meierhenry, *Media and Educational Innovation* (Lincoln: University of Nebraska, 1964), p. 35.

future situation, on the basis of which it can decide whether or not to commit itself to the building of the institution.[1] It is assumed that if there is sufficient awareness of "present" problems, and if the social system anticipates a better future state, then the social system sees the "relative advantage" of the institution.

To sum up, the pre-institution building stage require that expectation for the institution be created (Gallagher, in Meierhenry, 1964, p. 65) and that the social system view the coming of the institution as originating from within it (Gallagher) and that the social system participate in the decision to establish it (Lewin). The institution builder is supposed to make a survey of the environment to determine:

    a.   The nature of the problem and what the social system expects to be solved (this was the subject of Chapter III).

    b.   Existing facilities and their limitations (the subject of Chapter IV).

    c.   Value systems into which change will be introduced.

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[1] Rogers, op. cit., p. 83.

    d. The power structure from which the
necessary commitment can be obtained
in order to lend the institution the
necessary legitimacy, "prestige,
respect, and personalities to the cause
of the directed change."[1]

    e. The relevant environment with which to
establish strategic "enabling linkages"
necessary for establishing external
relationship for the necessary future
equilibrium between the institution and
the social system and/or environment.

Obviously, Rogers' trial stage cannot begin until
some form of institutionality is established and operated
on "temporary" basis. In order to operate successfully
and be internally maintained, the institution requires an
internal equilibrium dependent on the extent to which
certain institutional variables have been fulfilled. From
the politics of generating the expectation and the
awareness of the institution, the following section will
discuss the necessary conditions for successfully building
the institution.

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[1]Ibid., p. 38.

Institution Building And Maintenance
Of Internal Equilibrium

It was postulated that there is a critical stage
in institution building during which the institution must
prove itself. This is perhaps what would be in Rogers'
model, the trial stage.[1] The social system will look
upon the institution with vested interests. There are
some who would like to see their brother or a member of a
particular ethnic origin group at the top. (This is why
Esman talks of "political viability" as a necessary quality
in the institution's leadership).[2] Others who are service
and quality oriented will look at the institution differently.
They will look for technical competency and quality of
work. Thus, the institution has different roles to fulfill,
depending on who is looking at it. It may be seen as a
place where a particular ethnic or vested interest group
can have an opportunity to get entrenched. The fulfillment
of these different expectations is crucial if the
institution has to survive during its "let's see what
happens" stage. To give the institution a better chance

[1] Everett M. Rogers, Diffusion of Innovations
(London: The Free Press, Collier-MacMillan, 1968), p. 84.

[2] Milton J. Esman, op. cit., p. 3.

of survival, it was suggested earlier in this chapter that

the environment and the social system participate in its

planning. Another factor is what is already alluded to--

effective internal maintenance through fulfilling certain

administrative strategies.

Guiding Principles

Administrative organizational strategies stress

functional aspects. These are those strategies which

facilitate the institution's coming into existence.

Institution builders use them to build the institution.

The major conditions suggested by institution building

research findings include:[1]

    a. A set of _institutional_ _variables_ with which a
        systematic behaviour of the institution could
        be explained.

    b. _Linkages_ with which the institution's internal
        actions could interrelate. They are also
        necessary for the institution's external
        relations with the social system and/or
        environment.

[1]_Ibid_., pp. 3-6.

    c.   <u>Institutionality</u> (Esman refers to this
        as the <u>end</u> <u>state</u>) which stresses the
        ability to survive; being viewed by
        the social system and/or environment as
        intrinsically valuable; the ability to
        exert considerable influence into its
        environment, and above all, autonomy.

A. Major components of institutional variables
include the administrative elements which stress the
following concerns:[1]

    a.   The need for a <u>leadership</u> of persons
        professionally and technically qualified
        with experiencial competence to enable
        them to engage in the formulation of
        institutional doctrine, objectives, and
        action programme as well as directing its
        operation. There is need also for political
        viability, continuity, and stability of
        tenure among this leadership.

    b.   The need for a <u>doctrine</u> and objectives
        derived from the felt need emanating
        from the prevailing crises and problems.
        The doctrine of action is important in
        determining operational methods that would

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[1] <u>Ibid</u>., pp. 2-4.

underlie any social action that the
institution might develop.

c. The need for a _programme_ which would
translate the objectives and doctrine
into action, thus enabling the institution
to address itself to the crises facing
the social system which set it up.

d. The need for _resources_--financial, human and
physical--to facilitate its technological
input.

e. The need for an organizational framework
constituting its _internal_ _structure_ and
processes established for operation and main-
tenance of the institutions institutionality.

B. Linkage variables could be regarded as the
"interdependencies and other relationships which exist and/or
are created to exist between the institution and other
relevant parts deemed necessary for the day-to-day running
of the institution and the social system."[1] They can be
regarded as necessary in the maintenance of external
relationships and for equilibrium. These linkages inter-
dependencies call for the maintenance of a network of
exchange facilitators and communications necessary for

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[1]_Ibid._, p. 5.

gaining support, overcoming resistance, exchanging resources
and structuring and environment conducive to transferring
or interchange of norms and values. They are necessary in
the transfer of an innovation from the institution to
the social system.

The linkages are categorised into four sub-
categories, (Fig. 4).

a. Enabling linkages with the key ministries,
    departments or other organizations and
    social groups which control the allocation
    of power-authority relationship and
    resources. In Kenya, such social units
    would be the Directorate of Personnel in the
    Office of the President, the Office of the
    President itself, the Ministry of Economic
    Planning and Development, and the Treasury.

b. Functional linkages with ministries, depart-
    ments or social units which perform functions
    and services complementary in a production
    sense as well as those which supply the input
    aspect (of product utilization potential)
    of the institution. These linkages will have
    to be established with the Ministry of Education,
    the Ministry of Cooperatives and Social Services,

LINKAGES AND INTERDEPENDENCY RELATIONSHIP SYSTEM

Enabling linkages with those in control of the Social system's resources and power-authority allocation.

- Office of the President
- Directorate of Personnel
- Ministry of Economic Planning and Development
- The Treasury
- The Public Service Commission

Functional linkages with those performing complementary Services

- Ministry of Education
- Ministry of Cooperatives and Social Sciences
- Ministry of Health and Housing
- Ministry of Agriculture and Animal Husbandry
- Ministry of Lands and Settlement
- Ministry of Information and Broadcasting

THE NATIONAL EDUCATIONAL MEDIA RESOURCE CENTRE OF KENYA

Diffused linkages with individuals or societal elements which cannot clearly be identified by membership in formal organizations.

Individuals outside church Organizations, statutory bodies, Govt. Ministries and Departments, etc. The Kenya National Union of Teachers, The Kenya Civil Servants Union etc.

Normative linkages with those having similar if not identical norms and values

All Government Training Institutions, the Kenya Institute of Administration, Police Training College, Curriculum Research and Development Centre, The University College and other non-Government Institutions Like the Railway Training School, church organizations, statutory bodies, Teachers Unions, etc.

Figure 4

the Ministry of Health and Housing, the
Ministry of Agriculture and Animal
Husbandry, the Ministry of Lands and
Settlement, particularly with its surveys
section, and the Ministry of Information
and Broadcasting.

c. Normative Linkages with those organizations
which have norms and values relevant to the
doctrine or objectives and programme of the
institution. These would have to be with
the Curriculum Research and Development
Centre, the Kenya Institute of Administration,
Police Training College, the University
College, and other institutions of higher
learning, the Railway Training School, the
Post and Tele-communications School and
other training institutions that are in the
country.

d. Diffused linkages with societal elements which
belong to no particular ministries or
organized institutions, yet would wield
considerable influence in matters of policy
affecting the institution.

C. The attainment of institutionality and the sub-
sequent establishment of complementarity and autonomy

requires the ability and the will to survive. Because the
capacity to survive is so important in institution building,
it is important to suggest certain strategies that would
enhance its survival. These survival strategies call for:

a. The ability to expect and function under
    difficulty which might be brought about
    by the stress and strain exerted by
    external and internal competition, pro-
    blems of development.

b. The ability to accept frustration with
    minimum stress.

c. The capacity to change and abandon the
    solutions learned earlier, or those
    practiced elsewhere--for those which worked
    elsewhere might not necessarily be workable
    in a new environment.

d. The capacity to resist any disabling symptoms
    produced by tensions and anxieties in the
    face of failure.

e. The capacity to find more satisfaction in
    giving and assimilation than receiving.

f. The ability to get along with other
    institutions through exercising flexibility,
    and thus avoid competition with them.

g. The ability to accommodate the folkways of
the culture within the social system and/or
environment.

h. The ability to meet the expectations and
fulfill the different role expectations of
the ethnic or vested group interests while
simultaneously fulfilling the technical
roles for which it was created.

i. The ability to generate change expectation
atmosphere through predicting imminent
crises that it alone can solve.

The attainment of institutionality calls for a self-
generating or self-renewal approach in the institution's
life. The extent to which the institution is orderly and
internally maintained is a crucial factor if the institu-
tion has to stand the trial stage. In this respect, the
institution could be seen as an effective decision-making
administrative organ. It is being suggested that internal
maintenance is a product of effective decision-making on
the part of the chief executive. Since the institution is
also a system, it has "built in differences, gaps of
ignorance, misperceptions or differential perceptions,

internal changes in a component, reactive adjustment

and defences, and the requirement"[1] of its own survival

which generate tension. The centre thus needs to achieve

internal equilibrium between its component sub-systems or

the various departments before it can begin to effect its

environment. For this purpose, the centre has to rely

very much on the executive decision-making process.

Institutions as Viable Effective Decision Making Administrative Organizations

Of particular interest to the institution's chief

executive is the achievement of "efficiency" particularly

in the maximization of production by the man-machine system

within his institution; the high production which must be

attained at the lowest possible cost. One of the models

of reducing production cost and maximizing efficiency was

proposed by Frederick Taylor,[2] a pioneer in the field of

management. Since the early "piece work" model and then

the subsequent "task system" or "task management," man

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[1] Robert Chin, "The Utility of System Models and Developmental Models for Practitioners" in Warren G. Bennis et al., The Planning of Change (New York: Holt, Rinehart and Winston, 1961), p. 204.

[2] A complete account of Taylor's thinking, is contained in his three documents: "Shop Management," "The Principles of Scientific Management," and "Testimony before the Special House Committee," all published by Scientific Management, with a foreword by H. S. Peson (New York: Harper and Bros., 1947).

has sought to equip the chief executive with the most

effective strategies of effective management.

The process of decision-making in relation to

getting more work out of an institution and its ability

to survive is very much dependent upon the chief executive.

If he realizes his functions, an institution would not be

concerned with Taylor's mechanical approach motion studies,

or his vague "task management" or "task system," but rather

with the extent to which the chief executive is able to

clearly define his role. As a contribution to the definition of his role, Henri Fayol[1] suggested five functions,

often referred to as "Fayol's elements" which are

delineated thus:

a. To plan, which involves organizing for
the future and identification of a strategy
of operation.

b. To organize, involving the building up of
material, and human organization including
an economic deployment of both human and
material resources.

[1] A complete account of Fayol's thinking is contained
in his General and Industrial Management (translated by
Constance Storrs (London: Sir Isaac Pitman and Sons, 1949);
and The Administrative Theory of the State (translated by
Sarah Gree, and published in papers on The Science of
Administration, Luther Gulick and L. Urwick (eds.) (New
York: Institute of Public Administration, 1937).

c. To command, which involves seeing to it
that the staff does their work.

d. To coordinate by uniting and correlating
all the organizational activities.

e. To control by seeing to it that everything
is carried out in accordance with the rules
and procedures laid down.

It is not only the beginning of clarification of
these executive functions that are gained from Fayol, but
the basic understanding that the administration of the
prospective institution is not only the function of the
leadership or the "powers that be" alone, but that it has
to be spread throughout all levels of the institution,
thus going far beyond the process of delegation.

The concern with high production can lead to a
tendency to regard an organization as void of human element,
thus regarding people as a means to the end and not part
of the system for formulating the strategy of achieving
the ends. Hence the inclusion of the function of "command"
which has since then been left for the police and members
of the armed forces. This term was not dropped until

Mary Parker Follet[1] injected a psychological aspect of

administration into the management of organization. Of

her pluralistic approach, one that is of interest to the

institutional chief executive is the need to realize that

lower level executives should be regarded as partners in

helping to formulate the general policy of the institution,

including for our purpose, the customers. Her considera-

tions imply that institutional employees and their union's

contributions should be solicited on the basis of genuine

community interest. This is why the establishments of diffused

linkages as a strategy of institutional operation are

advocated. When we advocate the need to train staff and

media utilizers, Follet's second consideration of the need

to shape a profession in business management is a relevant

consideration. Although this would tend to defeat the long

cherished "generalist" view by audiovisual coordinators,

it is now advocated that a time has been reached when

media institution executives should see themselves as

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[1] Her ideas and contributions are contained in
her publications, The Speaker of the House of Representatives
(1896); The New State (1920) and Creative Experience (1924);
both of which are published by Longmans Green and Co.,
London. For further reading also see, H. C. Metcalf, and
L. Urwick (eds.), Dynamic Administration, The Collected
Papers of Mary Parker Follet (New York: Harper and Brothers,
1940).

experts, if not professionals of some specific function;

for our purposes, the chief executive is an expert of

entrepreneuring the efforts of "experts." By running

around--in the name of a generalist--doing what other

people could be trained to do by those who know it better,

the executive could fail to give his colleagues an opportun-

ity to develop and thus ruin the necessary human relations.

If he cannot get the right people with specialized skills

for his institution, then it could be suggested that he

is an inefficient executive.

Considering the ideas of Mayo and Roethlisberger,[1]

the centre could be introduced to another aspect of human

relations. In this respect, it is logical to consider

action through a cooperative effort; social environmental

conditions; the informal patterns of behaviour, sentiments

and beliefs that exist in any one single group, whether

formal or informal; and the need for the executive to be

on the listening side as necessary considerations in

designing operational strategies of the institution.

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[1]For a full account of their contribution, see Elton
Mayo, The Human Problems of an Industrial Civilization
(Boston: Harvard Business School, 1933) and F. J. Roethlisberger
and J. W. Dickson, Management and the Worker (Cambridge:
Harvard University Press, 1939).

In considering an organization as a cooperative

system composed of activities of human beings, each part

or department should be seen as related significantly

to every other part. All these parts are held together

by a common purpose and the willingness and effective

communication among the people and the parts. The chief

executive's functions is seen as that of preserving the

"internal and external equilibrium" of the diverse people

and subsystems of the institution.[1] In maintaining this

equilibrium, the chief executive should strive to reconcile

the conflicting forces, instincts, conditions, positions,

ideals and beliefs of those with whom he works, particularly

at any planning stage. To achieve the necessary equilibrium,

Bernard would have liked to see leadership, communication,

precise decision-making, judicious exercise of authority,

responsibility and sensitive understanding of those with

whom he came in contact as necessary variables of

institutional leadership's strategy of operation.

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[1] Barnard, Chester, L., _The Functions of the Executive_ (Cambridge: Harvard University Press, 1938), and _Organization and Management_ (Cambridge: Harvard University Press, 1948).

Another manager-scholar that is of interest is

Herbert A. Simon.[1] Though extending what Follet, Mayo and

Roethlisberger offered, he stands out for his mechanisms

of influence based on the proposition that people are not

passive instruments or neutral means to ends, but rather

that they are decision-making or thinking assets. His

mechanism of influence which is manifest in the process

of decision-making involves the need for:

    a. The perception of behaviour alternatives.

    b. The anticipation of various consequences
        resulting from different behaviour.

    c. The evaluation of these consequences in
        terms of the "satisfaction," "utility" or
        "welfare" they may yield, and

    d. the selection of another behaviour alternative
        on the basis of the foregoing evaluation.[2]

In summation, the extent to which an institution is

internally maintained as an effective decision-making

organizational system is dependent upon the relationship

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[1]As in his _Administrative Behaviour_, among many other
publications, the first edition of which was prefaced by
Chester I. Barnard in 1947. The revised second edition
with a new introduction by Simon is available now (New York:
Macmillan Co., 1957).

[2]As reported in B. M. Gross's "Scientific Approach
to Administration," in _Behavioural Science and Educational
Administration_, D. E. Griffiths, ed., NSSE Year Book
(Chicago: University of Chicago, 1964), p. 69.

between the chief executive and his subordinates or the

working gang, and the clarity with which he perceives

and communicates his roles. For his guidance, the following

administrative functions are proposed:[1]

      a.   To PLAN through studying future trends,
formulating policy, arranging operational
strategies such as <u>Budgeting</u> to implement
policy.

      b.   To ORGANIZE by effective, efficient and
economic deployment of human, economic
and material resources, delinearing
jobs are to be done by man and which ones
are to be done by machines, and obtaining the
difficult-to-obtain commodities and talents.

      c.   To CONTROL by seeing to it that everything is
done in accordance with what was set up in
operational plan; to see to it that a time
schedule is compiled with or revised when
necessary; to see to it that the institution
acts within the basic objectives for which it
was set.

      d.   To COORDINATE the human and machine activities
of the entire institution, its separate depart-
ments and experts so that there is no

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[1]This distinction is made to assert the distinction
between the technical and professional functions to be
discussed later on.

duplication, or under-utilization of over-
utilization of experts.

e. To COMMUNICATE and EVALUATE through
determining the extent to which separate
missions of departments are met within the
framework of the institution's objectives;
making sure that proper matters of policy,
operational strategy are communicated to
relevant and appropriate targets; and
developing and opening a bilateral communica-
tion system within the institution.

f. To ESTABLISH a mutually acceptable working
relationship based on reciprocal trust and
equilibrium or harmonious inter-departmental,
labour-management or superordinate-subordinate
relationships.

Maintaining an External Equilibrium

Assuming that the institution is internally main-
tained, it must now begin to relate to the environment
and/or social system. It does this through adopting
psycho-social strategies. These enable the institution to
be externally related to the environment in order to
function as a social organ. Like any agent who seeks to

initiate change, the institution must now prove that it
is capable of innovating and diffusing the innovation so
that the innovation (instructional media) is finally
accepted or adopted.

There are certain factors which characterize
what would be adopted and what would not. As in the process of
bringing about the acceptance or adoption of ideas, the
communicator acts on a maxim "who says what, in what
channels, to whom, with what effect;"[1] a social change
agent might say who advocates what innovation in which
social system, for what length of time, through what
diffusive channels. In this connection, Rogers suggests
four elements of diffusion:[2]

   a. The need for the institution to have an
       innovation which is a new idea to be spread.

   b. The need to identify the means through which
       the innovation will be communicated, diffused
       or effused within the social system. In
       practice, such diffusive and effusive means
       include:

       i. Specialized publications such as the
           DAVI's Audiovisual Instruction, or the

[1] Harold D. Laswell, "The Process and Function of
Communication Society," Layman Bryson, ed., The Communication
of Ideas (Institute for Religious and Social Studies, 1948),
p. 37.
[2] Rogers, op. cit., p. 12.

<u>Audiovisual</u> <u>Communication</u> <u>Review</u>.

ii.   News letters, orders, memos and
directives, depending on authority
relationship.

iii.   Exhibitions, conferences, conventions,
demonstrations, seminars, and workshops,
and observation trips to successful
projects.

iv.   The loan of documents and distribution
of materials.

(One of the largest Audiovisual Institutions in the
United States of America, the National Educational Associa-
tion's Department of Audiovisual Instruction has very ably
used these diffusive techniques to spread its innovative
thrust.)

c.   The need to identify, define and understand
<u>social</u> <u>systems</u> which would be affected by the
innovation. Thus there is not only the need
to understand all the ministries and government
departments in Kenya, but also the need to
discover the existing power relationship and
any areas of conflict and cooperation between
them.

d.   The need to define _time spans_ during which
the stages of adoption shall be tried, and
to help in facilitating the adoption process.
Rogers has suggested a five point adoption
process, namely:[1]

i.   An _awareness_, when the innovation is first
heard of, and the desire to know more about
it stimulated. At this stage, conferences
are called.

ii.   _Interest_ which should lead to perceiving
the innovation as providing a better
alternative to solving a crisis, like
that generated in the U.S.A., after the
launching of the Sputnik--the need for
new techniques of teaching so as to
surpass the U.S.S.R. after Sputnik.

iv.   _Evaluation_ as to whether the innovation is
worth trying or not. The evaluation is
done on the basis of whether the innovation--
if adopted--will help to eliminate a
prevailing problem.

v.   _Adoption_ of the new ideas after a series
of conferences to produce preliminary
tentative prototype and trial and evalua-
tion of the innovation.

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[1] _Ibid._, pp. 81-84.

These elements of diffusion are generally in
agreement with those advanced by Katz (1961), i.e., the
tracing of an innovation, over time, through specific
channels and finally within a social culture.

While communications stresses the need for a
communicator in a communication process, so would change
agents stress the need for the presentor of the innovation
and the change programme. In a change induction process
this is what other scholars (Gallagher, Bennett, and
Rogers, Loomis and Beegle) call advocates or "agents."

Elements of Change

In dealing with over-all strategy of change, five
guiding principles appear to be widely applied, all of
which stress:

   a.   The need for the programme of change to be
        tailored to the cultural values and exper-
        iences of the social system receiving the
        innovation.

   b.   The need for change agencies, be they advocates
        or institutions, to be concerned with improving
        the social systems' or units' competence in

W. C. Mierhenry, _Media and Educational Innovation_
(Lincoln: University of Nebraska, 1967), p. 23; H. G. Bennett,
Innovation, The Basis of Cultural Change (New York: McGraw
Hill, 1953), pp. 291-95; C. P. Loomis and Beegle, _Rural
Sociology: The Strategy of Changes_ (Englewood Cliffs, N.J.:
Prentice Hall, 1957), E. M. Rogers, _Diffusion of Innovation_
(New York: The Free Press, 1962), pp. 254-84.

dealing with the perceived crisis by them-
selves as well as improving their competence
in evaluating new ideas other than simply
promoting innovations.

c. The need for the social system to perceive
a need for an innovation before it can be
introduced.. This is in line with the generally
publicized crisis prediction approach so that
the innovation is perceived as a means of
dealing with the crisis.

d. The need for change agents to take into
consideration what leaders in early stages
of diffusion of an innovation think.

e. The need for the institution to anticipate
and prevent any negative social consequences
that might prevent the diffusion of the
innovation, and thus frustrate the efforts
toward inducing the desired change.

The cultural values of a social system, the
improvements of a social system's evaluative skills, the
generation of a felt need or crises, anxiety in a social
system, the analysis of what the local leadership is
thinking, and what might prevent the induction of change,
would not be achieved without open communication to facilitate

a clear knowledge and understanding of the client-customer
system by the institution. The need for the discovery of
these elements points to the need for a deliberate and
collaborative planning process involving the institution
and the customer-client system.

The need for collaborative effort of planning cannot
be over-emphasized. It is so important that it deserves
further treatment. It is during this planning stage that
crises and problems are identified, objectives or doctrines
formulated, programmes and time of action mapped, objections
raised, alternative methods acceptable to the objectors
formulated, and above all an understanding of the problem
made, statement of objectives agreed upon and a programme
of action mutually understood.

The extent to which an innovation advocated by the
institution can be effectively utilized by the social system
depends very much on the nature of relationship between the
institution and the customer-client social system. The
collaborative process of planning is not only necessary
for promoting a closer relationship between the institution

and its social system, but it also calls for an under-
standing of the factors influencing the thought processes
of the social system. Planning not only serves as a forum
for creating common ground, but it also helps the institu-
tion in understanding these categories of the social
systems most likely to accept--and therefore useful as
areas of infiltration--or object to the innovation. During
planning, the dissident, the indifferent, the resentful
and the unaffected could be identified, their value system
is discovered, and their authority relationship identified.

In a change-induction process, the importance of
discovering who obeys whose orders, who objects to which
orders, who is threatened by what suggestion is not only
important in the decision for areas of infiltration, but
also for the formulation of innovation and change principles
suitable and workable in the particular social system at
a particular period of time.

In wondering why some innovations advocated by
institutions, are readily accepted and adopted, while in
other institutions similar innovations in different social

systems are rejected, it has been found that there are basic characteristics that the accepted innovations have, and that these characteristics facilitate their adoption within the social system. Learning from the experiences of other successful institutions, it appears that these characteristics reflect the following needs:

    a.   The need for <u>crises perception</u>[1] insofar as it leads to the need to plan for change as well as to an emphasis of the relative advantage of an innovation, thus affecting its rate of adoption. This is indicated in the massive adoption of innovation instructional technology in the education system in the U.S.A. after the successful Sputnik launching by the Russians. The launching brought the subsequent perception of a general threat to the defense of the U.S.A., hence the National Defence Education Act. Nonetheless, other innovations have been adopted in instructional technology as a result of the perception of the crises posed by population explosion, and the knowledge and the rise of ignorance.

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[1] B. M. Gross, "National Planning; Findings and Fallacies," <u>Public Administration Review</u>, XXV, No. 4 (Dec. 1965), p. 265.

b. The need to perceive an innovation as having relative advantage[1] insofar as it helps to solve a crisis, or offering an alternative better state of affairs. Thus most of the innovations in instructional communications in the U.S.A. were seen as a means of accelerating the education programme to put the U.S.A. on a equal footing with, if not help it to surpass, the Union of Soviet Socialist Republics (USSR), as well as improving the quality of instruction.

c. The need for the innovation to be compatible with the established social norms and values. This could be explained when the general innovative thrust in instructional communication was perceived as enhancing the "greatness" of the American system, as well as insuring its unquestionable lead in all spheres in the western world.

d. The need for the innovation to be communicated in simple terms so that it is understood by the social system. A complex innovation takes time to adopt; often it may be resisted because it is "over the head" of the recipient.

e. The need for early adopters or agents of infiltration to perceive the innovation's

[1] Detailed account of ideas proposed in ii, iii, iv, v, and vii are found in Rogers', _Diffusion of Innovations_ (New York: The Free Press, 1968), pp. 121-47.

divisibility. Divisibility will enable them
to tackle its adoption in stages over a
period of time

f. The need for the innovation's communicability
   or the degree to which the results of adoption
   or rejection of an innovation are visible to
   members of a social system.[1]

These needs and concerns are important insofar
as they determine the rate of an innovations' adoption or
integration, and thus help to determine whether an innova-
tion shall be adopted or rejected. They emphasize the
importance of identifying the social norms, fears, tensions
and values within the social system on the basis of which
a generation of change expectation can be done.

Institutions as Innovators and Advocates of Innovations

The need for an innovation implies the importance
of the innovators themselves. One of the roles that the
centre might acquire is to be the main innovators, the
advocates and agents of change in instructional technology.
In his paper on the "Role of the Advocate and Directed

[1] Everett M. Rogers, "The Communication of Innovations
in a Complex Institution, Educational Record (Washington,
D.C.: American Council on Education, Winter 1968), p. 69.

Change,"[1] Gallagher proposed two models: pragmatic

and utipic advocates. He sees the role of pragmatic

advocate not only as conceiving and advocating an

innovation in instructional technology, but also ful-

filling a number of roles, namely:

  a. Creating a climate conducive to the

      acceptance of the innovation by planning

      for the future on the basis of the present,

      the rationale being that plans for the future

      grow from the past, and thus they must

      incorporate what has been established in

      the past.

  b. Advising on consequences of accepting or

      rejecting an innovation, if not planning

      for the integration of the innovation as to

      minimise the disruption of pre-existing

      traditions in the event of its acceptance.

  c. Creating a situation in which potential

      acceptors come to view change and growth

      as generated from within themselves rather

      than from without them. The role of the

      advocate in this case is one of enlisting

      potential acceptors (agents of infiltration)

      in planning procedures, while he serves as an

[1]Art Gallagher, in W. C. Meierhenry, (ed.), Media
and Educational Innovation (Lincoln: University of Nebraska
Press, 1967), pp. 23-50.

instrument of incentive, guiding them in
identifying and defining their needs.

d. Creating expectation of change, not so much
on the assumption of its being automatically
accepted by the acceptors, but to predispose
them to a greater willingness to examine
alternatives.

The development and strengthening of the above roles

is dependent upon the advocate's understanding of several

aspects of the systems to be changed, including the systems

norms and values, internal organizational patterns and

the way the system relates to others through established

linkages.

Unlike the pragmatic advocate who is sensitive to

his client-customer system, the utopic advocate's role is

one of:

a. Manipulating to gain acceptance; thus by
focusing on acceptance other than innova-
tion appreciation on value basis, his basic
premise is seen to be that he knows what is
best for the acceptors or those to be changed,
and that is why he would plan and do things
for; rather than planning and doing with his accepto

b. Zealous advocacy for reforms, thus attaching
   a great deal of value to expediency and the
   necessity for speed. For this reason he
   employs sanctions and other forms of force to
   gain acceptance.

For the purpose of this study, the pragmatic model is more acceptable than the utopic model. Because of the utopic advocate's enthnocentrism, impatience and style, he has less regard for the social system he intends to change. Since he plans and does things for his acceptors, the acceptors would view the innovation as originating from without them, and because he employs sanctions, they would tend to accommodate him and show only external conformity without ever generating appreciative values for the innovation. This model is not in keeping with the new spirit of perceived "independence." Moreover, the utopic model seems to have been the main instrument for colonial powers, and to use it would be risking being accused of using "colonial tactics." Nonetheless, it can be referred to as and when the situation demands.

Institutions as Designers and
Communicators of Messages

It has already been indicated that there is some
parallelism between elements of change and those of
communication. In communication the crucial elements include
the message, the source of the message, the channel and
the receiver. The receiver determines the nature and
content of the message as well as the nature of the channel.
It is also agreed that the most important aspect of inducing
change in the attitude of the receiver is through a careful
knowledge and understanding, as well as the ability to
predict the receivers' behaviour. On this basis, the
channels (means of diffusing innovations), the message
content (the innovation), and the time to communicate can
be decided. Similarly, as already noted in the process
of change, there has to be an innovation (message), an
advocate or agent of the innovation (the source of the
message), the means through which the innovation is to be
diffused (Channels), and finally, there has to be a target,
or what the communication theorists call the destination

of the innovation. It follows that the nature of the
social system (their needs, fears, problems, internal
organizational patterns and relationships) would determine
the content and the nature of the innovation and its means
of diffusion.

It would appear that an institution or the advocate
of change must not only study and judiciously understand
the needs, aspirations, fears, norms and values of its
social system on the basis of which a choice of an
innovation and its diffusive means can be decided; that
institution or change advocate must also know its own
limitations on the basis of which expectations of change
can be gauged. As in communications, a change of attitude
cannot be achieved unless the communicator is able to
predict the terminal behaviour of the receiver; so must
the institution or the advocate of change be able to
predict the terminal effect of the innovation, on the
basis of which he can advise on the consequences of its
rejection or acceptance. Thus he can design remedial
measures to minimize the disruptive consequences, if any,

of the innovation to the pre-existent social norms and values, and therefore minimize resistance.

These communication theory contributions underscore the need for a sensitive and constant observation of and collaboration with the social system by the advocate of innovations. On this basis the innovation and its means of diffusion can be determined. This is important not so much to note what innovation to introduce next, but to assess the impact and effect of the innovation being tried as well as setting the stage for the feedback evaluation process.

Institutions as a Possible Source of Knowledge and New Beliefs

Because the way a person has come to know and hold a belief is important in human life, especially in terms of change, it becomes imperative that a study of the ways through which people come to hold their beliefs be understood. On this basis the American philosopher, Charles Pierce[1] is relevant. He proposed four general ways in which a social system or individuals fixed or came to hold their beliefs.

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[1] J. H. Buchler, (ed.), Philosophical Writings of Pierce (New York: Dover, 1955), ch. 2. For further discussion see M. Cohen, and E. Nagel, An Introduction to Logic and Scientific Method (New York: Harcourt, 1934), pp. 193-96.

The first method he proposed was the method of tenacity, where men held firmly to the truth they knew to be so because they had always known it to be true. The second method is the method of authority, or the established truth. In this respect, it is required that many authorities be ready always to lend their prestige, respect support, and personality to the cause of the innovation. This is still in practice when a fact is accepted as valid only on the basis of backing it with research by some leading authorities in that area. The third method is the one of a priori, i.e., one of finding the innovation or change agreeable to reason, though not necessarily to experience. The fourth method is one of science which has the unique characteristics of self-correction.

Thus, in our context, if the idea of an institution and whatever it has to offer, is perceived as what has always been the truth, or if it is backed by the top executive, or for that matter, if it is a logical thing to do under the perceived circumstances, it would stand a better chance of being integrated in the social system

and thus become institutionalized.

To sum up, the extent to which an institution is externally maintained is dependent upon a number of factors, namely, the extent to which it is able to effectively respond to specific problems facing the social system and/or environment. To cope with the environmental problems, the institution must come out with the difficult-to-obtain innovation when it is needed. It must successfully diffuse this innovation by: (a) creating in the environment an expectation for it, i.e., explaining to the environment the consequences for the innovation's refusal or acceptance; (b) by generating an atmosphere conducive to narrowing the credibility through studying the various ways in which the potential acceptors come to hold a new belief; (c) designing appropriate messages and communicating them effectively in the context of the potential acceptors; (d) designing, adapting or adopting and advocating appropriate innovations compatible with the potential acceptor's cultural norms, and above all (e) maintaining its own equilibrium between the power groups (from whence

came legitimacy, prestige and commitment) on the one

hand and the social system and/or environment on the other

hand (from where it receives continued justification for

existence, continued support in the wake of withdrawal

of legitimacy and support from the power group.)

It can now be postulated that tension in the external

equilibrium is a product of the institution's inability to:

(a) identify the various ways in which the potential

acceptors came to hold their beliefs;   (b)   respond

appropriately to a crisis perceived by the environments;

(c) define a role rather than fulfill it (for the role

expectation change from time to time);   (d)   bring about

change when it is most needed, and above all;   (e)   simul-

taneously fulfill the power groups expectations and respond

to the social system's and/or environment's problems.

Summary

The foregoing review is an attempt to bring

together the available knowledge, experience and concepts

on institution building and administration, innovation

and the diffusion of the innovation within a particular

social system at a particular time. These might be
invaluable in providing theoretical basis in planning,
designing, administering and promoting the building of
an institution aimed at providing a framework for promoting
an instructional technology programme in developing countries,
particularly Kenya. The analysis represents a search for
administrative and psycho-social principles on the basis
of which planning and launching of a National Educational
Media Resource Centre could be carried out. They are not
exhaustive, but are suggestive of how independent variables
of institutional success or failure could be identified.

These variables postulate that an institution's
effect will be based on the extent to which the institution
embodied valid and relevant administrative and psycho-
social principles, the most important of which are:

A. Administrative Elements

    1. Leadership and its professional status:

        a. Technical competence

        b. Organizational competence:

            i. Planning and delegation of authority
               without abdication.

      ii. Efficient and effective deployment
           of personnel.

     iii. Providing, acquiring and coordinating
           experts.

      iv. Clear distribution of functions to
           the experts.

c. Continuity and stability of tenure.

d. Political viability within a political
    system of a social system.

e. Commitment to the doctrine and programme
    of the institution.

f. Exemplication of indigenous self-image
    as seen against other indigenous groups
    of ethnic origin.

g. Sensitivity to others, both within and
    without the institution.

h. Capacity to establish and maintain an
    internal and external relationship of
    clear linkages.

2. Doctrine:

a. Specification of values of the
    institution as well as those of the
    social system.

b. Specification of statement of objectives
    in relation to specified environmental or
    social system's problems and needs.

c. Determination of operational methods and

means of achieving the objectives.

3. Programme: Delineation of actions related to
    the performance of the institutions functions.

4. Resources:

    a. Financial adequacy.

    b. Physical facilities like buildings,
        etc.

    c. Human

    d. Technological competence of staff

5. Internal structure:

    a. Hierarchical description of roles and
        functions.

    b. Delineation of functions and departmental
        roles.

B. Linkages: Identification and delineation of centres
    or areas to extend the following linkages.

    1. Enabling

    2. Functional

    3. Normative

    4. Diffused

C. Institutionality:

    1. Does it have the will, ability and capability
        to survive?

    2. Is it ready to establish complementarity with
        other institutions or is it in competition with
        them?

3. Has it established environmental support?

D. Administrative and functional strategy:

    1. Planning capacity

    2. Organizational capacity

    3. Controlling capacity

    4. Coordination capacity

    5. Communication provision

    6. Evaluation provision

E. Innovative and Diffusive thrust:

    1. Does it have the capability and ability to conceive and advocate innovations?

    2. How often does it come out with innovations?

    3. How compatible are these innovations with local norms and values?

    4. Are these innovations perceived by the acceptors?

        a. as of any relative advantage?

        b. originating from within themselves or outside?

    5. Available means of innovation diffusion and dissemination.

        a. Professional publication.

        b. Periodical newsletters.

        c. Demonstrations.

        d. Workshops and conferences.

        e. Observation and visits.

Is the target or possible acceptor identified and clearly delineated?

F.   Strategies:

    1.   Understanding of target's organizational
       patterns:

       a.   Superordinate–subordinate relationship
          identified.

       b.   Status of various leadership patterns
          identified.

       c.   Sources of knowledge and belief system
          fixation identified.

    2.   Understanding of target's social nature:

       a.   Norms and values identified.

       b.   Needs and problems surveyed and identified.

       c.   Creation of change facilitating situations.

          i.   Crises prediction.

         ii.   Consequences of adoption or rejection
            of innovation explained.

       d.   Easy integration of innovation planned.

          i.   Create problem awareness or perception.

         ii.   Generate interest and commitment to
            dealing with the problem.

        iii.   Determine agencies of infiltration.

         iv.   Present the innovation to look as
            though it originates from within the
            acceptors.

3. Understanding of social structure:

   a. Linkages relating the institution to acceptors.

   b. Identification and control of rewards valued by acceptors.

   c. Understanding of the power it represents and controls.

   d. Sanctions available and how utilized.

   e. Formal and informal power structure of the social system identified.

4. Communication Relationships.

   a. Conveys form, meaning, and function of acceptors simply and clearly.

   b. Communicates from the acceptors point of of view.

5. Interrelational approach:

   a. Does it consider the acceptor or does it assume it knows best what the acceptor needs?

   b. Does it define problems, methods and means for the acceptor or does it leave the acceptor to do it by itself, or is it an intrepreneurial approach?

   c. To what extent are sanctions, threats or force used?

   d. Does it work with and through the acceptors?

In conclusion, this chapter has underscored the need to understand the process of induced change. This understanding forms the basis of the preceding procedural design and strategy for establishing subsequent change agencies. The administrative and psycho-social principles are needed to form a theoretical basis for the building of necessary media centres.

Like all good scientific or architectural or engineering structures which are always based on well-established and valid principles, the building of media institutions should also be based on well established principles of scientific institution building and change induction. Since the institution will serve as a change-inducing centre which would exercise innovative and diffusive thrust, it must embody established psycho-social principles which facilitate its change-inducing, as well as its innovative and diffusing activities. To function as an administrative unit, it must also embody the administrative or institutional strategies that have been suggested above and implicit in Figure 5.

A SCHEMATIC PROCEDURAL MODEL IMPLIED IN THE PRECEDING CHAPTERS

PRE-CONDITIONS

SURVEY

DETERMINE

ESTABLISH

FORMULATE

PROBLEM, CRISIS or TENSION AWARENESS, then a COMMIT-MENT to deal with the problems arising therefrom

Institutional

OBJECTIVES
DOCTRINE
STRATEGIES

PRIORITIES

Institutional Inputs
Institutional Outputs

NEEDS

Problems
Crisis

CHANGE AGENT

RESOURCES
Human
Financial
Physical

PROPOSAL

DOCTRINE
Philosophy
Innovations

Opinion leaders
Agents of infiltration
Sources of Authority and belief systems

Social Status
Relations

Available Facilities—Who maintains what

Available Institutions or social units

Complementary functions
Supplementary functions
Opposing functions
Who needs what

TARGET
Social System or specific social units

LINKAGES

RESOURCE allocation
INTEGRATION and EQUILIBRIUM
attainment STRATEGIES

PLANNING FORUM

Figure 5

CHAPTER VI

ORGANIZING AND PROMOTING THE PROGRAMME

Overview

As a first step toward determining the strategy and process of developing and promoting an audiovisual programme, it was suggested that a need for, and a commitment to, the building of an organizational framework to be established. This commitment is manifest in a legislative action or a presidential decree or in open support from the top power groups.

It is substantially evident that the most successful audiovisual programmes have been organized by accepted institutions arising from a collaborative planning effort. The problem is one of identifying and applying psycho-social and administrative variables which would facilitate the institutions' building, its acceptance in Kenya and its subsequent induction of change. Since these variables are being proposed as the major intervening variables in

institutional success, they are considered crucial in

enabling media institutions to develop and promote an

audiovisual programme.

When these administrative and psycho-social variables

are identified, the operational structure and strategy

that an institution adopts in developing and promoting

its audiovisual programme can be established.

. An institution is built by a social system to

serve the system in dealing with discrepancies or problems.

The extent to which it will succeed is not only dependent

on the practice of acceptable psycho-social and administra-

tive relationships, but also on the degree to which it

serves specific functions and needs of the social system

which established it.   The need for such an institution

has been established.   To enable media institutions to

take cognisance of these needs and problems, it is advisable

to identify the environmental variables which not only

help institutions to define its objectives, but also help

develop an action programme which will let the social

system solve the prevailing problems and needs.   Environmental

variables of needs and problems are necessary in guiding

the formulation of institutional objectives and action

programmes. They are also useful in determining the

operational departments or conversion functions of the

institution. Thus the number of conversion functions,

departments or services an institution develops is dependent

upon the nature and variety of the tasks to be accomplished,

the precise definition of institutional objectives, the

formulated action programme, and the doctrine decided on

on the basis of the perception of environmental needs

and problems.

In conjunction with the operational or psycho-

social and administrative considerations developed on the

preceding pages, the following pages contain a brief

statement of the nature of educational media, its place

in the educational process, and the organizational frame-

work of the institution to develop and promote them.

In view of the fact that very few people understand

the nature and scope of educational media and what it is

capable of accomplishing in the educational process, this

brief statement of the nature of educational media and how it has been organized elsewhere is included. To give the prospective institution's leaders an idea of the variety of activities, and the material and equipment they might develop, coordinate, and promote, the following section is a review of the role of the institution in its attempt to develop and promote an audiovisual programme in Kenya.

The Nature and Function of Educational Media

Educational media can be used to facilitate and accelerate the educational process. They are the various machines and material that facilitate efficient; effective and economic teaching for easier and faster learning. They are a necessary factor in dealing with the question of how to teach so as to facilitate learning. They are considered as a subsystem--within the instructional system--which has a significant relationship with instructors or teachers, learners and the spaces or environment within which teaching and learning take place. This significant relationship is

not only a necessary factor in accomplishing a common

and mutual instructional objective of successful, faster

and easier learning, but also in bringing about effective

and efficient teaching.

Educational media range from those which would

facilitate individual instruction--ranging from books to

complex information storate and retrieval system such as

computers--to those used in mass instruction such as radio

and television; the range includes those media used in

small size instruction such as film-strips, slides,

8mm and 16mm films, magnetic tapes with their related

equipment, to the simple graphic material, usually known

as visual aids.

Used appropriately, educational media can bring

about a lasting assimilation of given knowledge, structure

and behaviour patterns called for in an instructional

situation. Apart from being instrumental in enhancing a

teacher's professionalism as well as multiplying his

impact on many more learners at the same time (as in the

case of radio and television), they are instrumental to

help the teacher state his objectives more specifically (as in programme instruction, dial access or computer assisted instruction). Where the real life experience is lacking, instructional media like films, video tapes, dioramas, and field trips can provide a suitable substitute, thus involving the learner's emotional involvement and participation.

An increased use of programmed instruction media, dial access facilities, computer instruction, and the like could promote individual approach to learning and teaching, thus permitting the student to regulate his own behaviour pattern during the learning process.

The National Educational
Media Resource Center

Functions

In order to promote an effective utilization of educational media in Kenya, a National Educational Media Resource Centre with three general functions is proposed. These functions are related to controlling, coordinating, and promoting the utilization of the educational media. The functions are organized under service, research, and

2.   As a _research_ centre, the Educational Media Resource Centre will want to determine the effect of media in relation to specified learning environmental space designs, teacher and learner attitudes, and the development of appropriate learning systems and strategies that go with equipment and material designed by the centre.   The centre will also evaluate, and if necessary modify, material and programmes with a view to determining the effectiveness of the programmes.

3.   As a _development_ centre it is responsible for the service of translating research and theoretical findings into instructional programmes.   Thus it provides a link between educational research and practices by making it possible for theory to be used for educational improvement. The centre will also help to find and/or organize necessary material or programmes for use in schools or training institutions.   A final function of the centre will be to develop and refine material and reliable indices

C. Production

It is proposed that this section be responsible for the material output of the institution, and, depending on the needs, it is suggested that it be organized under the following functions:

      i.   To produce educational media--films, tapes, slides, filmstrips, transparencies, photographs, microfilms, videotapes, packages of programmes, posters and other graphic material.

     ii.   To maintain an inventory of what is produced and for whom.

   iii.   To offer help and advice in the production criteria for local and field production of simpler and cheaper material.

D. Circulation and Shipping

    a.   To receive and send out equipment and material when required.

    b.   To keep a record of vendors and equipment or material kept.

E. Promotion

      i.   To publish a professional periodical devoted to instructional technology.

     ii.   To conduct seminars, workshops,

demonstration sessions and con-
ferences to facilitate integration
and diffusion of innovations.

iii. To conduct surveys of needs and new
problems to be dealt with.

iv. To open and maintain necessary linkages
with necessary bodies.

v. To operate closely with other depart-
ments.

vi. To receive orders and requests from
customers and determine the relevant
section for which the order is meant
within the institution.

Strategy of Service

In order that technical and professional needs of
government ministries, departments and other specialized
bodies and firms might be met, it is better for them to
appoint a chief "extension" officer or a "subject matter
expert" in a subject area they need. It is suggested that
the "expertise" be representative of the following areas:

1. Industrial relations and administrative
training (to be consulted in designing
material for management, administrative
and executive training, or industrial relations.)

2. Extension services and adult education,
comprising subject matter experts in the
fields of:

   a. Cooperative education
   b. Agricultural and animal husbandry education
   c. Health education
   d. Community and social programmes
   e. Developmental planning programmes

3. For the formal education process, each area
of subject discipline might also have a
"subject matter expert" representative of
the subjects on the curriculum. They will
serve as content consultants in the designing
and preparation of material that their class-
room colleagues need. Such subject areas
include:

   a. Social studies and civics--history,
      geography, government and economics
   b. Maths
   c. Physics
   d. Chemistry
   e. Natural sciences
   f. Industrial arts
   g. Aesthetics--music and art
   h. Linguistics

To maintain a common theme in all the media produced, the various "subject matter experts" should meet during the designing conference, trial and evaluation stages, and finally work with the development and research wing of the centre in refining the material produced. It is thus necessary that each specialized area, department or ministry should appoint a full time consultant to serve as a subject matter expert.

Summary

In this chapter a point was made that effective organization and promotion of an audiovisual programme needed, apart from establishing the need for the program, an effective organization through which the programme could be organized. Effective programme promotion depended on the understanding of the nature, function and limitations of the educational media. A need to acknowledge what media will and will not do requires a judicious selection and utilization of the media.

Some educational media like radio and television is better used for large group instruction and for reaching

those who live in remote areas. Nonetheless, their
effective utilization requires a careful planning. Other
media, like the computer, tape recorders, video tape'
recorders (VTR) could be used effectively for small group
or individual instruction. Other media will enhance
learners motivation, interest and understanding of a
subject under study. The effective use of educational
media require that teachers and instructors state objectives
more specifically.

A National Educational Media Resource Centre, which
is devoted to the control and utilization of media, is
established as a research, development, and service
centre. As a research centre it conducts pure, applied,
and development research related to the nature, function,
utilization and effect of educational media. An important
research function is to coordinate research activities
conducted by local and external researchers. The centre
is concerned with research into the various environments
most suited to effective learning/teaching and the type
of equipment on media needed for such environment. As a

development centre, the centre instructs or trains teachers

and change agents in the selection and utilization of educa-

tional media. The centre will also generate new ideas

about media utilization. As a service centre, it produces

educational materials for use; catalogue and loan equip-

ment; code, store, retrieve and transmit necessary

information; and finally promote its services by publica-

tions, demonstrations and workshops.

A strategic approach to the fulfillment of the

three functions will require a collaborative relation

with those utilizing the centre's services. It was

suggested that subject matter experts and training advisors

should work closely with the centre in the provision of

the respective services, especially in the production of

instructional materials.

CONCLUSIONS.

Overview

In attempting to identify the most effective process
and strategy of developing and promoting an audiovisual
programme in Kenya, a number of approaches were adopted.
They varied from the formulation of a conceptual model of
change to the operationalization of the model in an attempt
to identify the administrative and psycho-social variables
of institution-building and how the institution's subsequent
functional operation could be guaranteed. An attempt to
identify significant independent and dependent variables
necessary for future systematic testing of hypotheses was
made. The procedures used included a number of activities,
namely:

1. A study of institution building process
   with a view to determining the most effective
   strategy of creating an awareness of the need
   for, and a commitment to, building a media

centre. Its organization and administration
based on the findings from an analysis and
review of literature on institution building
as well as the organization and management
of programmes was postulated. The literature
was then put in perspective of Kenya's
National Educational Media Resource Centre.

2. A study was made of the strategies of
motivating and maintaining change as
reported in literature and observed from
practical experiences on effective and
successful strategies of innova-
tion and their subsequent diffusion.
This analysis was deemed necessary for
(a) providing evidence in support of
the conceptual model of change, and
(b) indicating the centre's strategy
to assure it of successful innovation
diffusive thrust.

3. Innovation and diffusion of innovation
models were incorporated in the formulation
of independent variables accounting for
institutional success. An examination was
also made of the extent to which institution-
building and programme administration were
incorporated into these change models.

2. Institutionality: the extent to which the
   institution has survived, is autonomous and
   has established complementarity with its
   environmental social system to such an extent
   that the social system can vigorously defend
   it and is willing to preserve it.

The third major variable is the institution's
innovative capacity. This is related to potential capacity
to initiate new ideas, ways or techniques and processes of
dealing with problems or doing things; transforming old
techniques and ideas to look as new; remaining responsive
to new needs, problems, crises or tensions perceived by
the community, or those it invokes within the community.
Successful accomplishment of this variable is dependent
upon:

1. The technical and professional capacity
   of staff, and the leadership, their commit-
   ment to the institution's objectives and
   doctrine.

2. The extent to which the institution is able
   to attract, acquire, keep and deploy the
   difficult-to-obtain skilled technicians and
   professionals.

3. The extent to which it is sensitive to,
and able to successfully respond to, the
social system's needs, problems and crises.

4. The extent to which it can identify the state
of obsolescence, decadence in ideas, skills
and strategies and renew them.

5. The extent to which it can accurately sense
the changing role expectation and cultural
shifts within the environmental social
systems.

6. The extent to which it can promptly come out
with the most difficult-to-obtain, yet most
needed innovations whenever needed.

7. The extent to which it is capable of under-
standing its own capacity and potential, so
that it only promises that which it can
fulfill.

(This variable is related to the first variable
insofar as its establishment is dependent upon the calibre
and quality of leadership. For this reason it could be
said that successful attainment of the first variable is
a necessary condition before this one can be attained.)

The fourth major variable is the <u>institution's</u>

acceptance by the social system and/or environment. It is
important that the institution be legitimised, accepted,
integrated, and be perceived as part of the social system's
framework and a forum for planning strategies of dealing
with relevant problems to such an extent that the social
system is willing to maintain, preserve and vigorously
defend it, so that it is never seen as irrelevant. Factors
affecting institutional acceptance are numerous, the most
important of which encompass:

1. The extent to which it is seen as a legal,
    legitimised, instituted, and accepted means
    of averting perceived crises or problems.

2. The extent to which it is perceived as planned
    from within the social system, and therefore
    necessary for its own advantage.

3. The extent to which its programmes are perceived
    to be relevant to and compatible with the
    social system's norms, values, and thinking
    or beliefs.

4. The extent to which the programme and doctrine
    are formulated on the basis of the social
    system's needs and problems.

5. The extent to which the consequences of
   the institution's acceptance or rejection
   are explained to the social system.

6. The extent to which the institution is
   accepted as a legitimate source of
   strengthening beliefs and a credulent
   source of information.

The variable of institutional acceptance cannot
be achieved unless the first three variables are attained.
That is, before an institution can be accepted it must
indicate that it has something of relative advantage to
the acceptor, that it has the necessary competence for
dealing with the situation, and that its leadership is
sound.

The fifth major variable is the institution's
innovative-diffusive thrust. This is related to the institu-
tion's successful advocacy, solicitation, and securing of
the social system's willful acceptance of an innovation
for adoption or adaptation. It is also related to the
extent to which the social system is satisfied with and
integrates the innovation within its own norms and values.

The success of this variable is dependent upon a number
of factors, namely:

    1.   The extent to which the institution generates
        and fulfills a change expectation climate,
        i.e., how effectively does it predict crises?
        To what extent does it deal with the crisis
        once it is perceived by the social system?

    2.   The extent to which the institution is able to
        generate a climate conducive to easy integration
        of the innovation within the target social
        system's norms and values, i.e., how well does
        it build a change expectation climate? How
        well does it explain the consequences for
        acceptance or rejection of the innovation?
        How often does it predict crisis imminence?

    3.   The extent to which the institution utilizes
        diffusive and dissemination strategies of
        a. Professional publications, newsletters,
            memos, etc.
        b. Exhibitions, demonstrations.
        c. Workshops, conferences, and training
            sessions.
        d. Visits to and observation of successful
            projects.

4. The extent to which the institution's
   innovations are accepted, adopted and
   integrated in the social system's
   technology and norms, values or activity.

5. The extent to which the social system is
   willing to defend vigorously and preserve
   the institution's innovations.

It is postulated that not until the institution
has satisfactorily fulfilled the first four variables will
it be able to exercise the fifth one. As a matter of
fact, the preceding variables are necessary conditions.

The sixth major variable is reciprocal relationship
(interdependence) of the institution. This is related to
the way the environmental social system and the institution
perceive each other as functionally and operationally
related in their respective achievement of their objectives.
The success of this variable is dependent upon a number of
factors, the most important of which are:

1. The extent to which there is a simple, open
   and meaningfully understood mutual communica-
   tion process.

2. .The extent to which there is a reciprocal
   knowledge of understanding between the
   social system's and institution's respective
   norms and values.

3. The extent to which the institution and the
   social system perceive themselves as comple-
   mentary and necessary for each other's con-
   tinued survival (interdependence).

4. The extent to which the institution works
   with the social system's accepted opinion
   leaders.

5. The extent to which there are reciprocal
   linkages between the institution and the
   societal elements which interact with it,
   i.e., the need for

   a. Reciprocity enabling linkages.

   b. Reciprocal functional linkages.

   c. Reciprocal normative linkages.

   d. Reciprocal diffusive linkages.

Strategies

These variables are indicative of the necessary

strategy and process of developing and promoting an audio-

visual programme that we sought to identify. They represent

cumulative strategies which remain in store to be utilized.

They are regarded as recallable and transferable to a

situation when it arises. In their development, the

institution progresses from one variable strategy to

another. Incorporating them in a successive manner, the

institution builds into and upon them in a progressive,

sequential, and cumulative manner. The variables are

regarded as essential to an institution in terms of

basic strategy and the processes of planning for and

inducing directed change of an organized audiovisual

programme.

It would appear--though not by design--that these

variables have a great deal to do with the institution

itself. This means that the basic strategy of promoting

an audiovisual programme is the successful creation of a

need for, and the securing of a commitment to the building

a media centre. Its successful building and internal

functioning is regarded as a basis for its being accepted

by the social system as a potential inceptor of desired

change. The institution's successful incorporation of

the first three variables into her operational strategy

serves as a basis for innovative capacity; the successful
incorporation of the first four variables serves as a
basis for innovation diffusive thrust; and the successful
incorporation of the first five variables serves as a
necessary condition for reciprocal relationship. Thus a
successful cumulative incorporation of the six variables
in the institution's strategy indicates the effective
strategy and process of developing the audiovisual programme.

It is on the basis of successful internal functioning
and the potential capability of success that the institution
can then look outside as to determine a strategy of manipula-
ting the social system to secure its own acceptance as a
trusted institution that has the capacity to perceive and
analyze local needs and thence introduce the required
changes.

These variables are also indicative of a basic
rationale in the development of the required perception
of, and insight into, the problems, sources of objections
and needs of the social system. Thus they take precautionary
measures which would eliminate any resistance to the innovation

that they might propose.

These variables are not being proposed as
exhaustive; neither could the form in which they are put
be necessarily final and suitable for systematic and
scientific research. Their most effective utilization
might very well depend on the extent to which they are
put in a refined hypothetical context.

Cumulative Strategy Model

In the light of the preceding analysis, it is
logical for it to be proposed that the first strategy
for developing an audiovisual programme is the perception
of a problem or the emergence of some discrepancy, thus
creating the need for the centre, and the securing of a
commitment for its establishment. This is followed by a
successful building of an institution. Only after the
institution is administratively and organizationally viable
and internally coherent will it begin the process of
creating an external relationship. This external relation-
ship is soliciting and seeking its own acceptance as well
as that of what it stands for--the effective integration

of technological innovation in the instructional process.

Implicit in this study, therefore, is an
institutional cumulative strategy model. The model is
for the development, organization and promotion of an
audiovisual programme on the part of the proposed centre.
The model is offered as tentative for future verification.
Its function is to provide a cumulative strategy approach
in planning for strategies of effecting change in instructional
processes in Kenya.

According to this model, an institution has to
incorporate a number of subordinate strategies or variables
in successful building of an institution. Only after the
institution is administratively and organizationally viable
and internally coherent, will it begin the process of
external relationship.

Implicit in this thinking is an institutional
cumulative strategy model of six variables. Implicit in
the variables are also phases of action.[1] The model

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[1] Implicit action phases are: (1) discrepancy
problem or tension awareness or perception, (2) institution
building, and the attainment of institutionality; (3) innova-
ting and creating resources needed; (4) seeking acceptance
from the social system while simultaneously; (5) soliciting
and securing the acceptance of the innovations, and (6) securin
institutionalization of the institution on the basis of its
proving itself and its being found necessary for the social
system's aversion of any further discrepancy, problems or
crises.

posits that institution building is dependent on variables
which are cumulatively arranged in a set of six graded
variables. The variables call for distinct action
strategies depending on the nature of the environment,
the phase of action and the relationship between the
institution and the social system, and/or environment.
If success is to be attained at each of the stages implied
in these variables, the action strategies in each of the
variables must also be transferable and be integrated with
those belonging to the next variable.

Thus, the variables and the action strategies
within them are developed as an ordered cluster of what
an institution builder must do as a basis for developing
an effective strategy in the process of accomplishing the
institution's objectives. Beginning with the first
variable, each of the preceding variables mediate success
in the succeeding variable.

Toward a Cumulative Strategy Theory

In the final analysis, it is hypothesised that institutional differences in the rate of success or failure are commonly observable during institution building. The differences are also observable during institution's operation as administrative social organ, or during the planning and induction of change situations. It is not uncommon to observe that while some media institutions or agencies are accepted, patronized and become successful in initiating change in developing and promoting audio-visual programmes (which are subsequently accepted and integrated within their target social system's beliefs, norms or technology), others have to fight for or justify their own building and survival before they can even start to develop and promote any programme. The origin or cause of these differences and their impact on Kenya's attempt at building a National Audiovisual Centre was identified.

This study of the origin or cause of these differences could go along way in eliminating the expenses

arising our of "hunches" of strategies which proved a
failure in Kenya. The study may also provide media
institution builders with a basis for determining
strategies for institution building, programme develop-
ment and promotion process. The variables it is hoped,
would provide media institutions greater chances of
success in being accepted and functioning as effective
and efficient administrative change planning and change
inducing agencies.

At an abstract level the causes of institutional
differences in accomplishing a successful and accepted
audiovisual programme, and the problem of determining
what degree of weighting of causal factors could be assigned
to each of the stated differences have to be considered.
A hunch exists to the effect that they are of equal
importance since the success of each is dependent on the
success of the previous factor. In a more specific
theoretical framework it could be predicted that
institutional differences in the rate of gaining an
awareness of the need for them, securing a commitment for

and gaining acceptance for their subsequent organizing,

developing and promoting an acceptable audiovisual

programme could be independently measured as the degree

of differences in

       a.   The extent to which needs are identified
           and commitment to dealing with the problems,
           is obtained.

       b.   The extent to which the institution is
           built, administrative variables and
           internal equilibrium have been satisfactorily
           fulfilled, and incorporated in the institution's
           operation.

       c.   The extent to which cumulative strategy
           approach has been incorporated and utilized
           in the institutions operational strategies
           and process.

       d.   The degree of equilibrium between the
           institution, the social system, its customer-
           clients and other institutions performing
           complementary, supplementary or opposing
           functions.

The above factors are also cumulative, starting with the first factor, each of the preceding factors mediates success in the next factor. It is postulated that the institution's success[1] is depended upon successful and cumulative application of these factors.

Summary

To provide an effective analysis of Kenya's abortive attempts in developing an integrated audio-visual programme, a conceptual model of change (Figure 1)

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[1] This success could be measured in a variety of ways, i.e., (a) the degree of adoption, adaption and integration of instructional technology and audiovisual techniques (as proposed or advocated by the institution) in the education, training or extension programmes of the social systems, and (b) the degree of the social system's satisfaction, the measure of which could be based on a five point satisfactory-unsatisfactory continuum scale, If not, the following criteria could also be used:

    i.   The extent to which they seek advice from the institution in respect to instructional technology or audiovisual techniques, and how frequently this is done.

    ii.   The extent to which they are willing to defend ideas and techniques originating from the institution.

    iii.   The extent to which they are willing to defend the institution itself.

Apart from this serving as measures of satisfaction, they could also be used as measures of the institution's success.

was developed and operationalized in the context of Kenya.
In the course of operationalizing the model, various
propositions emerged at different stages. The propositions
provided a basis for the development of independent
variables mediating success in the development and promotion
of integrated audiovisual programmes.

The emergent variables included institution's
desirability, institutional viability, institution's
innovative capacity, institution's acceptance, institution's
innovation diffusive thrust, and the reciprocal relationship
ship between the institution and its environment. They
are arranged as a set of six cumulatively graded variables;
starting with the first one, each of the succeeding
subordinate variable mediates the success of the next
variable. Each of the variables also incorporates action
strategies which are transferable and become integrated
with those belonging to the next variable.

These variables are crucial in the formulation of
a cumulative strategy model which points to the possibility
of a cumulative strategy theory. The theory could be a

useful way of explaining the various abortive attempts
to develop an integrated audiovisual programme. If the
theory is operationalized and refined, it could be a
useful instrument of explaining the differential rate
of operation and growth of audiovisual centres. With
the operationalization of a refined cumulative strategy
theory, those developing or taking over audiovisual
programmes upon transfer from foreign experts, could
be more certain of explaining, predicting and controlling
the success or failure of audiovisual programmes and the
extent to which these programmes become institutionalized.

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1. Institutional variables of

    a. Leadership which:

        i. is capable of successfully discharging
administrative functions of planning,
organizing, controlling, coordinating,
communicating, establishing internal
and external mutually acceptable
working relationships, obtaining and
deploying difficult-to-obtain skills
and commodities when required.

      ii. Is professionally and technically
qualified with unquestionable competence
as well as dedicated loyalty to the
institution.

      iii. Has a guaranteed stable and continuous
tenure of service.

    b. Doctrine--a commitment to definite objectives
and strategy for inducing change.

    c. Programme--action strategies of what is
to be done, where, when, and how the
institution's objectives are to be achieved.

    d. Financial and physical resources.

    e. A coherent internal structure based on
operational equilibrium.

Development and Promotion Variables

The first major variable is related to the <u>desir-ability</u> <u>of</u> <u>the</u> <u>institution</u>. This is dependent upon the extent to which the social systems' power groups are:

1. Aware of the need for the institution (based on the perception of the need problem or crises.)

2. Committed to its building (following the decision to deal with the problem.)

3. Prepared to lend it authority, prestige and support (often expressed in a legislative action or a decree establishing the institution while at the same time authorising the expenditure of funds to build the centre.)

The second major variable is <u>institutional viability</u>, that is, the extent to which the institution is successfully built and is capable of attaining internal equilibrium; attracting support to such an extent that its environmental social system would be willing to preserve and vigorously defend it. The necessary conditions for this include the following factors:

This was necessary to enable institution
administrators to explain, predict and
control institutional success, as well
as to help them account for institutional
failure.

Throughout this analysis, a number of propositions
aimed at explaining a possible basis upon which a successful
process and strategy of developing and promoting an audio-
visual programme were implicit at various points. In
summing up these propositions, it is hypothesised that
institutional success or failure is a function of the
institution's enabling administrative and psycho-social
variables, the enabling relationships it establishes
between it and the social system in which it is built and
the extent to which it serves the purpose for which it
was built. Implicit in this paper are six independent
variables which appear to facili ite successful develop-
ment and promotion of an audiovisual programme.

of teacher-learner interaction.

To perform the development function effectively, the centres approach should be one of collaborating with research and programme developers, establish working relationship with training institutions and schools, and involvement.

Preparing for Promoting.
The Programme

If the centre has to widen its scope of service to other countries, and become an East African Regional Centre, the centre will need electronic communications systems which will not only simultaneously translate the information, but also transmit the information. Thus a computerized system of handling requests and services is envisaged as a long range necessity. Slow scan television cameras, teletype and teleprinters, customer profile and interest analysis are also necessary components.

To enable the centre to fulfill the three functions, it is proposed that the centre operate under six main conversion functions. The rationale for the six conversion functions (departments) is inherent in the input-activity-output

mix developed in Chapter III.

1. Research:

    a. Conducting pure, applied and development research activities:

        i. Coordinate all research activities conducted by local citizens as well as foreign scholars.

        ii. Work with professional staff in designing and evaluating curriculum, instructional materials, systems and strategies.

        iii. Interpret and evaluate research reports.

        iv. Study instructional design and seek to develop instructional theory, strategy and systems as well as the related learning spaces.

        v. Maintain an information pool of all research findings and activities.

        vi. Work and consult with curriculum development and other institutions.

2. Development, Instruction and Consultation:

    a. To instruct and train personnel in selection and use of instructional material and equipment.

    b. To consult with, and offer advice to, media utilizers both in Government and other agencies of change in Kenya.

    c. In conjunction with the research group,
to develop and try out theory, system 沙
and strategies of instruction.

    d. To train extension workers in inter-group
and interpersonal instruction, interactional
relations, and development process.

3. Service Functions:

    a. Maintenance and Purchasing of Equipment

        i. To arrange for purchase of equipment
and material, develop purchase and
selection criteria of material and
equipment.

        ii. To keep equipment in good repair.

        iii. To produce three-dimensional aids
when required.

        iv. To carry on adoption and adaptation
service on equipment.

        v. To prepare and maintain equipment inventory.

    b. Storage and Retrieval of Information

        i. To maintain an educational media library
of films, slides, filmstrips, video, and
magnetic tapes.

        ii. To loan or rent educational media when
necessary.

        iii. To maintain an up-to-date inventory
and inform customers of latest acquisition.

        iv. When funds permit, to serve as the
computer centre for coding, storage,

2. As a _research_ centre, the Educational Media Resource Centre will want to determine the effect of media in relation to specified learning environmental space designs, teacher and learner attitudes, and the development of appropriate learning systems and strategies that go with equipment and material designed by the centre. The centre will also evaluate, and if necessary modify, material and programmes with a view to determining the effectiveness of the programmes.

3. As a _development_ centre it is responsible for the service of translating research and theoretical findings into instructional programmes. Thus it provides a link between educational research and practices by making it possible for theory to be used for educational improvement. The centre will also help to find and/or organize necessary material or programmes for use in schools or training institutions. A final function of the centre will be to develop and refine material and reliable indices

development functions.

1. As a <u>service</u> centre, the National Educational Media Resource Centre will be primarily engaged in the modification, adoption and production of material, and perhaps of simple equipment. The centre will serve as a resource centre for information related to the utilization of equipment and material. Thus a major task of the centre will be the coordination of the man-machine-material system of the instructional process by providing technological aids:

   a. In the training, instruction and the
     teaching of teachers, instructors and other
     civic leaders and technical extension
     officers who want to use educational media.

   b. To learners, members of communities in their
     self-help programmes, and change agents so
     that they can accomplish their objectives
     of eradicating ignorance.

   c. To researchers, thus enabling them to locate
     and retrieve relevant information and data
     as soon as they require it.

   d. To practitioners for easy and convenient data
     and information acquisition, coding, storage,
     retrieval and transmission.