characteristics of *capacity* - skill, aptitude; *autonomy* - power; *cohesion* - unity of purpose; *complexity* – degree of bureaucratisation – organisation and leadership and people's testimonials and <u>levels of communication</u>: Community, Local, National, etc. <u>Key words</u>: Track, channel, and media, message content articulation, - awareness, community ideology, organisation, and leadership.

Designing effective Multi-track Communications systems (MTCS) for programmes addressing sustainable livelihoods

A systems perspective for sustainable livelihood programme design[1]

BT Costantinos, PhD

<u>Abstract</u>

Multi-track communications enhances the capacity of stakeholders to articulate their perceptions and value systems, vision, mission and objectives. It enables decision-making based on fair access to and analysis of relevant information through functional tracks, channels and media for information exchange. It enhances shared-responsibility among stakeholders, especially of the poor. It uses networking as learning strategies and processes through <u>tracks in stakeholder participation</u>: formal and informal; <u>tools and technology</u> production; <u>channels</u>: decision-making structure and process, stakeholder participation- organisations, structures, policy, strategy, and partnership; <u>message content</u>: physical, psychosocial, political, organisational, economic, spiritual adaptation, and gender dimensions; <u>message articulation capability</u>: referring to organisational

---

I. Introduction

The political dynamics that were kindled within the framework of global move towards self-determination and self-empowerment and the opportunities for popular participation in governance are unprecedented. The challenge for us, however, is to place these dynamics in a coherent perspective and within the context of basic principles of good governance and development. We also need to determine how, in the implementation of such principles, relevant experiences may be shared between and within the poor countries; leading to communications and networking strategies that ensure adequate regulation of the stakeholder traffic in the socio-economic mobility ladder.

The philosophical underpinning behind this endeavour is the management of an enabling environment for civil society and its organisations to effectively own and promote their self-development. Nevertheless, the development landscape under which the poor operate are such that much of the professed goals of self development can not be achieved until and unless fundamental changes are put in place to allay the communication problems of societal development.

In the development of MTCS within Sustainable Livelihoods construct, one should take account of a subtle

but an important paradigm shift in the way information management is viewed since the fifties. This change is characterised by the progression of titles under which the function has operated. In the fifties the head of information management was the computer manager or computer centre manager. This implied that the central focus was the computer. In the sixties the term data processing came in to vogue and the manager was called the manager of data processing or manager of electronic data processing.

The late sixties brought increasing use of the word processing system. A system consisted of a computer, but also a host of input and output equipment, storage devices, software, applications and the people that make the whole thing work. It has shifted from computer to system. The seventies ushered in the term information as opposed to data. Data is defined as raw numbers and files.[2] Thus, to be useful to stakeholders, data must be produced into meaningful information.

The term information systems more closely characterised the function performed by the computer or electronic data processing manager. Then the world management was appended. The Management Information System group came to the scene in the sixties, and held form grounds in the seventies. Since then, it has been apparent that information systems have been falling short of their objectives due to a lack of user management involvement and a lack of integrated management perspective in operating information systems.

The eighties brought a further shift to a new and imposing term - Information Resource Management.[3] The two concepts management and information remain and system has been replaced by resource. The basic rationale of treating information as a resource is that it is the most valuable resource of organisations that needs to be considered as money, material and people. The term Information Resource Management was coined in explaining the concept that information is a valuable and costly asset that must be preserved, protected, controlled, and planned, as are other valuable assets within the organisations. Information Resource Management[4] highlights the similarities between information as a resource and other resources such as money, material and people:

- ➢ it possesses fundamental value,
- ➢ it has identifiable and measurable characteristics,
- ➢ it comes with various degrees of "purity" and "utility",
- ➢ it needs refinement and processing to enhance its value,
- ➢ it passes through many hands;
- ➢ it provides cost/benefit equation at each point in collection, handling enhancement, dissemination, etc., which helps manage the effectiveness and efficiency of utilisation;

A variety of deployment choices is available to stakeholders in making trade-offs between different "grades

---

[2] Daniels Alan and Don Yeates, "Basic Systems Analysis", 2nd ed., Pitman Publishing Limited, London, 1984.

[3] M Fritz & Mansfield, "The Study of Information, Interdisciplinary Message", John Wiley and Sons, N.Y., 1983.
[4] Lucas H. C., "Information Systems Concepts for Management", 3rd ed., McGraw-HillBook company, N.Y., 1986.

" types, and prices. In general, the concept of information resource management widens the explanation of management information system. It does not however replace MIS.[5] Rather it provides the situation in which MIS functions.[6]

What the author identifies as Multi-track Communication Systems (MTCS) is an emerging communications strategy that has manifested its utility during the information age. The system gleans, monitors and retrieves information from the environment, captures, filters, organises data from transactions and operations and stakeholders. It enhances the capacity of all stakeholders to articulate their perceptions and value systems, vision, mission and objectives. It enables decision-making based on good access to and analysis of relevant information through functional channels and media for information exchange.

> The development landscape under which the poor operate are such that much of the professed goals of self development can not be achieved until and unless fundamental changes are put in place to improve communication in state and civil society.

This article is probably one of the first attempts to introduce Multi-Track Communications as an integrating tool in the development communications field of work. As such, it should be seen as an explorer in what is a complex strategy to get all stakeholders to communicate to their mutual benefits. Section I presents the communications challenge, the problems related to stakeholder communications and opportunities that MTCS offers, section II, the main focus of the paper, dwells upon the development of the MTCS with the SL construct and section III develops a code of practice for MTCS networking as the main tool for promoting communications among stakeholders.

Section I

II.   The communication challenge for stakeholders: *gateways or gatekeepers to livelihood sustainability.*

We need to address serious challenges of the nature of development that are externally driven, competence, credibility, autonomy and capacity of grassroots groups who carry the mantle of development for the poor. In what follows, the author elaborates the information and communication challenges in order to consider this in designing sustainable livelihood programmes

1.   Over-dependence on external resources including their information and communication needs, erodes capacity and commitment to mobilise collaborative action and achieve consensus around issues of common interest for autochthonous and autonomous development.

2.   The lack of appropriate development communication systems that are multi-sectoral and multi-directional have also raised questions as to whether the main stakeholders have so far been effective in promoting and institutionalising empowerment among grassroots populations. This lack of preparedness in their willingness to

---

[5] Thierauf Robert J., "Effective Management Information Systems". Bell and Howell company, Columbus, 1984.
[6] Sprague R.H. & B C. Mcnurlin, "Information Systems Management in Practice", Prentice-Hall, Londong, 1986.

communicate underlies inadequacy of commitment to democratic principles and practices in the internal affairs of many stakeholders.

3. Although they have a lot to contribute in their advocacy roles, many grassroots organisations have been unable to establish a clear and coherent voice nationally. This includes issues that are crucial to their work, or to the interest of the local communities they serve.[7]

4. The absence of effective networks among CSOs that guide the communications process, which speaks for them, co-ordinate their relations, represent their interests and advocate their positions on important issues, has hindered their ability to make collective demands on some important issues to the major stakeholders. (Government and funders). Individually many grapple with similar issues of institutional development and operational efficiency. However, because of lack of information sharing, they cannot learn from each other's experiences or be motivated and encouraged by the work of others in similar circumstances.

5. One of the problems which characterises indigenous groups capability for effective communication is the lack of systematic programme focus on the information that is being sought to be communicated. New forms of social engineering that have been used to extract information form local

people (RRA and its mutants) render organisational learning irrelevant and makes continuity of a particular agenda and goals impossible. Because of this, many indigenous organisations invariably lack institutional memories and, hence, the reflective capacity. The absence of professionalism in their ability to take stock of where they are going, what they have learned and what lessons can be passed on to others. Therefore, although some projects accumulate a large body of data, the information has often been used for informing funding agencies or to be presented in a report rather than to critically and systematically appraise the work of the organisations.

While many proposals for remedial action have been formulated, real commitment to collaborative processes at the inter-organisational level has till now been limited. Many stakeholders (and specially communities) have yet to demonstrate capacity to master the technical skills to meaningfully engage in communication and dialogue on policy and programme issues. As observed with many participatory programmes and projects, many civil society institutions cannot participate in dialogue with governments because they lack the personnel with requisite skills and facilities to inform their arguments or present credible data to support their assertions.

Such communication incapacities are hence seen as major barriers to communication and participation. The activities of some social institutions may have the salutary effect of bringing into transparency the work of major stakeholders, and of opening up funders and state

---

[7] Costanitnos, BT. "MTSC for effective Participatory Assessment and Planning for Sustainbale Livelihoods". PAPSL, Malawi. 1997.

institutions and practices to public suiting; but the overall weakness of Third World states and civil societies is often cited as a fundamental structural constraint. Rather than offering agents and arenas of development, African societies are generally seen as objects and problems of reform. On account of this view, the state and its international backers assume a large role of nothing less than "cultivating civil society" itself through education and mobilisation; leaving civil society to be objects of democratic and development reforms.

There is no participation without communication. Because interactive and continuous dialogue are nerve centres of all participation, it is important to ensure that effective communication channels and structures are put in place before the preparation of the Sustainable Livelihoods Community Action Plans (SLCAP) begin. Communication is a process. Therefore, in identifying the most effective media for all stakeholders, more weight should be given to channels that act as *gateways* not *gatekeepers*. What is usually the main missing element is MULTI-TRACK COMMUNICATION.

III. Information and communication:

Information has become increasingly valuable resource required by organisations. Different authors define information differently, let us see some of these definitions. Information is defined as

1. behaviour - initiating stimuli in the form of signs.
2. data that has been processed into a form that is meaningful to the recipient, and is of real perceived value in current or prospective decisions.
3. some tangible or intangible entity that reduces our uncertainty about some state or event.
4. the "stuff" of paperwork systems just as material is the "stuff" of production system.
5. selected data that represent out put from a system and are meaningful to the user of that output.

Whatever contributes to the resolution of uncertainty surrounding an impeding decision merits the label information. Information, therefore, range in value from a position in which it eliminates completely all ignorance and uncertainty surrounding a decision to a position in which it contributes absolutely nothing to the diminution of existing ignorance and uncertainty. Many people erroneously use information and data interchangeably. Though they are related, each term has unique character. Data are raw or unstructured facts that need processing, while information is a communicated knowledge that is generated by transforming data where previously unknown facts has been sent, received, recognised and accepted; and it has been presented to the recipient. While data are inputs, information is an output.

Information must have purpose at the time it is communicated. The major purposes of information are to inform, evaluate, persuade, or organise other information. Some of the purposes to which information is directed for human activity include: creating new concepts, identifying problems, solving problems, decision making, planning, initiating, controlling, and searching.[8] Such information

---

[8] Information has many attributes: the redundancy/efficiency coefficient, rate of transmission or reception of information, the value of information could be affected by the frequency with which information is transmitted or received, the utilisation of probabilistic as well as deterministic in sense that it may be known with certainty, and information probabilistic because there may exist

could be stored mainly to provide instructions or to provide information for stored instructions just to act upon.

➤ Information is <u>communicated knowledge</u> developed by matching and transforming data so that the output is in a form that is useful to the recipient. Communicated knowledge means that something previously unknown has been 'sent' 'received', 'recognised', and 'accepted' by somebody to whom it was directed.

➤ <u>Knowledge</u> produces results from performing a series or group of operations, such as classifying, sorting, summarising, analysing, or modelling input data. [9]

➤ Finally, <u>knowledge</u> must be presented in such away that it can be used by the users.

We tend to underscore these attributes because the most powerful force in knowledge development has been communication. Communication is the substance of perceptions. It is what people understand about themselves and their environment, and how all stakeholders perceive problems and solutions to change the situation and how they react to such change. Communication in short is a tool of self-empowerment.[10] Hence, information should not only be accurate and timely, but it should be understandable.

---

range or set of possible outcomes that are not certain, information has its own costs, the value of the information is highly dependent on the other characteristics, the reliability and preciseness of the information required should be confirmed, accuracy, validity, currency, and compactness

[9] Leitch Robert A. and K. Roscoe Davis, :"Accounting Information Systems", Prentice-Hall Inc., Erglewood Cliffs, 1983.

[10] Childers, E. "Development communications for popular participation". Paper presented to the International conference on popular prticiaption. Arusha, 1990.

According to Bentley[11] effective presentation of information is concerned with three vital things.

➤ **Layout** is mainly focused with the appearance and receptivity of the form in which the information presented. The layout should be simple.

➤ **Relevance:** making sure that the information presented is not superfluous.

➤ **Significance** is the keyword for the presentation of information. Should information be presented to the nearest of hundred, thousands or million units? It depends on the scale of the information, but careful attention to significance can considerably reduce the amount of data included on a report and the effort of the reader in deciphering the meaning.

IV. MSc – a systems perspective:

What is a system? Because of the many uses of the word, some of which are quite specific in a scientific sense, it is difficult to produce a generally accepted definition of a system. However, let us see some of these definitions:

➤ A system comprises a number either of things which are connected or related, and which are organised, naturally or by design, to achieve some purpose. A system is a group of elements, either physical or non-physical in nature, that exhibit a set of interrelations among themselves and interact together toward one or more goals, objectives, or ends. A set of objectives with relationships between

---

[11] Bentley Trevor, "MIS and Data Processing" Holt Reinehrtt and Winston, London, 1982.

the objects and between their attributes connected or related to each other and to their environment in such a manner as to form an entity or whole.

➤ A system operates with, and interacts with, its environment to achieve certain objectives; a system exhibits its behaviour through the interactions among its components in the system and between the environment and itself. A system is made-up of sets of components that work together for the overall objective of the whole. A system is essentially a group of things that function together to achieve common objectives. A "system" implies wholeness, completeness, and unifying of parts to provide optimum performance of set components. Therefore, the concise definition of system is:

> *A system is a set of organised interacting elements seeking some of common goal or goals by operating on data and/or information and/or energy and/or matter and/or organisms in a time reference to produce information and/or energy and/or matter and/or organisms as outputs.*

From the above definitions, one could say that a system is composed of objective or purpose, inputs, process and output. A system is classified into the following categories:[12] natural and man-made, social, man-machine, and machine, open and closed system, permanent and temporary: stationary and non-stationary systems, subsystems and

---

[12] Murdick RG., "MIS Concepts and Design", 2nd ed., Prentice-Hall, London, 1986.

super systems and adaptive and non-adaptive systems

The systems definition of MTCS does not depart from the general concept. A more illustrated definition of MTCS is:

> *MTCS enhances the capacity of all stakeholders to articulate their perceptions and value systems, vision, mission and objectives. This creates the enabling environment for stakeholders to make decisions based on good access to and analysis of relevant information through functional tracks, levels, linkages, channels and media for information exchange. It creates and manages the enabling environment for all stakeholders to operate according to their priorities, but with due respect to the priorities of other stakeholders. Such contradictions are resolved as MTCS provides the opportunity for the evolution of policies and strategies that regulate the complex web of traffic of interests among stakeholders.*

The following characterise MTCS

➤ Tracks in stakeholder participation: Formal (Government), Informal (NGOs), Private (Business), and popular organisations. Tools and technology production.
➤ Channels: decision-making structure and process, stakeholder participation- organisations, structures, policy, strategy, and partnership.
➤ Content: Physical, psycho-social, political, organisational, economic, spiritual adaptation and recording people's testimonials
➤ Message articulation capability: Community organisational characteristics referring to *capacity* - skill, aptitude; *autonomy* - power; *cohesion* - unity of purpose; *complexity* – degree of bureaucratisation – organisation and leadership

➢ Levels of communication: Community, Local, National

More specifically, MTCS has the following attributes,

1) It maps out stakeholders and analyses stakeholder information needs,
2) It defines stakeholder message on sustainable livelihoods that needs to be communicated to other stakeholders clearly,
3) It identifies tracks of communications at the

   a) official, governmental,
   b) non-governmental,
   c) informal, private sector,
   d) civil society organisations and community and
   e) interpersonal levels.

4) It establishes levels and types of interaction among stakeholders - national, provincial, district, local etc.
5) It defines the cross cutting thematic areas of interests of stakeholders, with gender taking the overriding arena,
6) It develops tools that would facilitate the communication process
7) It establishes "doses" of stakeholder information entitlement.
8) It establishes mechanisms for recording, collating, compiling and dissemination of local knowledge using agreed upon indicators. Indicators in this regard must attain, to a large degree the following criteria: validity, reliability, relevance, sensitivity, specificity, cost-effectiveness, timeliness, simplicity, and verifiability.

MTCS is, therefore, the combination of these concepts. Its purpose to raise the process of communication management from the level of piecemeal spotty information, intuitive guesswork and isolated problem solving to the level of systems insights, system information, database management, and systems problem solving. Since information sources are always available to the main stakeholders, such a strategy provides a system of information. It is a powerful method of aiding stakeholders in solving problems and decision making vis-à-vis stakeholders identification and mapping, process systems and information; attracting both internal and external data and transforming them to decision making tools. As such, the framework is fostered using the following areas:

➢ Identifying opportunities for cost-effective systems development;
➢ Developing an integrated strategy for information systems development;
➢ Analysing the decision-making environment for which new systems must be designed;
➢ Providing estimates of the benefits that will result from new systems.

The approach to be used in the management of the MTCS follows the basic premises that stakeholder information taxonomic base is developed into several levels where each levels reflects the distinct characteristics of its use. This approach is a comprehensive approach that argues

Capacity building needs for sustainable livelihoods on

- ➤ **Natural resources management, energy and environment**
- ➤ **Entrepreneurship and employment generation**
- ➤ **Food security**

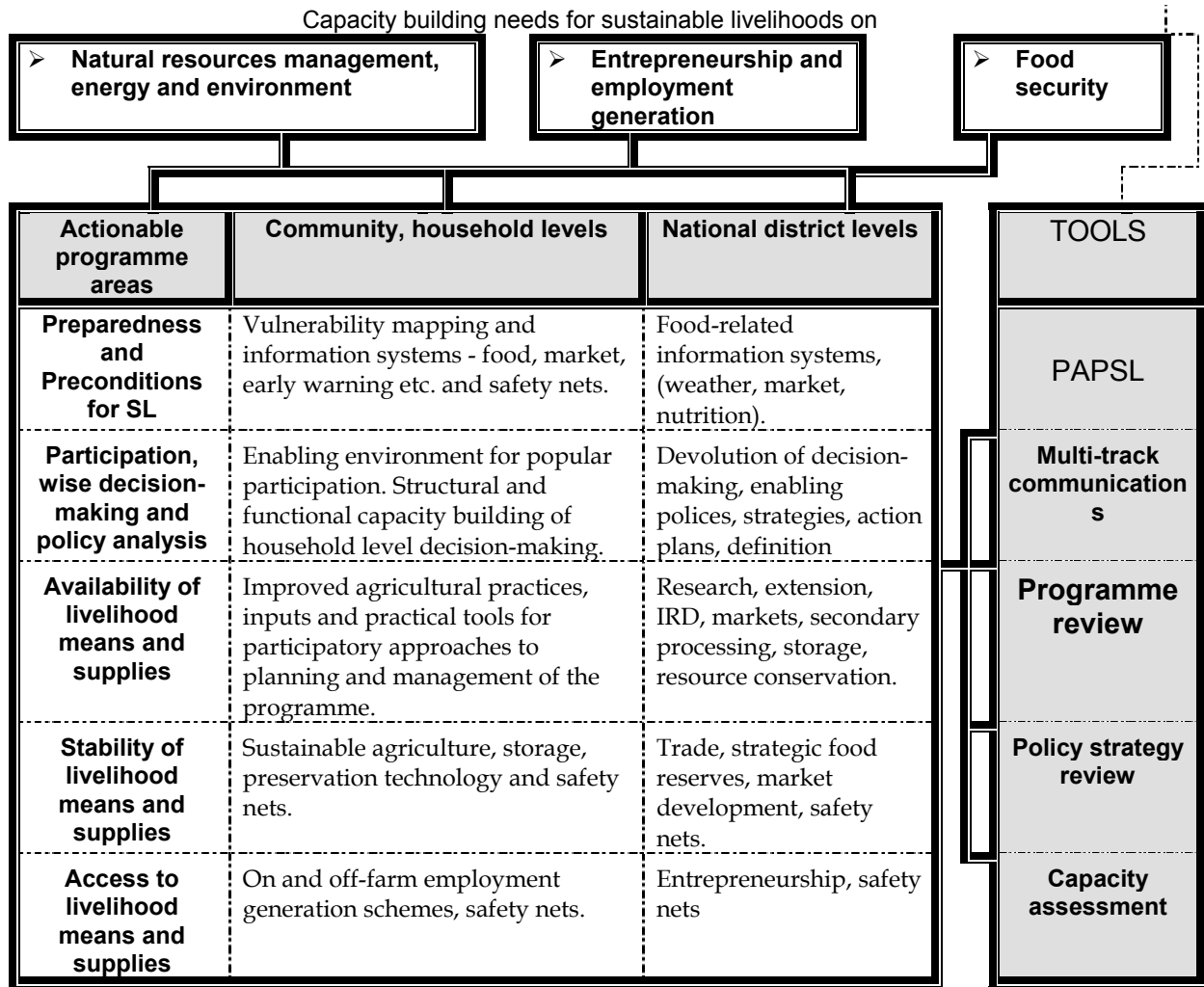| Actionable programme areas	Community, household levels	National district levels	TOOLS
			PAPSL
Preparedness and Preconditions for SL	Vulnerability mapping and information systems - food, market, early warning etc. and safety nets.	Food-related information systems, (weather, market, nutrition).	
Participation, wise decision-making and policy analysis	Enabling environment for popular participation. Structural and functional capacity building of household level decision-making.	Devolution of decision-making, enabling polices, strategies, action plans, definition	**Multi-track communications**
Availability of livelihood means and supplies	Improved agricultural practices, inputs and practical tools for participatory approaches to planning and management of the programme.	Research, extension, IRD, markets, secondary processing, storage, resource conservation.	**Programme review**
Stability of livelihood means and supplies	Sustainable agriculture, storage, preservation technology and safety nets.	Trade, strategic food reserves, market development, safety nets.	**Policy strategy review**
Access to livelihood means and supplies	On and off-farm employment generation schemes, safety nets.	Entrepreneurship, safety nets	**Capacity assessment**

Fig. 1. Programme Planning Framework for the sustainable livelihoods programme
the scope of the analyst should encompass all stakeholder
and organisational systems. It includes taxonomy, flow

charting scheme, and a procedure for developing computer stimulation models. This process of designing system is a very heuristic process.[13]

Hence, an MTCS designer should bear in mind the following considerations.

a) Size and number of stakeholder organisations and individuals
b) Current state of computer usage among stakeholders and their organisations;
c) Personnel capabilities and knowledge of computerised information system
d) Kinds and frequency of operational problems
e) Availability of resources.

Section II

IV. Developing MTCS within the SL construct

We have underlined the basic definition of the MTCS that it enhances the capacity of all

---

[13] Wu. FH., "Accounting Information Systems" McGraw-Hill Book Company, N.Y., 1983.

stakeholders to articulate their perceptions and value systems, vision, mission and objectives. This enables them to make decisions based on good access to and analysis of relevant information through functional channels and media for information exchange. Let us now see its relation with the SL construct and try to develop immediate objectives for using MTCS as a tool.

If we assert that popular participation and social mobilisation will create an irreversible momentum of development, it makes sense if and only if it addresses the value human beings can fiat. The credibility of arguments enshrined in this are beyond eloquent truth that transcends human thought. It is in this spirit that development is defined as

> *an essential, required motion, change in time, transference in space is development as it retains change in time in a transformed shape; like motion [it] is infinite insofar as it is material; at the same time, development exists as a separate finite process". The general laws of dialectics govern the development of inorganic systems and the living world (human society in particular). It "occurs in the form of a spiral, in the unity and conflict of opposites, as transition of quantity into quality and the vice versa. Each separate process of development has stages ... **external motion, emergence**, **formation**, and **transformation** ... of the conditions it has emerged from.*[14]

Such a complex philosophical definition, while it does help to articulate the ultimate meaning of development, it does not lend itself amenable as a tool for the type of

poverty alleviation enterprise we are into. Hence, the needs to articulate the SL construct. **The SL construct has emerged as** "the integration of population, resources, environment and development in four aspects: stabilizing population; reducing migration; fending of core exploitation; and supporting long term sustainable resource management. The Brundtland Commission[15] developed it as an integrating concept.[16] Adaptive strategies and capacities generate and maintain means of living and enhance well being and that of future generations.[17]

➢ They represent permanent change in community strategy, and structure, organisational processes;
➢ These capacities are contingent upon availability, stability and accessibility of options, which are ecological, socio-cultural, economic and political.
➢ They are predicated on equity, ownership of resources and participatory and wise decision-making -- notions of sustainable human development and sustainable livelihoods that incorporate the idea of change and uncertainty.

---

[14]   Progress (1984). "Dictionary of Philosophy". Moscow. pp 104-105

[15]   McCracken, J. Pretty, J. **Glossary of terms in Sustainable Agriculture.** IIED Gatekeeper Series No. London.
 [16] Livelihood meaning adequate stock and flows of food and cash to meet basic needs; security refers to secure ownership of, or access to, resources ... to meet contingencies. Sustainable refers to the maintenance or enhancement of resource productivity in the long term
 [17] Titti, V. and Singh, N. (1995) "Adaptive strategies in Arid and Semi-arid lands" IISD Resources Paper.
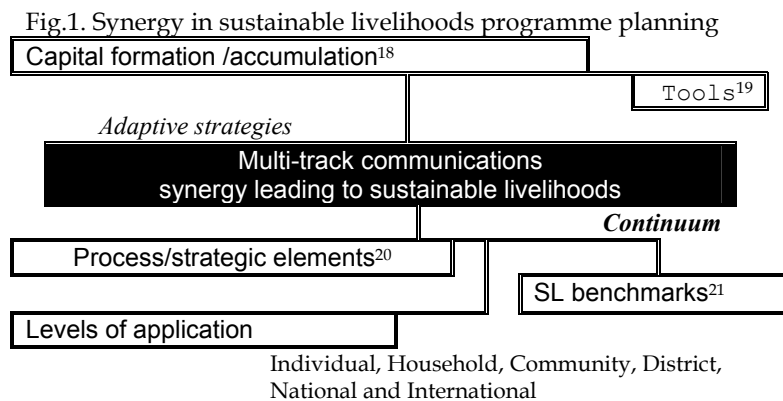
Fig.1. Synergy in sustainable livelihoods programme planning

Capital formation /accumulation[18]	

Adaptive strategies

Multi-track communications synergy leading to sustainable livelihoods

Continuum

Process/strategic elements[20]

SL benchmarks[21]

Levels of application

Individual, Household, Community, District, National and International

Fig 1 relates the interface between the various elements that contribute directly to the synergy that enhances livelihoods sustainability. The can be clustered under the following categories

1. Capital formation and accumulations encompassing human capital, natural capital, physical/material capital, and social capital, which in turn refers to its

element - socio-political, psychosocial, organisational, and cultural and spiritual capital;
2. The tools for planning: Multi-track communications for participatory assessment and planning policy, institution and strategic analysis and programme review;
3. The SL benchmarks: Resilience, ability to recover from stresses/shocks, economic efficiency, social equitability, ecological sustainability;
4. Processual and strategic elements that determine the nature of agency and ideology are preconditions and preparedness participatory and wise decision making, production and availability of livelihood resources, access and control of livelihood resources, and stability and sustainability

It is the second categories of the SL construct that will enable us to proceed to develop the following immediate objectives and outputs for the MTCS tool.

1) Objective I: **to identify and define stakeholders.**

   a) Output I: mapping stakeholders

      i)   Activity 1: identify and list all stakeholders
      ii) Activity 2: describe their strength and weaknesses
      iii) Activity 3: describe their stakes in SL
      iv) Activity 4: map how they relate to each other identifying areas of co-operation, dependency, service and conflict.

2) Objective II: articulate stakeholder messages for sustainable livelihoods that need to be communicated to

---

[18] Human capital, spiritual capital, natural capital, physical/material capital, and social capital: political, psychosocial, organisational, cultural capital

[19] Multi-track communications, participatory assessment and planning, policy, institution and strategic analysis and programme review.

[20] These include (1) Preconditions and preparedness, (2) Participatory and wise decision making, (3) Production of livelihood resources, (4) Access / control of livelihood resources, and (5) Stability and sustainability

[21] Resilience, economic efficiency, social equitability, ecological sustainability.

other stakeholders clearly.

a) Output II: clear and unambiguous information on sustainable livelihoods articulated among stakeholders.

   i) Activity 1: Using PAPSL tools and helping stakeholder to articulate SL, define their priorities,

   ii) Activity 2:   Use workshops and seminars to help evolve and ground the SL concept in local cultures, languages, metaphors and popular plays,

   iii) Activity 3: Undertake training of trainers for PAPSL to disseminate the percept and construct of SL.

   iv) Activity 4: Culturally and gender-sensitive curriculum development for civic education.

   v) Activity 5: Culturally and gender sensitive civic education training on sustainable livelihoods in each village of implementation.

     (1) Sub-activity 1:   Develop culturally and gender-sensitive rural radio in each village of implementation.

     (2) Sub-activity 2:   Culturally and gender-sensitive posters developed in each village of implementation to enhance development aspirations of the community.

   vi) Activity 3: Develop village level MTCS resource centres in each village of implementation.

   vii) Activity 4: Draw a programme of action to strengthen traditional communication channels in each village of implementation. (Church choir, drums, drama, and funerals) and draw a programme of action revitalise extension system in each village of implementation.

b) Output III: functional channels and media for information exchange developed.

   i) Activity 1: explore the use of video for public education.

   ii) Activity 6: Training in functional adult literacy for all interested adults in villages of SL implementation.

   iii) Activity 7: Peoples testimonials on successful adaptive strategies recorded on video and used for sensitisation and animation purposed in selected villages where the SL programme will be operationalised.

3) Objective II: **to identify tracks of communications at the (1) official, governmental, (2) non-governmental, (3) informal, private sector, (4) civil society organisations and community and (5) interpersonal levels.**

   i) Output I: tracks of communications identified

     (1) Activity 1: Identify and map out formal tracks of communications such as radio, government decrees

     (2) Activity 2: identify informal communication media and channels such as informal market information systems, community networks,

etc.

(3) Activity 3: identify interpersonal communication channels through the use of PAPSL methods

ii) Output II: clear designations of tracks of co-operation, dependency, services and conflict, where one may arise, among stakeholders identified.

(1) Activity 1: identify and map tracks of co-operation between all stakeholders,
(2) Activity 2: identify dependency areas, especially where communities depend on government for policy and strategy and donors for money.
(3) Activity 3: identify service needs and provisional abilities among stakeholders,
(4) Activity 4: identify potential areas of conflict of interest among the stakeholders

4) Immediate objective III: **to establish levels and types of gender-sensitive interaction among stakeholders**

i) Output I: national, district, community/village and household levels and types of interaction among stakeholders identified.

(1) Activity 1: Develop of gender-dynamic educational rural radio-communications.
(2) Activity 2: Develop gender-sensitivity of school curriculum relation to nutrition food production and utilisation for both girls and

boys.

(3) Activity 3: Undertake five workshops, technical consultations to strengthen capacity of extension services to communicate gender sensitive messages on food security, nutrition and environment to both men and women.
(4) Activity 4:Use PAPSL sessions in all villages to enhance ability of women and youth and other marginalised groups to make informed contributions. This should enable them to participate fully in societal decision making and social development.
(5) Activity 5: Use PAPSL sessions in all villages to streamline convergence of knowledge concerning traditional socio-cultural context and contemporary perspective for sustainable livelihoods.
(6) Activity 6: Information about responsible reproduction including child spacing, family planning, STDs and HIV/AIDS widely diffused to youth, women and men disseminated in all villages.

5) Immediate objective IV: **to map out and analyse stakeholder information needs.**

i) Output I: stakeholders clearly identified at the institutional, organisational and individual levels, and stakeholder information needs identified.

(1) Activity 1: Mapping of all social organisational structures in selected

representative villages.

(2) <u>Activity 2</u>: Study of these organisations in terms of their autonomy, complexity, capacity and cohesion.

(3) <u>Activity 3</u>: Train communities capacity to raise, manage and save funds to undertake development initiatives.

(4) <u>Activity 4</u>: Use T𝑓T tools Develop aspirations of the community.

6) <u>Immediate objective V</u>: **to define the thematic areas of interests of stakeholders**

   i) <u>Output I</u>: identified stakeholder thematic priorities.

   (1) <u>Activity 1</u>: identify and document stakeholder priority in food security,

   (2) <u>Activity 2</u>: identify and document stakeholder natural resources management,

   (3) <u>Activity 3</u>: identify and document stakeholder employment /income generation.

7) <u>Immediate objective VI</u>: **to develop tools that would facilitate the MTC process**

   i) <u>Output II</u>: MTC organic networking policies, strategies, structures and processes identified.

   (1) <u>Activity 1</u>: identify existing networks of traditional associations, women's networks, religious and other networks

(2) <u>Activity 2</u>: map the structures of these networks

(3) <u>Activity 3</u>: describe the process that take place in these networks – leadership, participation, actors and facilitators.

8) <u>Immediate objective VII</u>: **to establish the levels of stakeholder information entitlement.**

   i) <u>Output I</u>: inventory of communication media available to all stakeholders mapped out.

   (1) <u>Activity 1</u>: traditional communicational channels, media, tools, and games identified.

   (2) <u>Activity 2</u>: community meeting places, rules and participants of the meeting identified at different times.

   (3) <u>Activity 3</u>: identify gaps and omissions in the information entitlement chart mapped out in the above output.

9) <u>Immediate objective VIII</u>: **to establish mechanisms for recording, collating, compiling and dissemination of local knowledge using agreed upon indicators. Indicators in this regard must attain, to a large degree the following criteria: validity, reliability, relevance, sensitivity, specificity, cost-effectiveness, timeliness, simplicity, measurability, and verifiability.**

   i) <u>Output I</u>: Adaptive strategies that lead to sustainable livelihoods recorded documented, analysed and made available for access by stakeholders, documentation of information on
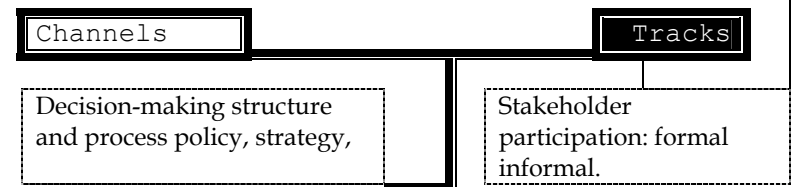
adaptive strategies which lead to, or have the potential to lead to, sustainable livelihoods.
ii) <u>Output II</u>: Local knowledge systems have constituency in the development community
iii) <u>Output III</u>: Popular development aspirations and perceptions of primary stakeholders (the poor) adequately communicated.
iv) <u>Output IV</u>: community publishing established

(1) <u>Activity 1</u>: packaging and dissemination of information sets on adaptive strategies to local communities and other interested groups.
(2) <u>Activity 2</u>: provision of recommendations to policy makers and local communities through the identification of key interactions, synergies, antagonisms, etc. among traditional and contemporary knowledge and the relevant policy conditions under which adaptive strategies evolved.
(3) <u>Activity 4</u>: identification, in a preliminary manner, of indicators of sustainable livelihoods in arid and semi-arid lands.
(4) <u>Activity 5</u>: provide researchers and other interested parties with information on the process and methodology used.
(5) <u>Activity 6</u>: influence the outcome of the WSSD in the areas of poverty and sustainable development.
(6) <u>Activity 7</u>: What kind of ecosystem, socio-economic and political changes have occurred in the project countries? Here we need to describe the signals and indicators of

change. Consider a tabular presentation of data to put adaptive strategies data in perspective. Examples of indicators follow: ecosystem indicators,[22] socio-economic indicators,[23] political indicators[24].
(7) <u>Activity 8</u>: Macro-policy context: What national and international policies, i.e. agricultural, economic, environmental, social, impede or facilitate the achievement of sustainable livelihoods? Policies to be considered include macro-policy adjustments including structural adjustment programmes, trade policy and the role of the formal and formal sectors.

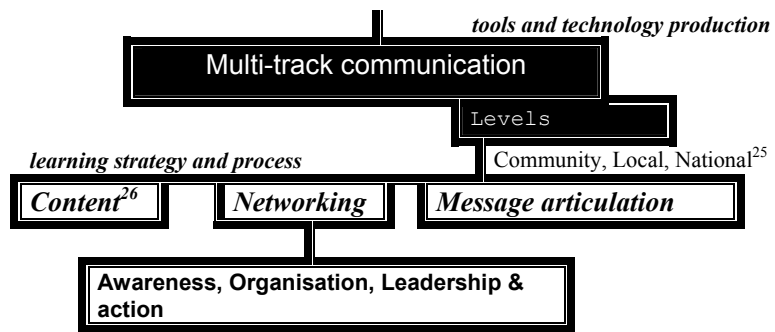Fig. 2. Nodal linkages for multi track communication networking


```
Channels                                          Tracks
```

| Decision-making structure and process policy, strategy, | Stakeholder participation: formal informal. |

---

[22] agroecological zones; climatic variables including rainfall patterns and major droughts; soils status; extent of desertification; siltation rates; vegetation types and cover, etc.

[23] the nature of enterprises; income sources and their distribution; migration and other demographic factors; employment; human health indicators (e.g. mortality rates); animal health indicators; rights, including grazing, land- tenure, tree tenure and land-use

[24] the nature of government; the extent of centralisation and decentralisation of political authority (i.e. local self-government); system of procurement of goods and services including trade, financial flows to communities

```
                                          tools and technology production
    ┌─────────────────────────────────────┐│
    │ Multi-track communication           ││
    │   ┌──────────────────────────┐      ││
    │   │ Levels                   │      ││
    └───┤                          ├──────┘│
learning strategy and process  │ Community, Local, National[25]│
┌──────────┐  ┌──────────────┐  ┌─────────────────────┐
│ Content[26]│  │ Networking  │  │ Message articulation │
└──────────┘  └──────────────┘  └─────────────────────┘
        ┌──────────────────────────────────────┐
        │ Awareness, Organisation, Leadership & │
        │ action                                │
        └──────────────────────────────────────┘
```

V

Issues before the development stakeholders

While the MTCS strategy holds tremendous opportunities to enhance stakeholder relations and communications, there are issues before us that we need to tackle in developing the tools and processes to implement such a complex communications programme. The following checklist will help us get there

1) Using the PAPSL, identify what communications conditions and TOOLS should be fulfilled for the effective implementation of the MTCS,

2) Identify, analyse and collate problems of implementation foreseen (institutional, financial, manpower, timing, etc. using the PAPSL and LFA methods).

   a) Which of these are of a policy nature and which of an economic one?

   b) Which are short term and which of longer term significance?

   c) How should these problems be addressed?

3) What are the most important TOOLS we can draw from past communication strategy development in related programmes?

4) What must the communication linkages between idea development and dissemination be?

   a) How can we make a checklist of all communications tracks, channels, processes, levels etc.?

   b) How, when, where and who can prepare a matrix consisting of channels used, stakeholder groups already identified, and other variables that are identified as reasons for use of the channels; such as cost, skills availability, cost, interaction, etc.?

   c) Should we use systematic consultation and the SWOT methodologies to review each of the communication channels and institutions utilised by identified stakeholders,

   d) Undertake a needs assessment on horizontal communication needs (within the community)? Vertical communication needs (bottom-up and down).

   e) Use a survey to identify the communication skills available within stakeholders?

   f) Using two matrices, one each for the horizontal and vertical communication institutions/channels used, prioritise the ones you want to strengthen[27]. You can

---

[25] Oganisational characteristics. Autonomy - power; Capacity - skill, ability; Cohesion - unity of purpose; Complexity - bureaucratisation

[26] Physical, psycho-social, political, organisational, economic, spiritual adaptation and *recording, people's testimonials*

[27] It may be important during or after this step to consult with the community in order to make a final decision on the preferred institutions/channels

use potential hindrances and opportunities as variables.

5) What is the value added one derives through systematic client consultation?

   a) Would focus group discussions, meetings or seminars of all identified stakeholders[28] be useful to determine what the most effective channels of communication **across** the different stakeholders?
   b) Should one use the OLCA[29] matrix to itemise in order of priority the different the media/institutions most accessible to the different stakeholders?
   c) How can we ensure that agreement is reached on appropriate vehicles of communication? Languages of communication (whether translation will be needed, etc.)? Tools for communication e.g.. Newsletters not reports or documents; flyers instead of newsletters; or community radio over national radio? Who is overall responsible to design the communication strategy for various activities (media, network, consultative group or permanent communication unit, etc.)?

Chart 1. Stakeholder analysis in multi-track communication systems

Stakeholders	1	2	3	4	5	6	7	8	9
1. Government									
2. NGOs									
3. Donors									
4. People									
5. CSOs									
6. District Officials									
7. Traditional Chief									
8. Development agent									
9. Political party									

6) How does one get stakeholders to a meeting?[30]

   a) Should we have a national focal point to establish a permanent communication unit?
   b) Alternatively, assign a staff member as the communication focal point?
   c) Or constitute a consultative committee from the individual focal points identified by all the stakeholders.[31]?

7) In order to determine the best alternative careful attention needs to be paid to what is practically possible within a short time. For example, although community media seems to have fewer constraints than those of video, you may chose to strengthen video over radio because the skills are readily available among the stakeholders. On the other hand, although e-mail seems viable in all other aspects, it is unsuitable because it is not available to many people. However, if inter-phasing with another form of communication is possible, then it might be the best option.

8) Once the appropriate institutions/channels to be strengthened are agreed upon, undertake a market survey to determine the resources required to meet the gap? Refer the findings to the Consultative Committee to determine

---

[28] Do you want to ensure that this meeting is attended by the media professionals network?
[29] Organisational learning capacity matrix

[30] it may be necessary to draw up, together with the stakeholders, terms of reference for each of the information focal points before they are selected
[31] It is assumed one of the roles of the consultative committee will be to approve the communication strategies to be used to ensure a Participatory approach. For example, preparation of reports, newsletters, documents, etc.

responsibility sharing for resource mobilisation?

9) What are tools available for us to undertake effective sensitisation and advocacy:

a) awareness raising: video, village maps, documentation, community radio, popular theatre, workshop, seminar, visits;
b) advocacy workshop, SL Village Action Plan, SWOT analysis, Brochures, newsletters; Leadership surveys and studies, Quality capacity matrix analysis;
c) Sectoral Responsibility sharing meeting - '*responsibilisation*' and resource and cost sharing, planning workshops (for setting priorities),
d) systematic consultations through setting up steeirng committees
e) Matrix analysis of resources and cost sharing,

Code Of Practice
for Organic Networking
MULTI-TRACK COMMUNICATIONS

Problem formulation: All efforts here need to focus on addressing the principal problems described in the introduction here can be classified us

- lack institutional memories in MTC development,
- lack of programme focus and the closely related over-

dependence on external finance and assistance for development communications work,
- lack of an appropriately staffed networking "nerve" centre;
- effective in building channels and media aimed at promoting and institutionalising empowerment among grassroots populations.
- inability to establish a clear and coherent voice nationally on issues which are crucial to MTC.

The mission: The basic mission of this comprehensive initiative is to develop a framework that enables strategic thinking - the strategy, policy, structure and decision making process of networking. The basic elements of strategic thinking are the ability to understand behaviour as a system in which state; civil society and resources continually interact. It is the ability to use this understanding to predict how a given strategic move will rebalance the equilibrium and use of networking resources that can be permanently committed to new uses even though the benefits will be deferred. It is the ability to predict risk and return with enough accuracy and confidence to justify that commitment and willingness to act.

This list may sound like nothing more than the basic requirements for any ordinary programme formulation strategy. Nevertheless, strategy is not and cannot be that simple! It is all encompassing, calling on the commitment and dedication of the whole organisation. Participants failure to act/react and then deploy and commit own resources in support of the strategic move of networkers can turn existing co-operative relationships upside down. By committing resources, strategy seeks to make sweeping

changes in communicative relationships. Only two fundamental inhibitions moderate its revolutionary character.

One is failure, which can be as far reaching in its consequences as success. The other is the inherent advantage of a well-situated strategic network co-ordinator. Success usually depends on the culture, perceptions, attitudes, and characteristic behaviour of NGOs and on their mutual awareness of each other. **Strategy is a deliberate search for a plan of action that will develop a competitive advantage and compound it.** For networking, the search is an iterative process that begins with recognition of where you are and what you have now. A comprehensive study will therefore address the following areas of networking management and development.

The following chart presents the networking outputs and activities in developing the requisite basis for organic linkages between stakeholders.

Outputs	Actionable agenda
The initiative will seek to define a strategy for NW that will determine the rules of the game in the code of practice.	Networking Strategy: Networking strategy is a process of conceptualisation expressed or implied by the long-term objectives or purposes. It is the broad constraints and policies, either self-imposed or accepted as a donor condition. They may currently restrict the scope of networking activities, and the current set of plans and near term goals that have been adopted in the expectation of contributing to the achievement of its objectives.[32]

---

[32] The purpose of a well-defined strategy is to maintain or gain a position of advantage in relation to the external environment. An advantage is gained by

A series of procedural guidelines that would underscore the mechanism for participation, communication and interaction among network members to develop communication networking: vision, mission statements and goals	➢ Vision is an expression of ideals, which may not be attainable in one's lifetime. It is initial idea/force that brings people together for collective action. Vision is the focus. Vision is not mystical. Vision is not predicting but much more clearly seeing what the organisation can be in the future. A clearly articulated networking vision provides stakeholders or performers: Energy, Momentum, and Strength. ➢ Mission: mission is the organisation's purpose for existence, mission(s) describe(s) in general terms how the vision would be pursued mission provides members with shared sense of direction. ➢ Goals and objectives: Goal is a statement indicating what is to be accomplished by an organisation in the future. Objective is a statement indicating what is precisely going to be accomplished in a specific period of time and with specified resources when implementing programmes/projects. [33]

---

seizing opportunities in the environment that enable communication to capitalise upon areas of strength. Strategy allows decision on how to use scarce resources for maximum impact to achieve organisational goals. A strategy is a framework that provides choice about what to do and what not to do. A good strategy must fit networking vision and mission, analysis of the present development problems, analysis of the external context (forces), organisation's capacity, make a choice amongst various strategic issues. A clear mission ensures that people's energy resources serve a common purpose. It can guide an leaders in major policy decisions about alternative courses of action.

[33] Goals are the overall strategic mission expressed in terms of three-year planning, etc. the strategy and plans are designed as directions for achieving attainment of goals and missions, the steps that lead to the attainment of objectives. From strategy and plans, policies are then developed to provide guidance for operational decisions and actions. Procedures provide direction in handling specific sections but allow for a certain amount of judgmental discretion. Rules, which are quite rigid and very specific, deal with certain categories or situations in which little if any discretion is allowed.

Develop a policy that would serve as a guiding rail to networkers at different levels that will be the centre piece of the code of practice	Networking Policy: One outcome of the networking strategy development is networking policy. Policy is generally used to refer to general guides to actions and decisions. A policy is often referred to as a standing decision made in advance to cover a prescribed set of conditions, thus setting the limitations or guide-lines for making decisions or taking actions that would determine the scope, levels of penetration and collective goals of the members of networking. Networking policies also provide members with a framework for making decisions so that actions will be consistent throughout the system.
A functional structure that will determine nodal points of contact and lateral relationships	Networking structure: Within the context of networking, structure refers to the relationships that are established both by the `voluntary contracts' between people, participating nations and institutions and more importantly the networking nodes and "reporting" chains within the network management. The organisational structure of networking needs to be developed without due regard to grassroots networking to perform the tasks defined by its strategy in the best possible manner. [34]

The Code will clearly spell out the vision, mission statement, goals and objectives for networking code of practice.	Networking decision-making processes: The organisational processes within networking are represented with the motivational and attitudinal aspects of the networking development setting. The networking has little or no means of "motivating" "staff" and volunteers to accomplish common goals from the point of financial and material type of incentives. However, participatory goal setting, allocation of resources and implementation of the networking project, important components of an organisational processes, need to be developed gradually. The monitoring methods need to be exhausted very well.[35]
An institutional framework established for the MTCS Programme	➢ Appropriate institutional machinery for integrated MTCS human resource planning established. ➢ MTCS programme management structures set up and capacities created for management and implementation of the programme at Central, local and Community levels.

[34] These include the relationships in the allocation of authority and responsibility, the reporting relationships and the mechanisms for integrating the different components of the networking project.

[35] The strategic planning and management process: Because of the success of strategic planning, the emphasis has been shifting from policy or operational planning toward strategic planning and management. This emphasis on strategic planning and management reflects the growing importance of the impact of the outside world on communities. The fast changing and uncertain world situation is forcing organisations to do strategic planning. The following will be achieved as an operational part of the code of practice. 1) Identifying the basic purpose or mission of MTCS networking 2) Strategic decisions in communication-networking 3) Determining specific organisational goals and objectives for communication networking and identifying organisational strengths and weaknesses, identify strategic opportunities and threats. 4) Identifying and comparing strategic alternatives, the strategic decision and implementation of the strategic decision and plans and strategic evaluation.

Infrastructure for gender strengthened at all levels.	➤ Assessment and identification reports on the human and institutional capacity building requirements prepared as a basis to strengthen the GID sections. ➤ Enhanced participation of women and men in the national and global dialogue on governance, civil rights, and development.
Training of trainers trained in participatory development.	➤ National workshops held for religious leaders and community leadership on participation. ➤ Training of trainers for local groups (women) to be trained in participatory development techniques.
CBOs trained by trainers in participatory development techniques. Participation of adult education	➤ Local and project staff (50% percent at least of whom should be women) drawn from local organisations trained by trainers in participatory development techniques. ➤ Baseline studies completed a strategy development for community participation in project formulation and management completed. ➤ Adult literacy classes restarted in 3 pilot areas with full community participation.
MTCS expert capacity strengthened	➤ Technologists from the priority sectors in districts trained in appropriate technology. ➤ Technological needs identified in 3 districts.

Section IV

Conclusions

Institutional approaches to communications call for analysis of the effectiveness of government and non-government organisations in contributing to SL in terms of their generic characteristics. These characteristics include:

autonomy, capacity, complexity, cohesion and a combination of these. Presumably, the more organisations and institutions are endowed with these attributes, the greater their strength, and the more likely hey are to promote democratic transition. Let us then look at the hypotheses. The stress on standard organisational dimensions and traits in explaining development, which borders on over-emphasis, is problematic. We can here identify three problems with it.

➤ First, it assumes or requires a level of development and strength of institutions in Third World formations and societies (prior to democratic transition or maturity) beyond that of the developing societies in question. This is particularly the case with countries severely impoverished and weakened by chronic under development, the ravages of civil war, political instability and massive social dislocation (for example Somalia, Sudan, Liberia and Rwanda), but it also holds for other Ethiopian countries. The emphasis on generic organisational attributes begs the crucial question of how Ethiopian societies not very well endowed with strong indigenous institutions characterised by autonomy, capacity, complexity and cohesion will make successful transitions to democracy.

➤ Second, it makes the rather questionable connection between the strength of institutions and the likelihood of their promotion of democratic transition. Why should one equate, for example, the cohesion of an organisation with what that organisation actually does, or how it might behave

politically? Should we suppose that an institution, say, the Transitional Government of Ethiopia, will allow, in virtue of its autonomy and capacity, opposition groups to claim and win a share of power? It is possible to draw an analytical distinction between an organisation's structural characteristics which are relatively independent of specific contents, and its political functioning (activities, operative ideology, leadership style, policies, etc.).

➢ In assessing the effectiveness of indigenous organisations in Ethiopia in contributing to democratic change, the measure of the ideas and practices articulated by the organisations and the strategies and forms of that articulation must not be neglected. One should be alive to the possibility that actual performances of autonomous and complex institutions may be indifferent, or even contrary to democratic principles, notwithstanding the formal profession of such principles by the institutions in question.

➢ Third, the stress on generic traits of government and non- government institutions largely overlooks substantive gaps in organisations' knowledge of democratic ideas and practices as a source of problems of democratisation along with structural incapacities of organisations. While differences in general institutional characteristics provide a significant measure of effectiveness of contribution to political reform, they cannot account for improvements in democratic impact which can be

made within an organisation through institutional learning and practice.

Multilateral, bilateral and non-governmental external agencies have in recent years taken a large number initiatives aimed directly or indirectly at helping poor countries "democratise" their way out of economic chaos and political instability. In doing so, they rely on a wide variety of programmes, institutional mechanisms and policies. Indeed, growing external involvement in Ethiopian projects of democratisation and economic recovery has resulted in increasingly challenging problems of conceptualising and understanding the role and function of international agencies.

The growth of foreign interventions seem in marked contrast to the limited thought and effort exerted by developers and democratisers of Thrid World polities to put the interventions in coherent theoretical or strategic perspective. What is the overall rationality or significance of the great traffic of international programmes and projects of democratisation and development, the proliferating activities that seem to show little regard for economy of co-ordination? How far and in what ways do various international agencies, programmes, mechanisms, forms of knowledge and technical assistance feed on one another in helping set the boundaries of democratic reform in Ethiopia? The important issues that these questions suggest are not sufficiently addressed, or even raised, in much of the current discussion of societal transitions in poor countries.

Insofar as the activities of external agencies are not understood and engaged in partly as indigenous societal

potentialities developing gradually into actual structures, functions and characteristics of government and societies, their democratic and developmental impact may diminish with their proliferation. This can mean little more than a weakly co-ordinated multiplication of programmes which have immediately recognisable or measurable effects in limited areas. Nevertheless, they seem to suspend rather than serve the ultimate goals of livelihood security of the poor.

The strategic co-ordination of diverse international activities supportive of development can become a challenge both for the international agencies involved and for governments. This is in part because of limitations in the individual characteristics of the activities - for example, their narrowly technocratic orientation. It is also because of shortcomings in the relational and contextual articulation of external programmes and projects, their limited generalisability and variability.

These, then, are some of the analytical limitations that characterise existing perspectives on communication challenges that an MTCS strategy has to address. Governments and societies undoubtedly depend on international assistance in their projects of reform. Such assistance is vital for the projects in many areas and at many levels. Yet it must be recognised that external support creates problems as well as opportunities.

In confronting the imperatives of political change, nothing is more challenging for Third World polities than the strategic co-ordination of diverse global and local elements, relations and activities within themselves, nor has

anything greater potential for enabling them to achieve successful transitions to sustainable livelihoods.

References

1. Bentley Trevor, "MIS and Data Processing" Holt Reinehrtt and Winston, Londong, 1982.
2. Daniels Alan and Don Yeates, "Basic Systems Analysis", 2nd ed., Pitman Publishing Limited, London, 1984.
3. Donald A.G., "Management Information and System", Perfamon Press, N.Y., 1967.
4. Kanter Jerome, "Management Information System", 3rd ed, prentice-hall Inc., London, 1984.
5. Loomis Mary E.S., "Information Systems Concepts for Management", Prentice - Hall Inc., London, 1983.
6. Lucas H. C., "Information Systems Concepts for Management", 3rd ed., McGraw-HillBook company, N.Y., 1986.
7. M Fritz & Mansfield, "The Study of Information, Interdisciplinary Message", John Wiley and Sons, N.Y., 1983.
8. Mc.cosh Andrew et al, "Developing Managerial Information Systems", Macmillan press Ltd., London, 1983.
9. Murdick Robert G., "MIS Concepts and Design", 2nd ed., Prentice-Hall, London, 1986.
10. Sprague R.H. & B C. Mcnurlin, "Information Systems Management in Practice", Prentice-Hall, Londong, 1986.
11. Thierauf Robert J., "Effective Management Information Systems". Bell and Howell company, Columbus, 1984.
12. Bentley Trevor, Management Information Systems and Data Processing, Holt Reinehrtt and Winston, Londong, 1982.
13. Bergerud Mary and Jean Gonzalez, Word/information Porcessing, Concepts of Office Automation, 2nd ed., John Wiley and Sons, N.Y., 1984.
14. Bittle Lester R., Encyclopadia of Professional Management, Mc. Graw-Hile Book Comp., N.Y., 1978.
15. Daniels Alan and Don Yeates, Basic Systems Analysis, 2nd ed., Pitman Publishing Limited, London, 1984.
16. Donald A.G., Management Information and System, Perfamon Press, N.Y., 1967.
17. Kanter Jerome, Management Information System, 3rd ed, prentice-hall Inc., London, 1984.
18. Leitch Robert A. and K. Roscoe Davis, Accounting Information Systems,

Prentice-Hall Inc., Erglewood Cliffs, 1983.

19. Loomis Mary E.S., <u>Information Systems Concepts for Management</u>, Prentice - Hall Inc., London, 1983.

20. Lucas Henry C., <u>Information Systems Concepts for Management</u>, 3rd ed., McGraw-Hill Book company, N.Y., 1986.

21. Machlup Fritz and unamansfield, <u>The Study of Information</u>, <u>Interdisciplinary Message</u>, John Wilay and Sons, N.Y., 1983.

22. Mc. cosh Andrew M. and others, <u>Developing Managerial Information Systems</u>, Macmillan press Ltd., London, 1983.

23. Mc. Farlan Warren F. and others, <u>Information Systems Administration</u>, Univrsity Press of America, 1973.

24. Mintzberg Henry, <u>The Structuring of Organizations</u>, Prentice-Hall Inc., London, 1979.

25. Murdick Robert G., <u>MIS Concepts and Design</u>, 2nded., Prentice-Hall, London, 1986.

26. Nolan Richard L., <u>Managing the Data Resource Function</u>, 2nd ed., West Publishing Company, N.Y., 1982.

27. Rappaport Alfred, <u>Information for Decision Making, Readings in Cost and Managerial Accounting</u>, 3rd ed., Prentice-Hall Inc., Englewood Cliffs, 1982.

28. Silver Gerald A., <u>Introduction to Management</u>, West Publishing Company, N.Y., 1981.

29. Sprague Ralph H. and Barbara C. Mcnurlin, <u>Information Systems Management in Practice</u>, Prentice-Hall, Londong, 1986.

30. Thierauf Robert J., <u>Effective Management Information Systems.</u> Bell and Howell company, Columbus, 1984.

31. Tricker R.I and Richard J. Boland, <u>Management Information and Control Systems</u>, 2nd ed. John Willy and Sons, N.Y., 1982.

32. Voich Dan, Homer J. Mottice and William A. Shrode, <u>Information System for Operations and Management</u>, South-Western Publishing Co., Cincinnati, 1975.

33. Williams Sisk,<u>Management and Organization</u>, 4th ed., South-Western Publisheing Company, Ohio, 1981.

34. Wu. Frederick H., <u>Accounting Information Systems</u>, Mc. Graw-Hill Book Company, N.Y., 1983.