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**APPLICATION OF LOONIS PROCESSIONALLY
ARTICULATED STRUCTURAL SOCIAL SYSTEMS
MODEL TO CHANGE AMONG SAHEL-SUDAN
PASTORAL SYSTEMS**

AFR/DS, Lloyd Clyburn.
June 1975
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FIGURE 1

**Elements, processes, and conditions of action of social systems:
The processually articulated structural (PAS) model:**

<u>Processes (Elemental)</u>	<u>Social Action Categories</u>	<u>Elements</u>
(1) Cognitive mapping and validation	Knowing	Belief (know- ledge)
(2) (a) Tension manage- ment and (b) communication of sentiment	Feeling	Sentiment
(3) (a) Goal attain- ing activity and (b) concomitant "latent" activity as process	Achieving	End, goal, or objective
(4) Evaluation	Norming, standardiz- ing, patterning	Norm Status role (position)
(5) Status-role Performance	Dividing the functions	
(6) (a) Evaluation of actors and (b) allocation of status roles	Ranking	Rank
(7) (a) Decision- making and (b) its initiation into action	Controlling	Power
(8) Application of sanctions	Sanctioning	Sanction
(9) Utilization of facilities	Facilitating	Facility
Comprehensive or master process		
(1) Communication	(3) Systemic linkage	(5) Socialization
(2) Boundary main- tenance	(4) Institutionaliza- tion	(6) Social control
Conditions of social action:		
(1) Territoriality	(2) Size	(3) Time

Source: Charles P. Loomis, **Social Systems: Essays on Their
Persistence and Change** (Princeton, New Jersey:
D. Van Nostrand, 1960), p.8.

APPLICATION OF LOOMIS PROCESSIONALLY ARTICULATED
STRUCTURAL SOCIAL SYSTEMS MODEL TO CHANGE AMONG
SAHEL-SUDAN PASTORAL SYSTEMS

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June 1975

Over the past two or three decades, Charles Loomis has conceived, elaborated and imperically verified a general theory of social identity and social action, which proposes that people exist and function in distinctive groups, which he named social systems. He identified elements, processes and social action categories that may be used to describe all human social systems in terms of identity, raison d'etre and justification for action. (Table). This work is summarized and referenced in his book with Paul Leagan, in which they proposed that in the social change game, for change to take place (efficiently) the goals of the change target, or the social system subject to change, must coincide with those of the change agent. In its most abbreviated form, this says that change is the function of expectations of goal fulfillment. Loomis' "processually articulated structural (PAS) model" is a framework for describing social systems, including goals and influences. ^{1/}

The PAS model was found to be equally valid in Costa Rica, Mexico, Japan, Finland and the United States, countries having moderate to highly diffused social systems as results

^{1/} J. Paul Leagans and Charles P. Loomis, editors, Behavioral Changes in Agriculture (Ithaca: Cornell, 1971), Chapters 1 and 10.

of the provision of alternative social processes and goals through economic development. Certain of the elements and processes are highly characteristic and readily observable in most rural social systems of long, relatively uninterrupted traditions, and they have a direct bearing on the success of induced social change. The pastoral, semi-pastoral and recent pastoral people of Africa are cases in point. The importance of identifying and approaching these social systems in terms of and in harmony with the PAS concept may be illustrated with five items of the model:

1. The identification of social bounds and territory identifies the territory and clientele of the change agent
2. The identification of roles and role incumbents tells the change agent whom he must communicate what messages to and through.
3. Role rank prescribes the order of communication from the change agent to the respective role players.
4. The means of boundary maintenance of roles as well as the system tells how the system keeps communications in normal or accepted channels.
5. A description of commonly prescribed sanctions reveal the rewards for compliance and the penalties for deviation from established norms. These and other items in the PAS model will be discussed further.

All evidence at hand indicates that practically the whole of the African Sahel and all of the Sudan not infested by the tse-tse fly, and much that is, is seriously overgrazed, hence the grass yield per land-rainfall unit is greatly reduced from its climax or virgin state, much of it in a state of serious deterioration. The only known means of reversing this situation is to reduce stocking rates and practice some form of grazing rotation to allow sufficient grass leaf growth to arrest and absorb rainfall into the soil and to provide for root renewal. The proposition to reduce one's herd and at the same time leave grass standing ungrazed for promised increased goal fulfillment is abstract, or at least temporal, and therefore requires a presentation that is harmonious with the system.

The purpose of this paper is to apply Loomis' PAS model to the design and implementation of integrated range management and similar projects in Africa, the Sahel-Sudan in particular, so that such projects will harmonize with the elements and processes the social systems involved.

I. THE PASTORAL SOCIAL SYSTEM: AN APPLIED GENERALIZATION.

A. SYSTEM IDENTITY:

1. Communication. Dialect is one of the first items of identification of a social system. Dialect figures

strongly in boundary maintenance, simply because communication is essential to social participation. Pastoral groups depend on oral communication of technical conditions, including range condition on distant ranges.

2. Interdependence. A social system may be delimited by the interdependence of its members. Members are interdependent (through kinship) for social security purposes. For example, the parent makes a point of well-establishing sons to assure provision from them when he is beyond the age of productivity. Extended kinship patterns provide for adversities among the misfortunated. Another example is, or was, the specialization of labor, as in the case of the dedication of the young males to roles of warriors in boundary maintenance (the warrior roles now obsolete, Masai warriors patrol USAID-assisted range cattle project boundaries and escort cooperative herds to market). Another example is the sharing of specialized labor outputs available through the employment or entrusting of range scouts and herders for the system. The extent to which these services are shared is an indication of the bounds of a social system.

3. Common Beliefs. A rural, pastoral social system will hold to a core set of beliefs or concepts of the universe which reflect their experiences and those of their

forebearers. In pre-scientific systems, beliefs are the interpretations of coinciding or time-related phenomena, frequently in terms of cause-and-effect. Contemporarily, beliefs embrace the sum total of technology and serve as a calendar and guide to daily operations. On the long-term, including the eternal basis, beliefs are the bases for goals. At the same time, beliefs tend to be biased by pre-established goals as affected by aspirations. Example:

- a. Evaluation: contemporary life is good, or is not good, or is good to others, is desirable,
- b. Value: the good life,
- c. Goal: the good life in some future span of the contemporary life, in status after death, or both,
- d. Interpretation of Phenominal Observations (cognitive mapping): validation of goal feasibility.

Beliefs are adjusted to the perceived needs of the social system, codified and communicated through tradition.

Beliefs may be either supplemented or varied through innovation flowing from original thought. There are not many such innovations in the history of agriculture.

Beliefs may be supplemented or varied by reports of observations outside the system. Such observations,

represented in "linkages", may be accepted at near face value if presented forcefully in a manner fully compatible with the elements of the target system --- thus, contemporarily, the role of the salesman. Traditional beliefs are reinforced by calamities, cause-effect events, such as the destruction of Sodom and Gomorrah. Their validity is enhanced by crediting the reports to high-ranking role actors, including JEHOVA HIMSELF, Abraham and Moses.

Observations through linkages to the outside world can also be rejected. To put it another way, acceptance would require, first an affirmative evaluation of the new process as a goal achiever, second, no serious deviations from the system's established norms, processes or roles, third, be demonstrably valid, fourth be demonstrably reliable and fifth, be demonstrably feasible. It is upon this proposition that adaptive research, result demonstration and method demonstration were invented.

4. Common Values: Individuals and, collectively, social systems assign values to roles, goals and facilities. That is, they place priority rank on the things available or aspired for. A role may be valued for the rank and status it carries. This is important to the ego as self-assurance of personal adequacy.

The Fulani value their skill as herdsmen, as the alumni of Southern U.S. universities value the progress of their football teams. The Fulani obviously value their very distinctive race of cattle --- as a facility --- which is admired by all who know African cattle.

Personal social security is valued and pursued by the begetting, rearing, indoctrination and sponsoring of sons who will provide for the parents in their non-productive days. The facilities for goal achievement, which include wealth and skills (wisdom) are objects of value.

The adherence to social norms may be of great value to the individual as it may reflect ideal conduct or gain approval for compliance in the group control process. Also, it may be valued as evidence of progress toward achieving ultimate goals.

5. Goals. Social systems have goals which are pursued by the majority of its members. The Israelites' conquest of the "Promised Land" is an example of a temporal goal. The good life after death is the goal promised by many religious systems, including fundamental Christians. On the other hand, certain religions preach predestination, which says in effect that goals contrary to the predestined end are futile.

Individually, the most common goal is a specified measure of the good life. For example, an individual might aspire to arrive at the "comfortable" status, marked by ownership of a certain number cattle, or the "wealthy" status, designated by the ownership of a specified, higher number.

6. Sentiments. Sentiments are the attitudes of the individual or the social system toward the system itself, toward contrasting or competitive systems (subjective or stereotypic evaluations in terms of illustrative customs and traits), toward supra-systems, such as the national state (patriotism or, in contrast, revolution). Sentiments can be accommodated and reinforced by incorporating supporting facilities (identification trappings) and sentimental dogma in the change project, such as in a rural youth program.

Such are among the means of goal reinforcement and of tension management, as is prayer. Prayer is a means of articulating the goal - directed effort with the motivating force. In most traditional systems dogma requires prayer as the precondition for goal achievement. In this vein the message is directed to the preeminent power figure in the form of a request for the favor of permitting goal achievement. The controlling dogma generally requires

trade-offs on the part of the petitioner in terms of service, facilities (tithes), praise, appeasement, including sacrifice, boundary maintenance of the religious order, which is itself a social system, and proselytization.

With setbacks in goal pursuit, appeals may be made through prayer for reinforcement of goal commitment and reassurance of the ultimate payoff.

7. Territoriality. Obviously, a social system is identified in part by the territory it covers or claims.

8. Size and Density. Another descriptive dimension is the number of people involved, and with the size of their territory, their territorial density. This may be a basic measure against the concept of carrying capacity.

B. ROLE IDENTITY:

One of the approaches to the identification of a social system is its role set. Sociality is based on the principle of synergism arising from the complementation of specialized divisions of labor. This is demonstrated biologically in the family, but carries on into social security, boundary maintenance and goal achievement. While at least one role is assigned to each member (for example, infant) many roles are assigned to some. The present discussion is limited to the kinds of roles that seem to be significant to a change agent in implementing a development project.

1. Personal Role. The basic qualification for membership in the social system is incumbancy in at least one personal role. Example: infant, male; first, second or whatever number, son or daughter of a specified role incumbent. Besides the birth route, membership is achievable through marriage, in which as a rule the role would be, first wife-daughter-in-law, later in ascending order, wife-mother-daughter-in-law, and finally, perhaps, widow-mother-in-law-grandmother.

2. Service Roles. The service roles of a rural social system run the gambit from that of the chief to the village idiot whose contribution may be no more than providing a target for innocent ridicule.

a. Legitimate Power Roles:

(1) Chief. The village chief or headman is the person recognized by both the system and the encompassing government as the chief administrator of the system. The role infers the center of concern for the well-being of the system and the center of administration of its internal actions. The role includes the official linkage with the outside. In Francophone Africa, frequently, depending on the size of the social system, the role has been altered to accommodate French administrative control. In such cases the incumbent would be appointed by the national government or its subordinate authority.

The role includes that of: (a) village greeter; (b) legitimizer of the linkage or visit from the outside, and village spokesman. Internally he is the government's representative, the presiding officer and judge. The incumbent is likely to see any deviation from this pattern as a challenge to his position.

All administrative and law enforcement roles are subordinate to that of the chief or headman.

In the pure, traditional systems, the headman may ascend to that role through heredity and be so maintained, or removed, by a council of notables or chief-makers. That is, succession is through male heirs, each being subject to removal through the declaration of physical or mental incompetence by the council of notables.

The role of the traditional chief may or may not include administrative functions; however it does include outside linkage, presiding officer, system spokesman and civil judge. Besides the role of headman, the incumbent will occupy a family role (family head) and an economic role (cattleman, farmer, fisherman, woodsman). His performance in these roles reflect on his qualifications for system leadership. Recall,

for example that one qualification for leaders in the Christian Church was "having believing children" (I. Timothy, 3).

To protect his status as one of the better performers he must of necessity be involved as a participant in a change project affecting the system from its beginning.

For him to commit to significant change in his own economic endeavor --- say cattle herding -- he must be assured of, if not success, protection from ridicule in case of failure. Once he has decided to adopt introduced practice he will likely be an excellent demonstrator for the simple reason that failure would reflect on his qualifications as system leader; that is, it would reflect on his wisdom credentials. On the other hand, if he is not invited to participate in the program or if he elects not to participate, he has no alternative but to oppose the project.

(2) Staff and Enforcement Roles: Depending on the size of the social system and the control mechanisms used by the supra political system, the Chief's office may include a number of staff and enforcement positions or roles. These may include: (a) village clerk or recorder of vital statistics; (b) tax collector and (c) village police (observations there limited to French Indo-China). These roles command power in their own right to the extent that they control the actions and resources of the system and its members. In addition, they derive power from their association with the Chief. Proximity to power is the guts of politics.

b. Legitimizing and Representative Roles:

Rural social systems include role groups to reinforce the role of chief and thus maintain system structure and order,

legitimize or negate change thrust on the system from the outside or generated from within, provide counsel to the chief and provide representation from the members to the system council. These roles vary with size and complexity of the system.

(1) Elders:

As a rule, elders are heads of extended families and to that extent provide representation of the members in the decisions of the system. In its simplest, pastoral form the family heads meet informally, in the shade of a designated tree at an understood if not appointed hour for a "tour de horizon", in which everything that may in any way involve the system is discussed. In the case of pastoralists one of the top agenda items is grass: where it is and how to get to it. In such sessions, the nomadic herding systems make their migration plans, which include overall strategy, target ranges, alternative targets, migration routes, alternative routes, and rendezvous points with alternatives.

In the simple system setting the elders, in common consent, run the show. While one of the group could be presumed to have more status rank than his peers, he would not assume authority or control over any member other than the family he heads. All acts would be by total consent, and a dissenting vote would be tantamount to a split in the system. It is

conceivable that such a system may include a chief administrative officer, known as the chief of the system but holding less qualifications (for eldership) and less status than the elders he serves. In such cases he would be the implementation officer for the elders.

(2) Notables:

There is often encountered in the more formal systems a Council of Notables which serves as reinforcement to the role of the chief, legitimizes (approves) actions proposed for the system, insomuch as they represent numbers, provide a base for decision-making if not representation, and provide a geometric means of communicating information and decisions. Aspirants qualify for the role through the accumulation of status which may include family headship but which may also include other merits, including record of service, wisdom, wealth, demonstrated goal progress and conformity to norms (Timothy 3).

c. System Maintenance Roles:

(1) Guardians of Tradition and Dogma: The elements of a rural social system are codified in its tradition and distilled to dogma. There are roles for the mastery of tradition and others for the mastery of dogma.

(2) Masters of Ritual: Ritual requires special management, and there are such roles both within the extended family and serving the system as a whole. Weddings are included

in the first case, although outside assistance from sorcerers may be sought to establish dates. The larger community affairs require the management services of an interested person possessing the appropriate skills.

(3) Boundary Defenders: Many systems provide for boundary defense in the form of warriors. Traditionally, the warrior role is transient, qualifying the male member for service of higher status in the system, including familihood.

d. Professional Service Roles: There are certain roles which provide service to the system for a fee or other valuables. These roles are professionally specialized and require qualifications through apprenticeship.

(1) Herders. Herders may be self-employed or for hire --- usually both. They appear to be ranked in their profession according to the measure of their skills at managing cattle.

(2) Healers (Human): The role of traditional healer is well known in human medicine.

(3) Healers (Veterinary): Pastoral systems include traditional livestock healers. It follows that livestock development schemes should identify incumbents and involve them in the animal health element of the project.

(4) Range Scouts: The nomadic systems appoint individuals to search for grass. In the traditional Arabic system, which may be observed in the Sahel, a nomadic system works

its range scouts in teams of three on fast-pacing camels. They maintain a night watch for lightening. When they site it, in however great a distance, they set out in that direction in search of the next flash, hoping thus to locate rain, hence grass. The role varies with communication systems and familiarity with the area.

e. Capital Roles:

(1) Self-Service: The normal member aspires to command sufficient accumulated wealth to take care of his personal and social needs throughout his life. This may be termed capitalism at the self-financing, self-serving level. The aspiration is for independent security and represents capital growth to the extent of its realization.

(2) Family Service: In his aspiration for the position of extended family head, the member must prepare himself, by way of capital accumulation, to provide for any and all members of the family in times of individual or group distress. For pastoralists, this means accumulating relatively large numbers of cattle. He does not necessarily have to sell his cattle to respond to his obligations: to the contrary, he might lend cattle to the needy and claim the offspring of the loaned animals.

(3) Systems Service: There are members of rural social systems who accumulate more than sufficient capital to respond to their respective families, thus they provide a loan service to the system.

(a) Cattle Lenders: There are at least two categories of cattle loans. One is where the capitalist lends cattle to an individual to stake him in the business. Repayment would be the cattle loaned and all their offspring; thus the borrower would get only the milk from the borrowed cattle. In another form the capitalist would lend a bull to an individual for festive ceremony. The borrower would pledge a heifer, keep the heifer and return to the lender all her offspring.

(b) Money Lenders: Typically, rural social systems include or have access to money lenders who provide ready cash for ceremonial occasions at absorptive interest rates.

f. Tension Management Roles:

(1) Ecclesiastical Roles: Each social system may be expected to have one or more (in hierarchical order) roles addressing its religious sphere.

(2) Prophets: In rural social systems certain members see visions and report them, very much as in Biblical days.

(3) Sorcery: Sorcerers are called on to adjust the system and its individual member to the universe, with particular referance to the cosmic and spiritual galaxies. This includes advice on the avoidance of disturbing these forces as well as placating them should they become disturbed.

(4) Witchcraft: For the orderer of the service, witchcraft and voodoo are means of tension control. For the recipient of the curse it has the opposit effect.

g. Advisory Roles:

In most rural social systems, one member tends to gain reputation for his superior wisdom and he is routinely asked for advice on change. There are many attributes to wisdom, among them, literacy, travel and the attainment of exceptional age without the deterioration of the mind.

3. Ceremonial Roles: The incumbents of the principle roles form a part of ceremonial committee for festive and linkage occasions. These roles include the chief, notables and/or elders and in some areas the ecclesiasticists. They assemble themselves to receive honor, and to fail to pay conspicuous respect usually constitutes a serious affront to the power structure.

4. Dissentent Roles:

a. Opposition: One may expect to find opposition groups aspiring for the power roles. For example, there may be claimants for the chieftainship by opposing families, or there may be dissentence within the ruling family.

b. Free-Thinkers and Innovators: A member must be something of a dissident to analyze traditional information, discard it when it does not measure the test of reality and reach innovation through the process of original thought. The innovator would likely be held in suspect by the system.

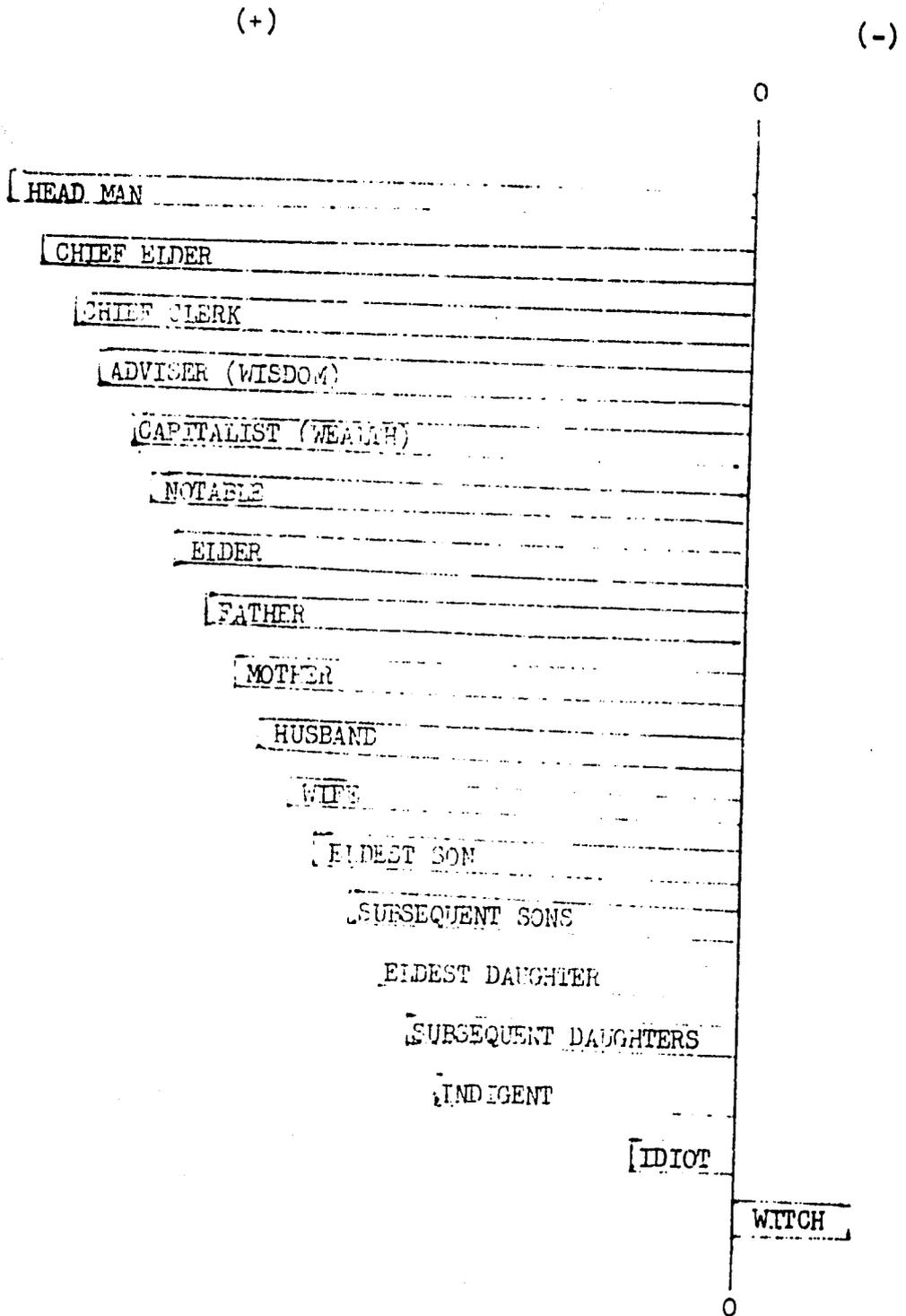
5. The Informer: While there are many communicators in the system --- the elders and the shadetree council and their report back to their houses, the chief's reception of the outside and others --- the informer or gossip is singled out to avoid omission. It is the incessant gossipier who tattles on the innovator and popularizes his contribution, who tells of the visit of the government agent and what he said of the changes made by members of the system.

C. ROLL STATUS AND RANK:

Roles acquire status or are ranked generally according to the perceived service they provide the system, ranging from the negative to the positive extremes. Perceivably, the status of an adult indigent member would rank near the zero line, while an infant child of a contributor of services would rank higher out of the expectation of his future service role and from inferred status from the parent. A single, working adult generally outranks the eldest child in a family system but holds lower rank than a married woman, who in turn ranks below married women with children, indicating awarded status for service --- in this

Figure 2

A TENTATIVE RANKING OF ROLES
IN A RURAL SOCIAL SYSTEM



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case, mothering and providing for members of the system. The control over others is seen as a service to the system. This assumes: (1) that the controls exercised advance the system toward the achievement of its goals; and (2) that control over others requires personal effort over and above that required for simple membership and provisionary roles, which it does.

Control over other members often includes or is strongly correlated with control over facilities, hence wealth. This elevates the status of the role from the standpoint of supply/demand for the role as a means of goal fulfillment and from the standpoint of admiration and envy on the part of other members.

The capitalistic roles are indicators of goal achievement. Presumably, the poor aspire to advance to the "comfortable" status, while those born in "comfortable" roles include the "wealthy" role among their goals.

The wisdom possessing and dispersing roles carry status ranking somewhere between that of the "comfortable" to the most exalted, depending on the system and the achievement of the incumbent. Generally the wisdom role ranks among those of the notables. In fact the demonstration wisdom is a credential for a notable role.

The credentials for a wisdom role are the apparent possession of a body of knowledge perceived to be useful to the system in maintaining its boundaries and achieving its goals. (This is contrasted to the prophet, who has access to supra knowledge.)

Wisdom roles are specialized and may be acceded through the demonstration of exceptional, specialized skills. For example, one herder among all herders and all other members of the system will be looked to as knowing the most about cattle management and thus is incumbent to the cattle wisdom role. He is in fact given wisdom status in honor of his accumulated, specialized knowledge useful to the system. Recall the Three Wisemen: Did they perhaps earn their titles from their knowledge and skills at finding grass? Were they in fact scanning the horizon for the sign of lightening when they spotted the Star of Bethlehem?

useful
Literacy is a credential for wisdom roles, as it demonstrates access to knowledge and tools (language) for thought, and it affects role status quantitatively. Henry Kissinger is the contemporary example. In systems where literacy is limited, symbols of literacy, such as the fountainpen, are employed to represent the skill and thus claim and enjoy the status. Similarly, in some systems, non-traditional, western clothing symbolizes external linkages, even association with government bureaucracy (Manderinism) , hence extra access to information.

The achievement of extraordinary age while maintaining alert mental faculties is a compelling credential for the general wisdom role, and consistent with the social security tradition to respect elders, commands very high status.

There are roles bearing negative status rank. These include dissidents, non-conformists and ill-doers that the system had just as soon see go away, even though they have not deviated sufficiently to provoke their expulsion. The negative status group also includes service rendering, tension management roles which are considered useful in the achievement of the system's goals. These include the roles of the witch and possessors of demons.

D. INTERNAL CONTROLS:

The rural social system employs a linked series of elements to effect internal control identified by Loomis as norms, judgements and sanctions.

1. Norms:

Rural social systems prescribe through tradition conduct of the membership which is compatible with and contributable to boundary maintenance and goal pursuit (view the Ten Commandments and the Jewish condemnation of external marriages). The parameters around these prescriptions within which the member or the system can deviate without challenging the integrity and goals of the system are called norms. The allowance for deviation from the prescription provide ^{for} extra merit for effort toward perfection. At the same time it defines the minimal compliance required for the identity of the system and membership in it.

2. Judgement:

The system passes judgement on the conduct of its members, individually, as they appear to transgress norms. In primitive Jewish society judgements on individual conduct were formal, by judges, while judgements of the system were in the form of lamentations by the prophets. In the present day rural social systems, judgements may likely be informal to the extent that they may be separate and apart from both civil and religious affairs.

Every action of every member is judged, first by peers and associates, then by the system. In informal cases that seem to challenge the norms which are different from civil cases tried by the chief, the judge roles are likely held by the notables.

3. Sanctions:

If there are judgements there must be consequences or sanctions, which may be considered as rewards or punishments on measured scale.

a. Rewards: Approval of the individual's action by peers, associates and notables: (1) relieves tension; (2) provides reassurance in goal pursuit; (3) increases status in the present role; and (4) may possibly result in promotion into a higher ranking role. (Recall the Pakistani camel driver who was encountered by LBJ: he was promoted instantly from a commercial service role to a full-time advisory (wisdom) role.

He was further endowed with a symbol of great wealth (the pickup truck) without the financial means of fulfilling it, for the role did not permit work by the incumbent, and this was a great hardship for him. While the cameldriver's fortune was totally happenstance, promotion into higher ranking roles is a common goal, and to achieve such a goal is a reward of the tangible, direct payoff type. Examples include advancement from a "poor" to a "comfortable" role, winning an advisory (wisdom) role, or being initiated as a notable.

b. Punishment: Rural social systems may be expected to punish their members at a level of severity roughly correlating the extent of deviation from the system's norms. Punishment can vary according to the severity of deviation --- often in some form of threat to the system --- from simple disapproval of an act by peers and supervisors, which is expressed in the form of refrainment from expressing approval or praise/ ^{to gossip and disrespect.} Deviations from the norm may be of such severity as to result in expulsion from the system. The ancient systems which include criminal codes provide for prescribed physical punishment, including for example, the cutting off of the offending hand (Arabic) and stoning (Jewish). The change agent should be concerned with the consequences of deviation from traditional practices which he might be responsible for introducing. For example, a newly introduced crop variety may require a planting date quite noticeably different from the traditional variety. For the member

to deviate significantly from the traditional planting date brings the creditability of his own wisdom under public scrutiny. For him to take this risk and undergo the judgement until he may be proven wise by the harvest may require considerable leverage in promised payoff.

E. EXTERNAL LINKAGES:

The rural social system maintains only one formal linkage with the outside world, and that is through its chief or head man. That is, protocol requires that when an outsider has business with or within the system he calls on the chief first and from there is escorted in the execution of the affairs at hand. There are a number of informal linkages which the system embraces or tolerates:

1. Occupational linkages: Members of the system venture beyond its bounds in marketing forays, in search of employment, in seasonal migrations.
2. Travel: To travel beyond the bounds of the system (to Mecca and Europe for example) is a common goal and is generally considered an advancement toward an advisory role. Travel is important for the information it brings back to the system.
3. Intruders : The system is intruded by outsiders who bring information and services. These include cattle and commodity buyers and government agents.

4. Communications Media: The public communications media, specifically radio, penetrate the system with messages that result in ideas.

II. INVOLVING THE PASTORAL SOCIAL SYSTEM IN DEVELOPMENT PROJECTS:

The individual member of the social system, unless proselytized, is a product of the system, which is the product of its environment and its past environments, or its tradition.

While the member is influenced by the system he, as an element in the systemic environment, influences the system in proportion to the leverage that he is willing and able to bring to bear on the system.

Consider first exemplary acts in the sight of peers: pray promptly at the appointed hour, timely and generous adherence to social duty, prompt attention to the needs of livestock. ^{2/} Then consider the introduction of information and facilities from the outside: strange, more useful types and strains of livestock and crops, internal combustion engine, jet propulsion, which makes the trip to Mecca quite feasible.

^{2/} To test this principle: Measure your personal influence among unknown peers: The experiment requires two vehicles. Drive an hour on a fairly busy interstate highway at the exact legal speedlimit, maintaining sufficient space in front of each vehicle for at least one more to cut into the column. Count the vehicles that accumulate in the column and those that by-pass it.

2/ continued.

The difference will be a measure of your exemplary influence for the "good". Then drive an hour at 10 miles per hour in excess of the speed limit. Count the vehicles you pass which appear to be moving at the legal speed limit, and of them count the ones that break their pace and follow you at your "excessive" speed. The difference will be a measure of your exemplary influence for the "bad". The combination, with some weighting, might represent personal exemplary, normative influence among unknown motorists in a given culture.

Finally consider innovation flowing from either happenstance or original thought such as the development of a new economic crop through the creation of a new way of cultivation, as in the case of the Vietnamese farmer who in 1968, broadcast sorghum in the stubble of floating rice as the water receded. (In five years, with AID's assistance, this became a major crop for the Delta.)

The pertinent questions are:

- a. What motivates the individual member to make a change?
- b. What obstacles might be faced, should he make a change?
- c. How can he manage those obstructive forces?

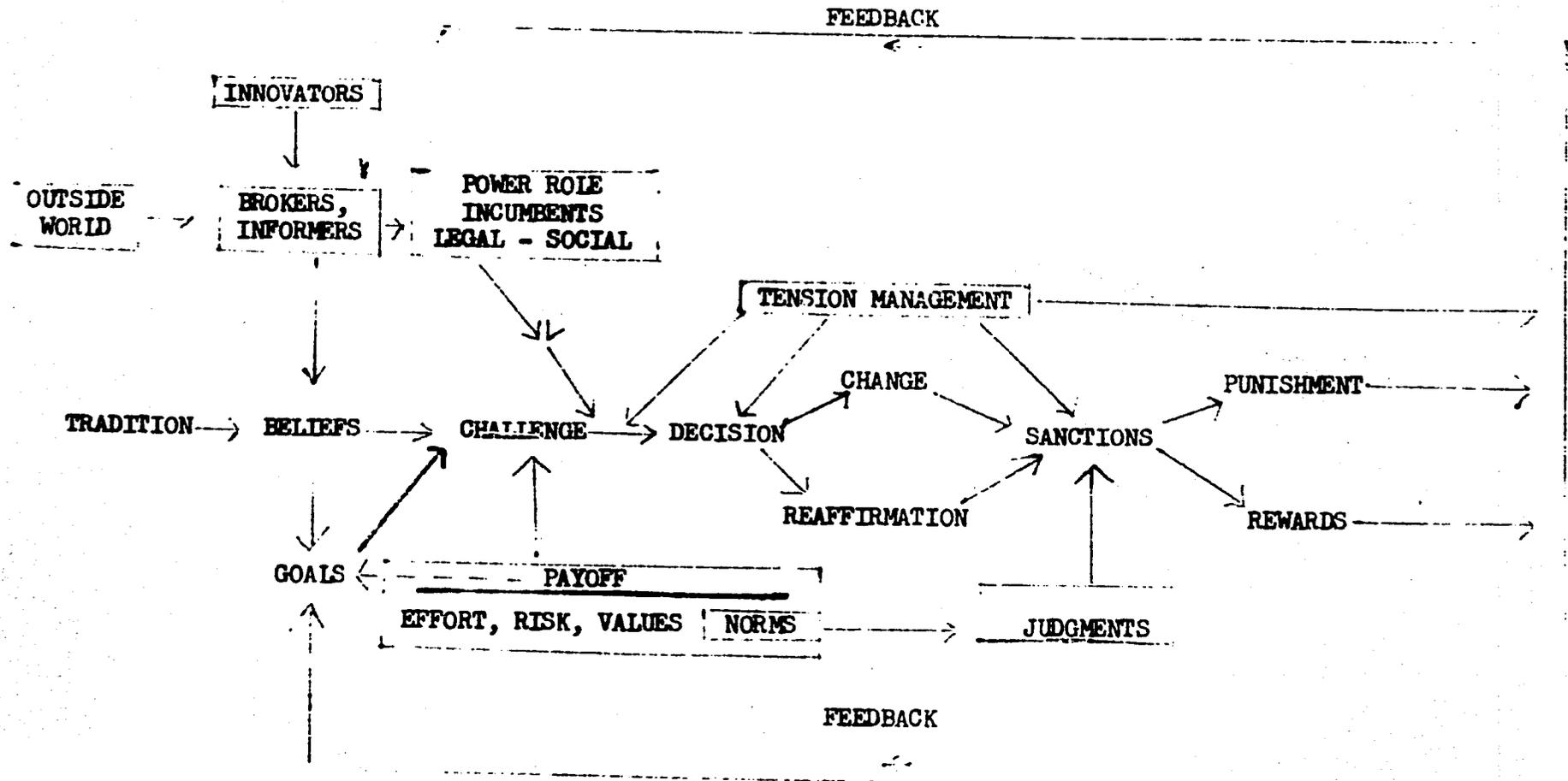
The change agent should be able to design and program inputs and messages so as to harmonize "desired" change with elements of the social system and thus minimize conflict.

A. THE PROCESS AND CONSEQUENCES OF ACTION:

1. Information. Information is available to the ego (center line, Figure 3) from the system internally in

Figure 3

A PARADIGMATIC MODEL OF TECHNOLOGICAL ACTION
IN A RURAL SOCIAL SYSTEM



AFR/DS:Lloyd Clyburn
6/6/75

the form of traditional wisdom, or from within the system in the form of current gossip (via the informer or public gossip) or from the outside world via various linkages, including traveling informers or gossips, intruders, such as freight haulers and government-employed change agents.

2. Beliefs and Goals. The ego is the product of its beliefs. Beliefs are conclusions distilled from information provided by and within the traditional system, contemporary innovations, and information provided from the outside world.

The person's goals are the product of this belief - first the belief that the goal is valid and second the conviction that it is feasible.

3. Challenge. With the belief that a given goal or goal set is real and feasible the challenge in the decision as to whether to pursue it lies in the tradeoffs of the necessary effort and risk and the possible compromise of values with the promised payoff.

4. Power Clearance. Other things being equal, the decision to act would be the function of the challenge. However the contemplated action still requires the approval of the power role incumbents or it must bear the brunt of their opposition. Legal questions address laws or decrees which have been enacted for the greater public weal, including

the control over the movement of cattle, disease control and taxes. The concern of the social power figures is boundry and internal structure maintenance. As guardians of social norms they would be compelled to openly counter any serious challenge to the system's norms on the integrity of its bounds. Less openly, the social power figures may be expected to try to prevent any movement that has the potential of debasing their roles or challenging their incumbencies in them. This of course is consistent with safeguarding the internal structure of the system.

In most cases, but not always, the member has the option to circumvent both legal and social authority and face the consequences, should the challenge be that compelling. For example, a member might feel compelled to smuggle seed of a certain crop variety into the country or steal seed from the experiment station without the seed having been "released" by the government. Or he might engage in an enterprise that prevents him from participating in certain rituals considered essential to the integrity of the system.

5. Decision. After having completed the exercises of benefit: cost analysis and power clearance the member may either decide to act, decide against action or simply leave the proposition in limbo.

a. Decision for change. The decision for change is a reordering of goals and commitments. It means above all giving up certain things that are immediately available to the member and acceptable to the system. To the rural man it means, perhaps most of all, the re-scheduling of his time and capital resources. To the extent that this deviates from the customary allocation of time and resources he may be marked as a social deviate.

b. Decision not to change. While the decision not to change has the negative connotation of declining to commit, it has the positive effect of reaffirming the status quo of the system.

To decline a proposition clears the way for its refutation. To justify his decision to decline, the member rededicates to the traditional course of the system and may actively confront the change proposition. So not only has the change agent lost a prospective convert, he has gained an opponent as well.

c. Failure to decide. The third alternative is to let the proposition go dormant without discarding it but indefinitely postponing decision. The frequency of this alternative, compared with the other two, would no doubt vary with the promised payoff and the integrity of the system.

A survey of magazine readers in the United States indicated that for every person who responded to display and classified ads in quest of more information, 60-odd really intended to but never got the postcard, pencil and effort sufficiently organized to do so.^{3/} To write for more information is preliminary to the pay-off or benefit: cost analysis. The ratio of further dropouts in the decision process is not known.

(The judgement and consequences of decisions are described, pp. 24-25, above.)

6. Tension Management. At each critical point in the change process the member may employ some form of external assistance in the control of his emotional tension. This can be in the form of prayer to a suprawisdom figure in quest of guidance in decision making. Example: When the Christian Apostles were faced with the selecting of a replacement for Judas Iscariot, they first nominated two qualified candidates, then prayed for divine guidance, then drew lots for the winner (ACTS 1). Prayer is used in quest of reinforcement of the potency of the change input - that is, petition to the superpower to make the change work to the desired end. Traditional cosmic forces may be enlisted as backup forces just

^{3/} Printer's Ink, 1954.

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in case the new intervention does not work. Examples include the placement of spirit masks in front of a field to ward off insects, along with employing a chemical control program.

7. Feedback. The member's success or failure, reward or punishment is fed back to the ego in the form of goal fulfillment or goal denial. It reaches the informer who tells everybody. It reinforces the power role of incumbents who approved the act if it succeeded and challenges the roles of those who backed him if it failed, thus conditioning them to act on the next case.

B. MESSAGES FOR CHANGE:

1. Criteria for Content:

- a. The promised payoff in terms of goal achievement is great enough to justify the effort and risk of implementing the change.
- b. Within the constraints of social norms.
- c. Compatible with boundary maintenance.
- d. Complementary to the power roles and their incumbents.
- e. Maintains the actor in his present role for at least the first cycle of the act. To promote him out of his present role would challenge the internal structure of the system.

2. Audiences and Sequences.

To enlist the system in a campaign for change the messages must be fed in hierarchically and geometrically.

This calls for a series of meetings to sell a proposition:

a. Presentation to the chief. The message concerning a change proposal sponsored by the central government must follow the government hierarchical channel to the social system, where presumably political and social leadership merge. At any rate, the linkage between the government and the social system should be a communication to the head man of the system from the political-administrative officer of the government to whom he normally responds. The procedure starts at the cabinet level and should work down parallel channels.

Rural development projects are likely to be the babies of service ministries, such as rural development, agriculture and education. Each has its geometric, hierarchical network reaching from the capital to the village. At the same time the Ministry of the Interior is likely to have the same geometric system, to maintain administrative control, only at each hierarchical node their man is considered the senior government representative. So the Interior man feels that he is responsible for all that happens in his area of jurisdiction and is apt to see the service ministries'

operations as his line operations, even though he has no responsibility for either the idea or the budget. Being a political creature, he will likely be involved, either for or against the activities of the service ministries. He has the very important function of legitimizing the service ministries projects. Hence, the political-administrative man, having come to understand the change proposition from the service ministries' representatives, should present it to the chiefs of peer social systems. If there are more than one chief involved, he should call a meeting of chiefs for this purpose.

The objectives of the meeting should be:

(1) To sell the change proposition to the chiefs - that is, show them that there is something in it for them.

(2) To feed the message into the systems' communications subsystems.

(3) To get deliberation on the legitimacy of the pursuit of the proposition.

(4) To get an invitation to meet the legitimizers.

At the meeting the political-administrative representative should preside and introduce the change proposition

if he doesn't explain it. The proposition must be explained in such clarity that the chiefs can repeat it and defend it before their respective councils of notables.

b. Presentation to the councils of notables.

At the appointed time the service ministry representative is presented to the council of notables by the chief, then witnesses the chief's presentation of the proposition, granting that it has already been thoroughly discussed and that most likely a conclusion has been reached. Nevertheless, the question is opened for further deliberation. Traditional experts, such as senior herders, livestock healers, and range scouts, will probably chime in, and certainly should be consulted, for not only are they knowledgeable in their fields, the target system is their clientele. If they are not enlisted on the side of proposition they may feel compelled to oppose it as a means of protecting their role status.

The objectives of the message and the meeting are:

- (1) Legitimization to pursue the change position.
- (2) Enlistment of the wisdom role incumbents.
- (3) Repetition of the message through the geometric and informer channels.
- (4) A date to meet the members - village meeting, for example.

c. Open meeting. The objectives of the first open meeting are:

- (1) To get the proposition formally presented to the members.
- (2) To clear up questions about the proposition.
- (3) Enlist early converts.
- (4) Get a date for the second meeting.

This is a village meeting at which the chief presides and the council of notables sit in formal witness. It is important that the chief repeat the proposition and that the notables voice their affirmation. Then it is important to hear members, both in assent and dissent. The role of the government expert is that of technical authority, and he should be consulted in cases of dispute.

The chief may enroll converts at this meeting. However, the more important objective is to leave the message with the members for consideration prior to the next meeting.

d. Second open meeting. This is the meeting of commitment, with the chief presiding. His objectives should be:

- (1) Obtain a consensus of commitment by the members.
- (2) Get a corresponding commitment from the government's agent.

(3) Assign actors and a date for the next action.

e. Subsequent meetings. This geometric-hierarchical system should be followed in planning as well as implementing the project, with members of the system committing to certain contributions, such as committee duty, border surveillance, and cattle dipping, as the project develops. Maximum participation is important. It is important for the change agents to feed meaningful messages into the system at fairly frequent, regular intervals.

f. Professional meetings. The change agents should conduct technical training activities for the professional service role incumbents whose professions are directly related to the change project. For a range/livestock project these would include, in separate courses, range management for range scouts, range management and animal husbandry for herders, and veterinary hygiene for livestock herders.

g. Evaluation. The social system which may be the object of a change project should have the major part in its evaluation from the beginning to the end. Evaluation would be included in the presentation of proposition. As the proposition advanced it would involve: (1) enlisting through the hierarchy the active cooperation in assembling baseline

data, (2) establishing evaluative criteria, (3) rechecking, (4) making judgements and (5) negotiating the appropriate amendments to the project.

It is suffice to say that a social system will evaluate any phenomenon in project form or otherwise, in any event. They should be assisted in making their evaluations as objectively as possible. The local system should provide all of the socio-economic and demographic baseline data, and they should be involved in collecting and analyzing evaluation data.

III. SUMMARY:

The elements and processes of the social system, as proposed by Loomis, are helpful guides in describing the pastoral and recent pastoral systems of Africa. Eight elements of systems identity - communication or dialect, interdependence, beliefs, values, goals, sentiments, territoriality, and size and density - provide a generalized description of a given social system.

The identification and ranking of roles and the identification of role incumbents amounts to a map of the proper internal and external communication channels and linkages. There are elements of internal controls, including norms, legal power, social power, judgements and sanctions which are employed as guides to the maintenance of internal integrity of the system.

The individual member, or ego, is the product of its beliefs, which is the product of the environment, which includes tradition, internal innovation and external information. The member's goals are the product of this belief. His actions in goal pursuit are tempered by the apparent reward: effort equation and the views of the power role incumbents. His actions are sanctioned informally or formally, depending on the degree of deviation from the norm, by the system's legitimizers or judges - in the African system, often the council of notables. Rewards and punishment are applied formally or informally as the weight of case may warrant.

The external change agent initiating a change project should approach the system through parallel channels in the action ministry and the interior ministry from the national cabinet to the local system. Once the political-administrative agent of the government has apprised the head man of the system of the proposition, then the change agent can proceed with the head man to inform the system. This calls for a series of meetings - first with the council of notables, second, open meetings for information, and again to receive commitments from converts. Finally, there should be special training programs for the professional service role incumbents directly associated with the change.

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The social system should be involved in the evaluation of the project from the beginning.