

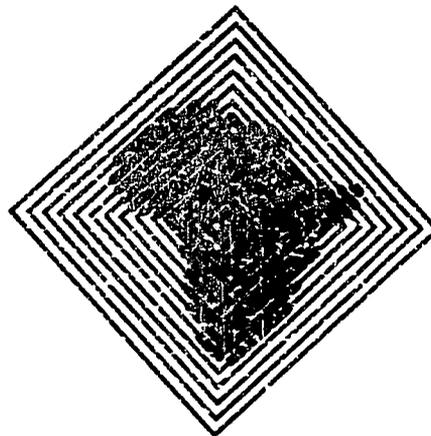
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SOMALIA
A SOCIAL AND
INSTITUTIONAL PROFILE

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AFRICAN STUDIES CENTER



SOMALIA
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PREFACE

This report was prepared for the Bureau for Program Review and Policy Coordination (PPC) in AID/Washington and the USAID mission in Mogadishu. It has both general and country-specific objectives. It represents part of a broader experimental effort by AID/Washington to make better use of social science information about country-specific institutions in tailoring development initiatives to the distinctive institutional landscape of particular countries. USAID mission management in Mogadishu welcomed the opportunity to review the distinctive social and institutional environment of Somalia because:

- o Basic statistical data on population characteristics and needs, resource availability and distribution, production and consumption, health and access to social services in Somalia are unavailable or unreliable.
- o Fundamental processes of production, exchange, access to assets and resource accumulation are poorly understood, as are the distinctive social groups, relationships and cultural beliefs that shape these processes.
- o Drought, war and rapidly changing international political alignments have driven the pace and direction of program development with little time for socioeconomic research.
- o Somalia is currently re-evaluating its development policies in light of its recent experience with central planning, collective forms of production and public sector controls over commodity markets.

The authors are all associated with the African Studies Center at Boston University. All have carried out extensive field research in Africa and have worked on policy analysis with donor agencies (See Appendix 1 for further background on authors). By discipline two members of the team are development anthropologists, one is a development economist, one an agricultural economist and one a sociolinguist. All share a commitment to using multidisciplinary social science research and area studies to understand the relationship between micro and macro processes in development and in intersectoral linkages, and to doing this, in part, by clarifying the opportunities, incentives, and strategies of groups whose participation is essential to the success of development initiatives.

In May of 1982 the team reviewed the English, Italian and French language literature on Somalia and available USAID and World Bank program documents in Boston (See References Consulted). During June and July members of the team spent up to five weeks in Somalia where they reviewed additional documents and conducted extensive interviews with government officials, employees of donor agencies, local social scientists, merchants, and farmers. One member of the team visited Hargeisa to learn more about livestock production and marketing and the World Bank's Northwest Agricultural project. Two members made a field trip to the Bay region to learn more about the Bay Region Agricultural Development Project. Two members traveled to Brava in order to learn more about marketing and irrigation systems along the Shebelle. The team presented its preliminary findings to the USAID mission before departing from Somalia. This report was written in Boston.

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Our team wishes to acknowledge the cooperation of the many Somali government officials, USAID personnel, officials of other donor agencies, researchers, and consultants whom the members contacted in Washington, in Mogadishu, and in other parts of Somalia, and who generously contributed their time and insights about Somali development. A list of people interviewed can be found in Appendix 2. Their assistance has been essential in preparing this report. They are, however, in no way responsible for errors or for the conclusions reached, for which the team takes full responsibility.

We are especially grateful to James Kelly, Mission Director, USAID/Somalia, for taking time out of his busy schedule to give us his personal, intellectual, and logistic support and to his staff. It should be stressed at the outset that much of our critique of development planning in Somalia and many of our recommendations are based on insights gained through discussion with USAID direct hire and contract employees who are well aware of the problems and challenges they face. We are also grateful to Dr. Hussein M. Adam, Director of SRUERD, for his thoughtful and stimulating participation in the team's work. We also owe thanks to Musa Mohamed Farah, who traveled with the team and sensitively interpreted conversations with local inhabitants of the Bay and Shebelle valley areas, and to Mark Dyer and Diana Putman, who conducted the preliminary literature search. Lastly, thanks go to all those community leaders, farmers, merchants, and pastoralists who shared their views with the team members. We hope, above all, that we have reflected their needs, their strengths, and their hopes accurately and that this report will benefit them.

EXECUTIVE SUMMARY

This report was prepared for the Bureau for Program Review and Policy Coordination (PPC) in AID/Washington and the USAID mission in Mogadishu. It represents part of a broader experimental effort by AID/Washington to make better use of social science information about country specific institutions in tailoring development initiatives to the distinctive institutional landscape of particular countries. USAID mission management in Mogadishu welcomed the opportunity to review the distinctive social and institutional environment of Somalia because:

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- o Drought, war and rapidly changing international political alignments have driven the pace and direction of program development with little time for socioeconomic research.
- o Somalia is currently re-evaluating its development policies in light of its recent experience with central planning, collective forms of production and public sector controls over commodity markets.

OBJECTIVES

The overall objectives of the report are to examine the explicit and implicit socioeconomic assumptions that have informed development planning in Somalia in light of available information about the ways its peoples are organized and make a living, and on the basis of this examination, to recommend modifications in policies, programs, and projects intended to increase the effectiveness of development assistance in Somalia, and identify critical issues for future research.

APPROACH

Our conceptual approach, which reflects these objectives, was to focus on the strategies by which differing types of individuals, households, and other resource management units earn incomes, avoid risk, save, and invest; and on the ways these strategies affect and are affected by the wider economic and policy environment. It is an approach that views people's income

generating behavior as the product of choice and not tradition. It anticipates that many of them may have mixed income strategies, that their degree of participation in a sector - for example, in agriculture - is likely to be affected by the return they expect from activities in other sectors. It assumes that people's income strategies are likely to be dynamic, adaptive, and flexible and that persistent patterns of apparently "irrational" economic behavior may, in fact, be quite sensible when understood in context. And it assumes that people's adaptive income generating strategies must be understood in relation to the social and institutional context which shapes opportunities and choices.

Our procedure was to review USAID, World Bank, and other donor program and project documents and on-the-ground projects to identify key assumptions about binding constraints in Somali systems of production and exchange. Each assumption was examined in light of consistency and plausibility, evidence from a review of the social science literature on Somalia, and our knowledge of comparative studies of pastoralism, dryland farming, flood recession agriculture, and commodity and labor markets in other developing countries in Africa.

We gave priority to assumptions that are pivotal in the allocation of donor development assistance and Somali development policy and that are not well supported by available data from Somalia or other African countries with similar conditions. We also tried to assess the implications for development policy of alternative assumptions. Through this iterative process we identified critical issues about which we tried to gather additional data through interviews with government officials, development practitioners, Somali social scientists, and brief but targeted field work in the Hargeisa area, the Bay region, the lower Shebelle, and Mogadishu.

MAJOR ASSUMPTIONS

Somalia is widely regarded as a hopeless case. Conventional measures of GDP per capita place it near the bottom rung of the "least developed" countries. Its climate is harsh, its population scattered, and its infrastructure and modern institutions poorly developed. Rates of growth have been disappointing and the prospects for improvement seem to be bleak. The formal economy has been in crisis since at least 1978. The Somali indigenous rural private sector is generally regarded as inefficient and static. The Somali government has intervened directly in many product markets, on the assumption that private traders are incapable of providing adequate bulking, storage, transport, and distribution services. Labor markets are thought to be poorly developed and to function poorly in allocating Somali human resources.

Agriculture in Somalia is considered to be inefficient, environmentally destructive, and more or less permanently in a state of crisis. Somalia's extensive rangelands are believed to be overstocked and overpopulated and therefore degraded. Somalia's arable lands, by contrast, are thought to be under-utilized and thus to have great potential for both intensification and extensification of production through the extension of known technologies.

Development strategies enunciated both by the Government of Somalia and by international donors have largely abandoned further development of import-substituting industries because of the small domestic market and managerial problems and have concentrated instead on the intensified exploitation of the country's land and water resources. They rely heavily on the transition from nomadic pastoralism to more sedentary livestock production through better regulation and range management and to sedentary agriculture through the introduction and dissemination of improved crop technology and the development of large-scale irrigation. Somalia's "fragile" human resource base is identified as a major obstacle to such a transformation, and it is believed that extensive efforts in training and extension and accompanying changes in attitudes and values are needed.

MAJOR FINDINGS

In a number of important respects our review does not support this bleak image of Somalia's present economic and institutional situation or future prospects.

Economic Issues

Looked at solely in terms of officially-sanctioned economic activity taking place within the national borders, the situation is indeed dismal. But in contrast with the anemic formal economy, a vibrant parallel economy has been flourishing which makes use of substantial earnings remitted by Somalis residing outside the nation's borders. If these activities are taken into account, estimates of the proportions of people receiving incomes below the poverty line drop substantially. This bears out casual observation that fails to support the idea that Somali citizens are poorer than citizens of many other low-income African countries.

The major reason that development plans and donor analyses have concentrated on intensified utilization of livestock and agricultural resources is that their orientation has been exclusively on Gross Domestic Production (the production of income taking place within the territorial boundaries of the country), rather than on Gross National Product (the production of income accruing to nationals of the country, regardless of location). Yet the latter concept is the more appropriate one for judging the economic well-being of Somali people. Thus the substantial earnings of Somalis in the Gulf is not counted in GDP and is frequently seen as causing lower GDP because of the "drain" of manpower from the economy, even though it provides higher levels of living for those individuals while they are out of the country and also, through remittances, for their families staying behind.

Unrecognized Institutional Strength

The "inward-looking" development strategy currently supported by major donors fails to recognize Somalia's real potential which is based on its two main resources -- a resourceful, skilled, and highly adaptable population and a strategic location. These are the two assets that have been capitalized on

to generate rapid economic development in the resource-poor economies of Hong Kong, Singapore, Korea, and Japan. Of course, the specific nature of Somalia's human and locational resources differ from those Asian examples, so that the particular ways in which they can be exploited to advantage are not identical. But the strategy of building on strengths is certainly applicable.

Contrary to the assumption riddling almost all "expert" reports on Somalia, the human resource base is not "fragile," unskilled, and ill-adapted to the imperatives of development. The nomadic peoples of Somalia have adapted ingeniously to the requirements for wresting a living from a harsh and unpredictable environment. Their ability to identify useable grazing resources spread over vast territories and appearing sporadically is impressive. More important, they have adapted forms of social organization that facilitate exploitation of these ephemeral assets to minimize subsistence risk. In order to take advantage of widely-scattered pastures, Somali extended-family units have divided herds into several "management units" which are entrusted to individuals or small groups which then scatter widely during wet seasons and return to some extent to more concentrated dry season water and pasture areas. Each "management unit" has considerable autonomy and responsibility and is required to take initiative in response to swiftly changing environmental conditions. At the same time, the larger unit serves to allocate resources to the smaller management units and provides pooling of risks through some reallocation of herds and consumption in response to losses. In the interriverine region of southern Somalia the assets exploited by the extended families include arable land as well as livestock.

This same organizational form has facilitated Somali response to non-pastoral opportunities as well. Since World War I, substantial numbers of Somalis have engaged in trade and transport in scattered communities throughout East Africa and parts of the Gulf. The ability of family units to have members in far-flung locations, providing trustworthy management of common resources and facilitating flows of reliable information, has been crucial to their success. That these outposts have remained parts of larger pan-territorial family units is evident from the frequent movement of individuals between locations with maintenance of a base within Somalia. Recently, large-scale movement of Somalis for wage employment in the Gulf seems to have been facilitated by these extended family networks, and visible signs of remitted earnings, including investment in water tanks (birkets) in pastoral areas, bear witness to the continuing vitality of extended family organization for allocating resources in response to new opportunities and using the incomes generated for common purposes.

Diversification of specific skills within family units seems to have gone apace with animal husbandry and pasture management being supplemented by commercial, trading, and mechanical (particularly driving and vehicle repair) abilities. Many families are pursuing diversified income-generating and risk-pooling strategies spanning livestock and crop production, trade, and wage employment, both in urban areas and abroad. To some extent these families can be viewed as multi-plant multi-national enterprises in microcosm,

and the same principles of decentralized management with centralized resource pooling used by the modern corporation are employed to advantage. This underlying organizational form is the reservoir from which is drawn entrepreneurial responses to new private opportunities in agriculture and trade.

The other resource upon which Somalia can draw is its strategic location in the booming economy of the Gulf. While lacking the proven oil resources of the Arabian Peninsula, Somalis have benefited from access on favorable terms to those markets for export of meat and labor services. Any reasonable long-range strategy for Somalia must take account of the opportunities offered by economic integration into this larger Gulf economy, while seeking means for making such access more secure and beneficial to Somalis.

For Somalia, perpetuation of an extreme inward-looking development strategy based only on domestic product forces attention on the country's weakest resources - its arid and semi-arid ecology. An outward-looking strategy, attempting to maximize national product, can build on the country's most valuable assets - its people and location.

Somalia represents in an extreme degree the case of a governmental "formal" economy in shambles, while the parallel or "informal" economy flourishes. While this represents a failure to establish a smoothly functioning modern state apparatus, which has been taken by many to be the sine qua non of political development, it may not be as disastrous for the people as might appear from official statistics. Many other African countries, notably Ghana, Uganda, and Tanzania, have exhibited similar tendencies in recent years and, in fact, the syndrome may be more of the rule than the exception in the 1980s.

Nevertheless, this presents crucial problems both for the national leadership and for donor agencies. All agree that breakdown of the basic legitimacy of national political and economic institutions is harmful in the long run and, in the short run, may lead to breakdown of law and order and gross violations of human rights (witness Uganda).

There clearly is a dilemma. Efforts to increase the ability of government to mobilize resources are frequently met by increased reliance on parallel markets, thereby further eroding the economic base of government and making coercion appear the only viable means of maintaining control. Recent emphases on the private sector, downgrading the role for government, provide a partial alternative but raise fundamental questions of what roles governments must play and how ruling groups can maintain political support in an environment where the levers of power are connected to very little.

Agricultural Marketing and Internal Trade

The Somali government has played a very active role in agricultural marketing. It has intervened directly in many product markets on the assumption that 1) private traders are incapable of providing adequate

bulking, storage, transport and distribution services, 2) government agencies can provide such services more efficiently, and 3) private traders exploit both producers and consumers by colluding to set prices and make monopoly profits. Donors in turn, have supported state intervention in the marketing system by channeling large amounts of concessionary imports through the parastatal marketing agencies and by building project interventions around their services.

Evidence from elsewhere in Africa, supported by information collected in Somalia, leads to a radically different set of working hypotheses than those underlying past Somali policy. First, state marketing agencies are less able to provide adequate marketing services than are private traders. Private trade tends to overshadow state marketing activity even in the countries where such trade is severely restricted. Transport, credit, and other bottlenecks may keep the cost of private market services relatively high, but government attempts to set up an alternative marketing system, rather than to address the constraints in existing private marketing, have generally not improved the services available to producers and consumers. Second, in most cases private traders can provide marketing services more efficiently than do state agencies. The high cost and inefficiency of state marketing has been one of the reasons why private trade has flourished in parallel markets. Third, competition among private traders is intense, and market prices reflect supply, demand, and marketing costs. There is virtually no empirical evidence that private traders effectively control prices or that they reap monopoly profits. Information collected in Somalia in July 1982 supports these hypotheses and directly contradicts the assumptions underlying past Somali marketing policy.

There has been little analysis of the cost of government intervention in the marketing system or of the effectiveness of such interventions in meeting policy goals. The level of and response to producer incentives are key elements in evaluating the costs of government market interventions and the compatibility of different policy goals, such as increased production and low consumer prices. Although most reviews of the Somali agricultural sector express concern about producer incentives for both crops and livestock, the marketing system for agricultural commodities has received little sustained attention. The general importance given to producer incentives in strategy documents has not led to an examination of how prices are determined or of how the marketing system performs. This has been costly in terms of both policy recommendations and project interventions.

Labor Markets

The characteristics of Somali labor markets are rarely, if ever, discussed in documents concerning Somali development. The implied assumption of many agricultural sector documents and project proposals is that labor markets are poorly developed and do not function well in allocating Somali human resources. This is reflected in the extremely low opportunity costs of rural labor assumed in many project economic analyses and the more general assumptions that tradition dictates the current allocation of labor in the crop and livestock sectors, rather than adaptation to economic opportunities.

As for many other aspects of the Somali economy, there are few data available for a thorough analysis of labor markets. Even casual observation of wages and the domestic labor market suggests, however, that the above assumptions correspond very poorly with reality. There is every indication of a very active national labor market. Data gathered informally in July 1982 shows that nominal wages within urban areas and between different rural regions are remarkably uniform. Most informal sector activities such as petty trade, water delivery, forage gathering, portering, and construction yield average daily earnings of SoSh 40-50/day during the winter dry season to SoSh 70-80/day during the spring rains, but remain nearly constant between regions in the South. Information about the availability of wage employment, the variation in seasonal, sectoral, and national wage rates, and the costs of moving in response to such opportunities is available in even the remotest villages visited in the Bay Region. The market may not be in equilibrium and information may not be perfect, but villagers explain changes in seasonal and long-term labor migration in terms of wage differentials and the monetary and psychic costs of moving.

This disparity between the implied assumptions of development documents and the reality of Somali labor markets has two major implications. First, it has fostered a very narrow and isolated view of the Somali economy and of sectors within the economy. Inattention to the mobility of labor and its true opportunity costs has, in turn, led to a large number of questionable project interventions. It has been assumed that labor is readily available for expansion of agricultural activities without any reference to the real opportunity cost of that labor. The USAID Bay Region project paper, for example, assumes that the opportunity cost of dry-season labor for land clearing is only SoSh 4/day, while the IBRD appraisal assumes the opportunity cost of peak-season agricultural labor is only SoSh 10/day, wages much lower than our survey indicates are realistic. Even more costly than specific project interventions that fail, however, is the failure of agricultural research activities to take into account existing labor constraints and the large number of alternate options producers face in moving beyond subsistence production. Unless an integrated view of agriculture's place in the economy and of the constraints to its expansion are reflected in research activities, Somalia will be doomed to another generation of the same failed development efforts.

Agricultural and Rural Development

We do not find donor assumptions about existing patterns of production or the policies based on them well supported by available data. Nor do we believe that major gains in agricultural production can be achieved by strengthening government agencies so that they can more effectively impose rational resource management in the pastoral sector, promote agro-pastoral integration, and introduce known, readily available technologies.

On the contrary, our analysis strongly suggests that existing pastoral and agricultural systems of production are reasonably efficient and well adapted to Somalia's harsh climatic conditions, that private (parallel) markets function well, and that, despite the obvious disruptions caused by natural disaster and war, there has been broad participation by rural Somalis in labor migration, commercial production, and a rising physical standard of living for a substantial segment of the rural population.

The pivotal assumption that pastoralism is in a state of crisis because of over-population, overstocking, and resultant degradation has not been tested by serious research. While there is clearly "hot spot" degradation from overstocking near towns and points of commercial concentration, there is no clear evidence of the general decline in calving rates, animal condition, or human nutrition that normally accompanies a widespread deterioration of pastoral environments. Labor migration and permanent migration to towns from the pastoral sector appear to be a response to opportunities for higher incomes, rather than to worsening environmental or economic conditions in pastoral areas.

The assumption that dryland agriculture can easily be intensified and extended to new areas is not well supported by recent land use studies in the Bay region which suggest that present cultural practices are reasonably efficient under present factor endowments, that present techniques are conservationist in character, and that there is much less unused arable land in the region than had formerly been estimated.

The assumption that irrigation is the best road to food security - as opposed, for example, to the adoption of an outward-looking development strategy that would enable Somalia to purchase food in periods of cyclically low rainfall - should be carefully evaluated through studies that have not yet been undertaken. Past experience with irrigation in Somalia indicates that, in addition to environmental problems with flow and drainage and the difficulties in managing large-scale enterprises of all kinds, serious social and institutional difficulties remain to be overcome. Salient among these are the provision of adequate security of tenure and incentives for small-scale producers, the decentralization of water control to local water user associations, and the adoption of suitable technology for partially decentralized water management.

The assumption that pastoralists and transhumant farmers should live in permanent settlements must be regarded with caution in light of the ecological imperative of "following the rain" and past experience with large-scale planned resettlement of refugees.

In sum, it appears to us that an inward-looking development strategy that focuses almost exclusively on raising agricultural production through the introduction of "modern range management" and technology presumed to be readily available is neither efficient nor effective. Furthermore, we believe that the premature expansion of government extension services in the absence of an effective package may, in the Somali social and institutional context, merely exacerbate existing bureaucratic tendencies towards over-centralization in planning and decision making, further inflate the public sector payroll, inhibit growth in the indigenous private sector, reinforce mutually antagonistic attitudes between extension agents and producers, and create a bureaucratic constituency that will make it politically difficult for the government to adopt new and more liberal economic policies in the future.

In our view, higher levels of production can be achieved at a reasonable cost only by: 1) conducting studies that correctly identify constraints in existing systems of production and distribution; 2) addressing these constraints by developing affordable technology and making appropriate services available; 3) strengthening infrastructure; 4) strengthening existing incentives for production, savings, and investment by the rural household through altered government policies; 5) encouraging existing participatory organizations based on locality or traditional ties to engage in developmental activities; and 6) ensuring that small-scale users and associations have reasonably secure tenure over land, water, and pasture resources, so that they do not lose traditional resource rights as these increase in value. These changes must be made in ways that will enable rural Somalis to exercise their manifest entrepreneurial talents more fully and that will not increase their dependence on an expanding and remote government bureaucracy.

We believe that significant improvements can be made in all of these areas without a major increase in expenditures, provided modifications are made in on-going and projected development initiatives. Before trying to intervene in the rural economy and production systems, both governments and donors would be well advised to understand first how Somalis presently manage their resources. Instead of beginning with the assumption that existing systems of resource use and labor allocation in agriculture, livestock rearing, or in trade, transport, and commerce are dysfunctional by virtue of being "traditional," it would be more effective to assume that they are functional responses to particular opportunities and then identify points at which intervention could help them to work better.

Development for Somali Pastoralists: For three decades development planners have seen the system of livestock production in Somalia as a system in crisis. Over the years there have been changes in the descriptions of the dimensions of that crisis, in the ascription of its causes, and in the

prescriptions for its alleviation. The calmer voices have been those which assume livestock production merely to be backward or stagnant, and call for its general improvement. The shriller voices assert that disaster has either already befallen the system or will do so at any moment, and they call for radical reorganization.

The perpetual claim of crisis has justified a great variety of interventions. Almost all have failed, at least in the sense of having an impact on the pastoral production systems of Somalia. But there has been no research into the technical or economic parameters of those systems, and little use has been made of the social analyses of the pastoral systems that do exist. With little relationship between attempts at intervention and sound knowledge of systemic constraints based on production research or monitoring, it is hardly surprising that livestock interventions in Somalia have been so unrewarded.

Fortunately the pastoral system itself is thriving: with minimal interference, it supports the subsistence of between 60 and 80 percent of the population; it provides fresh milk and other dairy products daily to the burgeoning urban populations of Somalia; it provides over 80 percent of the foreign trade earnings of Somalia; it supplies 38 percent of the preferred live-slaughtered meat for the whole Arabian Peninsula and holds first rank there as the source of livestock imports; and while providing 1.5 million animals to the export trade and nearly another half million to domestic municipal slaughter, the system has proven resilient enough to recover from the 1974-75 drought, to utilize pastures in the Ethiopian Ogaden despite continuing warfare between the two countries, and to provide steadily improving prices to producers.

Somali pastoral livestock production has been partly oriented to commercial markets for centuries. Surplus dairy products (milk and ghee) are sold, as are the vast bulk of male animals unnecessary to breeding or transport operations and the hides or skins of animals killed for meat. Changes in the mix of species in the national herd toward cattle and sheep and away from camels reflect sensitivity to the market for meat in Saudi Arabia, but it is not known what effects such changes may be having upon the rangelands or upon subsistence security. The livestock trade has consistently thrived and is an outstanding example of the efficacy of the Somali private sector: even in the periods of strongest government challenge to private capital, livestock merchants were much too important to national revenues to be tampered with. Trade has expanded into the hinterlands with transport growth, and the new national highway has permitted deeper penetration of the countryside by the major traders. Supply constraints, on the other hand, are not known, since there is neither accurate information on production nor on effective services available to the primary producers.

The livestock sector in Somalia and its various systems of production and exchange have only barely begun to be described in any detail. As compared even with similar semi-arid pastoral areas in the West African Sahel or in anglophone East Africa, little is known of the basic parameters of production

and market conditions. With only a weak development of administrative field capacity or academic interest during colonial days, the post-independence governments of Somalia have been severely handicapped in planning programs addressed to the economic or social realities of the countryside. In lieu of projects generated by knowledge from "below," as it were, developers have been forced to rely on poorly verified hypotheses about what needs to be done.

Somali pastoralism has three major dimensions. First, the distribution of feed and water resources has given rise to a supple ecological adaptation which entails wide-ranging transhumance by small camping groups between permanent dry season water points (usually wells) and rainy season grasslands with only temporary surface water. Like nearly all "nomads," Somalis never wander aimlessly, but rather have fixed home areas from which they move as the seasons and vegetational growth require. Second, to maximize productivity and to disperse risk, Somalis have diversified their livestock production enterprises, just as they engage in non-livestock production when it is feasible to do so. Ecological variation means that some species of livestock are especially well suited to particular zones or niches of the total rangeland resource. Camels and goats are primarily browsers (each at a different level of the "aerial" or arboreal pasture), while sheep and cattle graze. Third, Somalis guarantee their own physical and social security through formal contracts of alliance among men who calculate their loyalties to one another in terms of kinship. The contracts make concrete the political obligations of lineage-mates and their followers, who also collaborate to share certain labor tasks, to defend or extend grazing areas, to redistribute basic productive resources to individuals in need, and to aggrandize the power of the lineage as a whole. While the affirmation of lineage and clan solidarities has been officially discouraged since the early 1970s, the social obligations that close kin bear to one another remain powerful influences in their lives, especially in the absence of effective alternatives. The major corollary of these social ties for livestock production is that Somalis already have networks in place that provide resource access, mediate disputes, and assure overall conservation for the general (lineage) good.

Development of Dryland Agriculture: Dryland farming directly supports only 14 percent of the Somali population and occupies less than one percent of the total land area. Its significance in development policy planning is greater than is indicated by its present economic role, for it is believed that the intensification and extensification of cultivation can substantially increase crop production, help reduce the national food deficit and perhaps absorb excess population from the pastoral sector. In support of this policy USAID and other donors are currently financing a major agricultural development project in the interriverine area.

The distribution of permanent human settlements in the region corresponds closely to the distribution of land with the highest potential for cultivation in terms of soil fertility and rainfall. In these areas the arable farming system is long established, stable, and makes effective use of existing resources. Approximately 90 percent of the land in the cultivation cycle is under crops in any given year, and only 10 percent in fallow. In some areas

up to 70 percent of the land is in the cultivation cycle. The land around the settled and cultivated areas with lower potential for cultivation is used for grazing. In addition, there are apparently extensive areas of range which are under-utilized during the dry season because they lack an all-year water supply.

The standard classification of households into sedentary farming and nomadic is misleading, for it masks the fact that households of two or three types are often grouped together in larger extended family management units. The individual households, under the management of closely related kinsmen, enjoy considerable autonomy in day-to-day affairs but constitute a single extended family unit in regard to the allocation of resources and the pooling of risk. Individual household members, capital, and consumer goods can be transferred from one household to another to adjust income and consumption imbalances, to obtain higher prices for produce, to take advantage of employment opportunities, to start a new enterprise such as a shop, to place a child closer to a school, or for other similar purposes.

The income generating strategies and farming practices of Bay Region households and extended families are well adapted to meeting the challenge and risks of exploiting pastures and good soils in an uncertain climate. The basic agricultural strategy is agro-pastoral and is characterized by a high degree of spatially decentralized and well coordinated integration of cultivation and livestock production. This agro-pastoral strategy is complemented by a strategy of moving labor to the riverine zone during the dry season and, in times of severe drought, taking refuge there. In the present century income strategies have been broadened to include migrant wage labor on modern sector plantations, in Mogadishu, and most recently in the Gulf states. An increasing number of extended families have also been investing in commercial enterprises, urban real estate and transportation (trucks).

This pattern of flexible organization and income strategy has enabled Bay Region households to cope with the rigors and risks of an unpredictable climate and to take advantage of changing opportunities in their wider economic and political environment. It has also created important linkages between local, national, and even international commodity and labor markets as households allocate their energies and resources between differing productive activities in response to changing conditions.

Understanding the nature of variations in household and extended family organization and the linkages between the local and national economy is essential to formulating an effective rural and agricultural development strategy for the Bay Region and other regions in Somalia. It is unrealistic to regard Bay Region farmers as isolated, tradition-bound, and static and to expect that their options will be narrowly constrained by their local, agricultural enterprise alone. Thus, for example, it would be unrealistic to assume that there are no opportunity costs to additional labor inputs required by new agricultural practices, that there are no risks in further agricultural intensification and specialization, or that there are no savings available for capital investments in the region. Similarly, development projects focused

narrowly on one sector are likely to have unanticipated consequences for the total economy of a region. Planning will have to take these institutional and economic realities into account, and for this to be possible it is of the utmost importance that studies be launched that will illuminate them with greater clarity.

The Bay Region is currently witnessing the implementation of its first major development project. This project, which is experimental in nature though ambitious in size and scope, represents a first exploratory step towards tapping the potential of the interriverine "internal frontier" to support a greater and more settled population and to produce more food crops for urban markets. The project was designed under severe time constraints and, for this reason, was based on a number of widely held but not well tested assumptions about the region and its people. In this report we critique these assumptions and the project interventions that flowed from them and suggest ways that the project can be strengthened during its second phase.

RECOMMENDATIONS

The analysis presented in this report supports two broad changes of emphasis in Somali development policy. The first is a shift away from the present extremely inward-looking development strategy based only on domestic product, which focuses attention on the country's weakest resources - its arid and semi-arid ecology, towards an outward-looking strategy that attempts to maximize national product by building on the country's most valuable but undervalued assets - its people and location.

In the short run, following an outward-looking strategy requires taking maximum advantage of opportunities for labor export to the Gulf. Agreements should be sought with Gulf states to make this source of income more dependable and secure. Policies must be designed to facilitate channeling these earnings in ways that will be most beneficial to Somali families in providing access to higher and more reliable incomes. At the same time, adjustments in the fiscal system will be required to insure that appropriate functions of government can be financed and that earnings abroad will bear a fair share of the tax burden.

In the long run it is quite possible that Somalia can develop an efficient export-oriented manufacturing and service sector that will maximize returns to human resources and location through exploiting the markets of the Gulf. An outward-looking strategy must be seen as a complement, rather than an alternative to a strategy that continues to seek increases in agricultural and livestock production.

The second major policy change recommended is a shift away from the present overly centralized, controlling, top-down and technically naive transformational approach to rural and agricultural development, to an approach that builds on the strengths of indigenous systems of agriculture and resource management; knowledge of the environment, and commercial and entrepreneurial activity. Adopting this approach requires that more attention

8. Capitalize on the strength of the indigenous private sector and manifest entrepreneurial and commercial skills of rural Somalis by:
 - A. Continuing to reduce the role of government parastatals in grain marketing;
 - B. Giving clear signals to private grain traders that their activity is legal and that bulking is permitted;
 - C. Distributing agricultural inputs through the private sector;
 - D. Encouraging the private provision of tractor and other agricultural services wherever possible;
 - E. Permitting the importation and distribution of spares and building materials through the private sector; and
 - F. Ensuring the availability of basic consumer goods to provide adequate incentives for increased production.

9. Shift to an incremental approach that takes account of the strengths as well as the weaknesses of existing farming systems. This will require major changes in policies concerned with agricultural research, extension, and training; settlement policy; and the choice of technology, such as:
 - A. Developing an agricultural research strategy that will provide a basis for assigning priorities, directing work in particular disciplines and integrating disparate activities into a coherent program. This strategy must be based on information about current production systems and the technical, economic, and social constraints that jointly limit their expansion so that research can be addressed from the outset to the problems actually faced by Somali producers. Since this information is not presently available, it is essential that procedures to obtain it and to plan appropriate experimental work become a permanent, formalized part of the agricultural research and planning program. This requires an institutional framework within which teams of biological and social scientists work jointly in each stage of the research process.
 - B. Placing less emphasis in agricultural extension on the promotion of new cultural practices and technologies that have not yet been tested by rural Somalis, and greater emphasis on gathering information about regional variations in the kinds of problems faced by producers and their experience with traditional and newly introduced ways of responding to these programs. The formal training of extension agents should place much greater emphasis on what is known about the adaptability and resilience of indigenous farming systems in other African countries and in Somalia. Field training should include a

be given to correctly identifying constraints in existing agricultural and economic systems and to lifting these constraints in ways that will enable rural Somali households and larger groupings to function more efficiently without reducing their ability to cope with the risks imposed by their harsh environment or their ability to transfer labor and capital resources from one location to another in response to changing needs and opportunities.

A number of recommendations for policy changes, priority studies, institution-strengthening activities and project modification discussed in detail in analyses in the preceding chapters follow from and support these broad shifts in Somali development policy.

Policy Recommendations

In coordination with other donors USAID should use its non-project aid leverage to urge the following policy changes:

1. Generate additional foreign exchange by linking some large fraction of foreign exchange remitted by workers abroad to "open general license" for imports.
2. Provide the Somali government with greater incentives to increase domestic food production by making a donor agreement to substitute other commodities in response to decreased demands for food aid.
3. Diminish the role of administered allocation of imports to ensure broad participation and competitive conditions in the private sector expansion of marketing and services.
4. Assist the government of Somalia in meeting its essential recurrent expenditures by allowing counterpart funds generated by commodity sales to be used for general budgetary support. Such funds should not be earmarked for development activities that would not otherwise have been undertaken.
5. Abandon the policy of guaranteed employment in the government for all school leavers and establish salary scales that will attract and hold essential qualified personnel in the context of Somali labor markets.
6. Reassess general educational policy and institutional capacity in relation to the potentially increased earnings and remittances that can be obtained by a more skilled emigrant labor force in the Gulf states.
7. Assess carefully the longer range potential for increased local manufacturing for export to the Gulf states.

To build upon the strengths of Somalia's rural economy and the indigenous institutions, knowledge and agricultural practices upon which it rests, the following changes in rural and agricultural development policies are recommended.

period of supervised residence in rural communities and working seminars with farmers. Priority should be placed on recruiting extension workers with rural origins and assigning them to their home region, even if this requires remedial training in some subjects.

- C. Assisting the government of Somalia to re-assess its past policy favoring the planned settlement of pastoralists and semi-nomadic cultivators.
 - D. Assisting Somali planners to re-assess criteria used in the choice of technology for agricultural projects in light of past experience in Somalia and elsewhere in Africa.
10. Revise policies concerning access to natural resources, including water, browse and graze, and arable land, to give clearer recognition to the rights and responsibilities of "traditional" groups and institutions. This is necessary to ensure these groups security of tenure, to provide them with incentives to develop the resources, to counter rising levels of conflict concerning the control of natural resources that are taking on added value in the process of development, and to promote and strengthen existing resource conservation practices. This recommendation applies specifically to the range and water tenure of pastoral groups, the water and range management institutions in the interriverine area, and the rights of villagers who depend on flood recession agriculture for their livelihood.
11. Use existing forms of local social organization in planning and implementing development initiatives. The current policy of minimizing recognition of traditional groups based on kinship, community, and religion is counterproductive. Such groups perform important functions in the articulation of rural peoples' interests, dispute settlement, the mobilization and management of resources for community projects, and the organization and management of commercial activities.

Most of these organizations already play an important role in local government and rural development activities. This role can be enhanced by giving them increased recognition in the law, in administrative procedure and in the planning and implementation of development programs. The alternative of continuing to create new government and government sponsored institutions in the rural areas will continue to expand government's recurrent costs and will fail to capitalize on one of Somalia's most valuable resources, the resilient and flexible character of its indigenous social organization.

Recommended Studies

Because the data base needed for development decisions is extremely weak in Somalia we also recommend that USAID and other donors give high priority to funding selected studies. These include:

- o Policy-Simulation Model of the Somali Economy

- o Labor Migration to the Gulf
- o Internal Labor Markets in Somalia
- o Microstudy of Household Income Strategies
- o Long Term Comparative Advantage Study
- o Commodity Markets Study
- o Social and Economic Context of Pastoralism, including a study of pastoral production, an anthropological study of the social aspects of pastoral production systems, and a study of commercialization.
- o Bay Region Income Strategies
- o Institutional Effectiveness Study

Each study is designed to clarify one or more of the key assumptions that underlie development planning in Somalia discussed in this report. Each can be carried out in 12 to 15 months and will contribute information that is directly relevant to policy formulation and project design. They are comparatively modest in cost and are designed to provide indicative findings that represent a significant improvement over available data. It is also anticipated that carrying out the studies will contribute to the longer term objectives of developing a sampling frame and identifying meaningful questions in the Somali social and institutional context, creating a demand for better policy-relevant data, and increasing the capacity of Somali institutions to carry out applied social research for development.

Strengthening Somali Capacity to Conduct and Use Policy-Relevant Social Science Research

Despite the emphasis that has been placed on public sector intervention in projects and on administrative control over the economy, Somalia's capacity to generate and use socioeconomic data for central planning, control and supervision is extremely limited. While it will take many years to develop a data base and analytical capacity equivalent to those found in Kenya, Tanzania or a number of other African countries today, a number of steps in this direction should be taken immediately:

1. USAID and other donors should give priority to funding the studies outlined above. Given the state of existing knowledge, substantial progress and contributions can be made with relatively crude, low-cost approaches of this kind to obtaining first approximations of the truth.
2. A survey of research manpower needs in the government, the National Academy of Arts and Sciences and the University should be carried out.

3. Somalis who could benefit from graduate-level training in applied economic analysis, development anthropology and other social sciences overseas should be identified, as a first step towards meeting these research manpower needs. They should be given long-term training at institutions with experience in African development oriented research and should, to the extent possible, conduct their research in Somalia on problems for which they are likely to have responsibility upon the completion of their studies.
4. The possibility of establishing a Development Research Institute similar to those found in Kenya, Tanzania, or Nigeria should be carefully explored.
5. In the longer run, ways of strengthening social science development studies at the University should be found.

I. INTRODUCTION

In this report we examine the explicit and implicit socioeconomic assumptions that have informed development planning in Somalia in light of available information about the ways its peoples are organized and make a living. On the basis of this examination we recommend modifications in policies, programs, and projects intended to increase the effectiveness of development assistance in Somalia, and identify critical issues for future research.

THE APPROACH

Our conceptual approach, which reflects these objectives, has been to focus on the strategies by which differing types of individuals, households, and other resource management units earn incomes, avoid risk, save, and invest; and on the ways these strategies affect and are affected by the wider economic and policy environment. It is an approach that views people's income-generating behavior as the product of choice and not tradition. It anticipates that many of them may have mixed income strategies, that their degree of participation in a given sector - for example, in agriculture - is likely to be affected by the return they anticipate from activities in other sectors. It anticipates that people's income strategies are likely to be dynamic, adaptive, and flexible and that persistent patterns of apparently "irrational" economic behavior may, in fact, be quite sensible when understood in context. And it assumes that people's adaptive income-generating strategies must be understood in relation to the social and institutional context which shapes opportunities and choices.

Thus, for example, rather than focusing our attention exclusively on the livestock production activities of pastoral households, we were also interested in the roles that resident and non-resident members of these households play in the national and international livestock trade, in trucking and other types of commercial activity, and in their participation in labor migration to Saudi Arabia. Equally important, we were interested in the ways income from these "off-farm activities" and from the sale of livestock and milk are used for the purchase of consumer goods, education, animal and human health care, and are invested in the construction of cement-lined water tanks for both human and livestock use. Finally, we were interested in the ways that the increasing commercialization of livestock, milk, and labor is transforming seasonal herd movements and traditional institutions that have governed access to range and range water and given their members a degree of collective security in time of drought. Similarly we tried to view the cultural practices of households classified as dryland farms as a part of a mixed income strategy that depended, to a significant degree, on raising livestock and labor migration.

We have also examined how external factors affect and modify people's economic strategies. Consequently, we tried to find out how variations in rainfall, economic conditions, and government policy on marketing and access to productive assets have affected household income strategies, patterns of resource accumulation, and rural-urban labor and resource transfers.

This focus on income strategies, on the dynamic and adaptive dimensions of the traditional, informal, and private sectors, and on rural-urban and

cross-sectoral linkages represented a deliberate attempt to offset the compartmentalized and often static biases introduced by over-reliance on official, largely conjectural sectoral data in countries like Somalia.

Our procedure was to review USAID, World Bank, and other donor program and project documents and on-the-ground projects to identify key assumptions about binding constraints in Somali systems of production and exchange. Each assumption was examined in light of consistency and plausibility, evidence from our review of the social science literature on Somalia (see Annex), and our knowledge of comparative studies of pastoralism, dryland farming, flood recession agriculture, and commodity and labor markets in other developing countries in Africa.

We gave priority to assumptions that are pivotal in the allocation of donor development assistance and Somali development policy and that are not well supported by available data from Somalia or other African countries with similar conditions. We also tried to assess the implications of alternative assumptions for development policy. Through this iterative process we identified critical issues about which we tried to gather additional data through interviews with government officials, development practitioners, and Somali social scientists, and brief but targeted field work in the Hargeisa area, the Bay region, the lower Shebelle, and Mogadishu.

MAJOR FINDINGS

Overall Development Policy

The conventional view of Somalia as a poor country with bleak prospects is inaccurate. Looked at solely in terms of officially-sanctioned economic activity taking place within the national borders, the situation is indeed dismal. But in contrast with the anemic formal economy, a vibrant parallel economy making use of substantial earnings remitted by Somalis residing outside the economy has been flourishing. Jamal (1981) shows that if these activities are taken into account, estimates of the proportions of people receiving incomes below the poverty line drop substantially. This bears out casual observation that fails to support the notion that Somali citizens are very poor in relation to many other African countries.

Inward-looking strategies for development proposed to date are focused solely on Gross Domestic Product (goods and services produced within the national boundaries). Having largely abandoned further development of import-substituting industry because of the small market and managerial problems, plans concentrate by default on intensified exploitation of the meagre land and range resources. Because no viable alternatives come readily to mind, these plans call for radical transformation of settlement and range management coupled with large-scale irrigation discussed in the following section. Yet it is doubtful that the proposed transformations could be successful and it is quite clear that no technical packages exist waiting only for adoption by farmers and herders presently lacking modern "know-how."

An outward-looking strategy can be developed instead that builds on and takes advantage of the country's two great assets: people and strategic location.

Rather than being an obstacle to development, as suggested by many "expert" reports describing the "fragile" human resource base, Somali extended-family groups are adaptable, skilled, resourceful, and have developed sophisticated methods of managing common resources through delegation of responsibility to decentralized family units scattered widely over space. This organizational form, developed in response to the imperatives of livestock raising in a harsh and risky environment, has been adapted to a number of other economic activities. Since World War I Somali communities have been scattered widely over East Africa, where they facilitated long-distance trade through their extended networks, while maintaining a home base in Somalia. Later they entered transport in a big way and demonstrated mechanical and commercial talents of a high order. Within the country, the livestock trade is facilitated by extended-family networks that provide information, advance credit, and maintain favorable prices for producer units. The Qat trade from Kenya and Ethiopia is highly organized into an efficient network for moving a high value and very perishable commodity long distances, adhering to tight schedules. A new vegetable trade between the north and Djibouti has emerged in which Somali merchants have even improvised roads where needed in order to keep the trade moving. In fact, Somali family economic units can best be interpreted as multinational multi-plant firms in microcosm!

The other resource to be exploited is Somalia's strategic location as an integral part of the booming economy of the Gulf.

Before trying to intervene in the economy, both governments and donors would be well advised to understand first how Somalis presently manage their resources. Instead of beginning with the assumption that existing systems of resource use and labor allocation in agriculture, livestock rearing, or in trade, transport and commerce are dysfunctional by virtue of being "traditional," it would be better to assume that they are functional responses to particular opportunities, and then identify points at which intervention could help them to work better.

A compelling example is provided by the abolition of the franco valuta system. In recent years large numbers of Somalis have migrated to the Gulf and their wage earnings abroad may well be three times as large as total recorded exports from Somalia. The franco valuta system developed as a mechanism for channeling a substantial portion of these earnings back to family members in which goods were allowed to enter Somalia outside of the official foreign-exchange allocation system if financed by foreign exchange held by individual Somali importers. The goods flowed back into extended family units not only to increase consumption, but also to generate productive investment in transportation, construction, pumps and water tanks (birkets) in pastoral areas. The benefits were widely spread through rural as well as urban areas of the country. Instead of capitalizing on this successful strategy for increasing real incomes of Somali citizens, and modifying it where necessary to be more responsive to development opportunities, both policy makers and donors viewed emigration as a drain of manpower from the economy and believed the flow of goods outside administrative channels to be inappropriate and ill-suited to the true priorities for development.

With effective abolition of the system in November 1981, the flow of imported goods available for use within Somalia was curtailed. In 1981, some \$60 million of goods were financed by franco valuta amounting to almost 25 percent of total imports; the foreign exchange to purchase such goods has

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since been denied to the economy as workers abroad have chosen to hold back on remittances until a suitable mechanism is again found. The result is that applications for foreign exchange vastly exceeds the quantities available and administrative allocations are made to selected importers for particular goods. While food and fuel imports have been maintained, such producer goods as cement and reinforcing bars, vehicles and particularly vehicle spares, as well as spare parts and intermediate goods for existing industrial and agricultural enterprises have become scarce. By assuming that remittances would continue despite prohibition of franco valuta, and believing that the demand for imports expressed by families did not reflect appropriate priorities, a functioning market system has been supplanted by a cumbersome administrative system for allocation of foreign exchange in large blocks in response to politicians' and technocrats' judgement of priorities. It has been accomplished at high cost to Somali families and to investment.

Following an outward-looking strategy would imply taking maximum advantage of opportunities for labor export to the Gulf in the immediate future. Agreements should be sought with Gulf states to make this source of income more dependable and secure. Policies must be designed to facilitate channeling these earnings in ways that will be most beneficial to Somali families in providing access to higher and more reliable incomes. At the same time adjustments in the fiscal system will be required to insure that appropriate functions of government will be financed and that earnings abroad will bear a fair share of the tax burden. While there undoubtedly is scope for some improvement of agricultural and livestock production in the country, it is quite possible that in the longer run Somalia could develop an efficient export-oriented manufacturing and service sector that would maximize returns to human resources and location through exploiting the markets of the Gulf.

Rural and Agricultural Development Policy

The widespread view that the Somali indigenous rural private sector is inefficient, environmentally destructive, static, and more or less permanently in a state of crisis is not borne out by this review. Present policies and programs are based on the assumption that the country's rangelands are overstocked and overpopulated and that this is causing widespread degradation. A corollary to this assumption is that the situation can be improved only by the imposition of modern range management and removing at least the increase in an already excessive human population from the pastoral sector.

Somalia's arable lands, by contrast, are thought to be underutilized, with only 7 or 8 percent of the potential under cultivation. It is commonly believed that intensification and extensification of farming through the extension of readily adoptable improved practices and technologies can substantially increase the production of cereals and absorb a significant number of excess nomads on the "internal" frontier.

Irrigation is viewed as the surest road to food security and increased production of cash crops for export. It is frequently assumed that major gains can be made in using the water of the Shebelle more efficiently and by replacing the indigenous flood recession irrigation agriculture practiced along the Juba river with modern, fully controlled irrigation schemes. Like the development of dryland farming, the further development of irrigation is intended to promote settlement of the excess population from the pastoral sector and thus to prevent even greater migration to Somalia's already strained urban centers.

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We do not find these assumptions about existing patterns of production or the policies based on them well supported by available data. Nor do we believe that major gains in agricultural production can be achieved by strengthening government agencies so that they can more effectively impose rational resource management in the pastoral sector, promote agro-pastoral integration, and introduce known, readily available technologies.

On the contrary, our analysis strongly suggests that existing pastoral and agricultural systems of production are reasonably efficient and well adapted to Somalia's harsh climatic conditions, that private (parallel) markets function well, and that, despite the obvious disruptions caused by natural disaster and war, there has been broad participation by rural Somalis in labor migration, commercial production, and a rising physical standard of living for a substantial segment of the rural population.

The pivotal assumption that pastoralism is in a state of crisis because of over-population, overstocking, and resultant degradation has not been tested by serious research. While there is clearly "hot spot" degradation from overstocking near towns and points of commercial concentration, there is no clear evidence of the general decline in calving rates, animal condition, or human nutrition that normally accompany a widespread deterioration of pastoral environments. Labor migration and permanent migration to towns from the pastoral sector appear to be a response to opportunities for higher incomes, rather than to worsening environmental or economic conditions in pastoral areas.

The assumption that dryland agriculture can easily be intensified and extended to new areas is not well supported by recent land use studies in the Bay region which suggest that present cultural practices are reasonably efficient under present factor endowments, that present techniques are conservationist in character, and that there is much less unused arable land in the region than had formerly been estimated.

The assumption that irrigation is the best road to food security - as opposed, for example, to the adoption of an outward-looking development strategy that would enable Somalia to purchase food in periods of cyclically low rainfall - should be carefully evaluated through studies that have not yet been undertaken. Past experience with irrigation in Somalia indicates that, in addition to environmental problems with flow and drainage and the difficulties with management of large-scale enterprises of all kinds, serious social and institutional difficulties remain to be overcome. Salient among these are the provision of adequate security of tenure and incentives for small-scale producers, the decentralization of water control to local water user associations, and the adoption of suitable technology for partially decentralized water management.

The assumption that pastoralists and transhumant farmers should live in permanent settlements must be regarded with caution in light of the ecological imperative of "following the rain" and past experience with large-scale planned resettlement of refugees.

In sum, it appears to us that an inward-looking development strategy that focuses almost exclusively on raising agricultural production through the introduction of "modern range management" and technology presumed to be readily available is neither efficient nor effective. Furthermore, we believe

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that the premature expansion of government extension services in the absence of an effective package may, in the Somali social and institutional context, merely exacerbate existing bureaucratic tendencies towards over-centralization in planning and decision making, further inflate the public sector payroll, inhibit growth in the indigenous private sector, reinforce mutually antagonistic attitudes between extension agents and producers, and create a bureaucratic constituency that will make it politically difficult for the government to adopt new and more liberal economic policies in the future.

In our view, higher levels of production can be achieved at a reasonable cost only by: 1) conducting studies that correctly identify constraints in existing systems of production and distribution; 2) addressing these constraints by developing affordable technology and making appropriate services available; 3) strengthening infrastructure; 4) strengthening existing incentives for production, savings, and investment by the rural household through altered government policies; 5) encouraging existing participatory organizations based on locality or traditional ties to engage in developmental activities; and 6) ensuring that small-scale users and associations have reasonably secure tenure over land, water, and pasture resources, so that they do not lose traditional resource rights as these increase in value. These changes must be made in ways that will enable rural Somalis to exercise their manifest entrepreneurial talents more fully and that will not increase their dependence on an expanding and remote government bureaucracy.

We believe that significant improvements can be made in all of these areas without a major increase in expenditures, provided modifications are made in on-going and projected development initiatives.

ORGANIZATION OF THIS REPORT

Chapter II presents a brief overview of the Somali setting for readers who are not already familiar with the country, its people, and their history. Chapter III is concerned with national economic policy issues. Chapters IV and V analyze the ways that social, institutional, and economic factors shape rural Somalis' income strategies in the pastoral and dryland farming sectors respectively. Chapter VI presents a summary of conclusions and recommendations for:

- o Changes in projects, programs, and policies which, in our judgement, should be undertaken immediately;
- o Critical issues that should be investigated as soon as possible because they are of pivotal importance in upcoming planning decisions;
- o Studies that should be undertaken with sufficient lead time to inform future program planning and project design; and
- o Ways that donors can work with Somali institutions to strengthen the country's social science research capacity.

II: SETTING*

LAND AND CLIMATE

The land form and climate of Somalia have shaped its development and its history. Its savannahs, suitable for nomadic pastoralism but for the most part too dry to support permanent agricultural settlement, and its nearly 3,000 kilometer-long coastline set the stage for ways of life that rely on population movement and willingness to venture into new and varied activities to survive. Somali entrepreneurial talent, mobility, flexibility, and ingenuity - widely recognized throughout Eastern Africa - are practical responses to a demanding environment.

Lying astride the Horn of Africa in the shape of a figure seven which stretches along the southern shore of the Red Sea and bends southward to form the northwestern shore of the Indian Ocean, Somalia has the longest coastline of any African nation. The land itself is nearly 628,000 square kilometers of semi-desert. Map 1 shows Somalia's physical features. Along the northern shoreline lies a hot and parched narrow coastal plain, known in Somali as the guban, the "burnt" land. Above this coast rises Somalia's main mountain range, stretching east-west from the tip of the Horn to the Ethiopian highlands, its spine lifted some 2,300 meters above sea level, with the highest point over 2,600 meters a little to the east of Erigavo. The high plateau sloping south from this ridge is known in Somali as the Ogo, where the permanent wells can be found that provide dry-season watering points for pastoralists. Farther southward the land slopes downward into an area known as the Haud, much of which lies in what is now the Ethiopian Ogaden region. During the rainy seasons, the Haud becomes an excellent seasonal source of pasturage, as vegetation springs to life and surface depressions turn into temporary ponds.

The sections of the country paralleling the Indian Ocean shoreline, to the south, are flatter and more featureless. The coastal plain is narrow and sandy, backed by dunes. Beyond them, the land rises gently to the west. Very dry in the central Mudug plain, the land is somewhat better watered as one moves southward. To the west of Mogadishu, the Shebelle and Juba rivers, descending from the Ethiopian plateau, loop around a sizeable portion of the southern third of the country. The Juba, in the south, breaks through the coastal dune ridge to meet the ocean near Kismayo, but the Shebelle, which once probably met the sea near Merca, now turns southward just west of the coastal dunes near Mogadishu and ends in a swampy area near Jilib.

The coastline is regular, without distinctive natural harbors, although at the height of the Arab dhow trade, port towns studded the Indian Ocean coast, a day's sail from one another. Today only the southern section of this chain of ports - Mogadishu, Merca, Brava, and Kismayo - survives. Along the northeast coast an upwelling cold ocean current offshore supports largely unexploited fishing grounds purportedly rivaling those off the coast of Peru. In the north, along the Red Sea coast, the medieval port of Zeila and the modern port of Berbera are the transshipping point for trade with Arabian ports across the sea.

* This introductory sketch is intended primarily for readers who are not familiar with Somalia.

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Since 1974 the country has been administratively divided into sixteen regions, as shown on Map 2. Each region is subdivided into a number of districts, 82 for the whole country.

CLIMATE AND THE DISTRIBUTION OF AGRICULTURAL ACTIVITY

Agriculture in Somalia is feasible only in the regions where the country's sparse rainfall is heaviest. Herding is the main subsistence activity in the less favored regions. But for farmers and pastoralists alike, the cycle of productive activities and consequently the demands on available labor over the course of the year are regulated by the climate and the seasonal occurrences of rains.

The climate of Somalia is controlled by the monsoon winds. The prevailing winds blow in a northeasterly direction parallel to the coast in winter and southwesterly along the coast during the summer months; they bring rains to the land during the times of year when they shift direction. The heavier of the two rainy seasons, called the gu in Somali, generally occurs in April and May. It is separated from the lighter autumnal rains, the dir, by a short summer dry season, the hagaa. After the dir rains, which usually arrive in September or October, the main dry season, the jilaal, sets in over the winter and early spring months.

The rains are scanty at best. The spring ocean winds, rising over higher ground as they blow westward, drop somewhat more rain over the northern highland to the west of Hargeisa and over the western part of the central plateau as it rises toward the Ogaden. South of Mogadishu, in the area watered by the Juba and Shebelle, the rainfall is somewhat heavier, especially as the land rises to the west. But, as can be seen on Map 3, the average annual rainfall is nowhere much above 500 mm, barely sufficient for dryland agriculture, and in most of the country it is considerably less.

Rainfall in Somalia is unpredictable from year to year, and rainy seasons vary considerably in their onset and duration. The isohyets shown on Map 3 mask a high degree of fluctuation from one year to the next. Years of abundance and years of drought are recurrent phenomena - wresting a livelihood from this land is a gamble with high stakes.

The natural cover of much of Somalia is thorn scrub and savannah, providing pasturage for goats, sheep, and camels. In the northern highlands, especially west of Hargeisa, rainfall is sufficient to support some natural forest and agriculture. In the best-watered parts of the southern third of the country, the existence of some grassland permits substitution of cattle herds for camels as a major source of milk and meat, and dryland agriculture is practiced in the areas of highest rainfall. In the most favored southern areas maize is cultivated as well as sorghum and sesame; sorghum and millet are the main crops in more marginal areas farther inland. Dryland mixed farming has long been practiced in the south, based on use of the hoe with bunding and intensive weeding for water conservation. There has also been some irrigated agriculture along the lower reaches of rivers. In more recent years some agriculture has been introduced in the area of higher rainfall around and west of Hargeisa, using the scratch plough and ox traction methods practiced in the Ethiopian highlands.

The mainstay of the Somali economy, however, has always been nomadic pastoralism. Herd movements take maximum advantage of seasonal, often erratic rainfall and pasturage. In the north, areas of the Ogo highlands with permanent homewells were the traditional dry season preserves of major subdivisions of the Somali people. From these areas, camel herders ranged south into the Haud following the rains during the wet seasons. Most of the women and children generally remained behind with flocks of sheep and goats in the permanent pastures. From the Mudug plain's centrally located home wells, herders generally moved westward into wet season pastures in the Ogaden; sometimes they moved eastward as well, to take advantage of rainfall along the Indian ocean coast. In years of drought, movements of herds and people often increased dramatically as livestock owners pushed south in search of water to save their herds. (See Map 4B for schematic representation of the typical transhumance patterns.)

ORIGINS AND SPREAD OF THE SOMALI PEOPLE

Despite geographical dispersion, Somalis have preserved a high degree of cultural and linguistic unity over the centuries. Still there are important economic and social variations among the population of Somalia that correspond, at least in part, to the differences in the physical environment described above.

Over more than a millenium, according to tradition, Somali pastoralists spread from original homelands, probably in the Sanaag region, westward into the Ogaden as far as the vicinity of Harar, and southward into Kenya's Northern Frontier District. Some of the more sedentary farming and coastal trading population of the territories into which they expanded first became clients of Somali clans and over the long run were assimilated to them.

Today the area occupied by ethnic Somalis extends well beyond the borders of modern Somalia into the Ethiopian Ogaden, northern Kenya, and independent Djibouti. It has never been politically united, either as a colony or as an independent state, though there have been appeals for pan-Somali unity especially since the turn of the century, when Sayyid Mohamed Abdille Hassan attempted to unite Somali clans to oust the British from the north. Since independence, pressures for pan-Somali unification have confronted political partition and clan factionalism and have been a continuing source of tension and unrest in the Horn of Africa.

From very early times, commercial activity along the coasts proved compatible with Somali nomadic life in the interior. Known to the Egyptians as the land of Punt, source of livestock and frankincense, Somalia's mercantile ports, figured in accounts of Greek, Arab, Chinese, and Portuguese travellers over the first sixteen centuries of the Christian era. In the wake of trade with the Arab world, Islam spread quickly among the Somali people and took firm hold. In the nineteenth century southern Somali coastal cities were incorporated in the far-flung Sultanate of Oman, and Somali livestock were exported to Zanzibar from Mogadishu and Kismayo, as well as from northern areas to the Arabian peninsula.

Clan membership provides a system for assigning each Somali a place in society and a network of related people whose support he can obtain, no matter where he may move. At the same time, some of the major socioeconomic variations

in Somalia can be described in the idiom of the clan system.

At the highest level, Somalis are grouped into six major divisions, often termed "clan-families": Isaaq, Hawiya, Dir, Daarood, Rahanweyn, and Digil. These are associated with territorial sections within the total region occupied by the ethnic Somalis. Map 4A indicates the general location of these divisions. The first four of these clan-families, known collectively as Samaal and located in the north and central sections of the country, are traditionally pastoral nomads. An estimated 75 percent of the population of Somalia are Samaal. The Rahanweyn and Digil, categorized as Sab, in the south, tend to be more settled agricultural peoples. These groups are of more mixed origins, including some former slaves or non-Somali inhabitants of the area who have become assimilated over the long run. The Sab comprise about 20 percent of the current population of the country.

The remaining 5 percent of the population falls outside the purview of the six major clan-families. Some of these people are Somalis belonging to minor clans tracing descent back to ancestors who predate or are not included in the six major divisions. Some are Arabs, mostly living in coastal towns. Along the southern seaboard are some long-established non-Somali fishing communities, as well. Still others belong to outcaste occupational groups - hunters, smiths, barbers, and sorcerers. In the inter-riverine area some non-Somali cultivators, known as habash, are former slaves.

There are some important cultural differences between the four northern and two southern major divisions, the Samaal and the Sab. Among the northern nomadic pastoralists the clan is the basis of social organization and social interaction in the rangelands is strikingly egalitarian and democratic. Among the southern cultivators social organization tends to be organized on a territorial basis under local community leaders. Social classes are more differentiated in the south than in the north and social relations show a more hierarchical order. Even the language spoken by the southern groups is distinctive; in the Bay region, the local dialect, Af-maymay, is not readily understood by speakers of the other, more standard dialects of Somali.

Despite these differences, the degree of cultural unity in Somalia is remarkable. In part this is due to language, history, and religion, but it is also because of the maintenance of clan and sub-clan links and family ties between individuals ranging over great geographic distances in their economic activities. These bonds hold not at the level of clan-families but at the level of clan and sub-clan affiliations.

Within each clan-family, there are a number of clans. In principle, each clan is composed of individuals tracing descent through male ancestors from a founder who is frequently of Arab origin, sometimes supposedly from the family of the Prophet. In practice, clans are the highest-level groups that function as political units. They, in turn, are sub-divided into named sub-clans. Below the sub-clan level, the basic unit of political affiliation was traditionally the "dia-paying group," an alliance of households pledging mutual support, including a written agreement to pay blood-money (dia in Arabic) collectively as compensation for a death for which a member was responsible. These groups were established partly on the basis of kin links but also through the contractual agreements between members, which modified or supplanted their genealogical ties.

Italian Somalia included the southern lands with their higher agricultural potential. The strategy the Italians adopted was to develop large-scale irrigated plantations owned and run by Italian settlers, along the lower Shebelle and Juba valleys, producing bananas, fruit, and sugar for Italian markets. They also improved ports and transport but, in general, concentrated their efforts in areas where access to the coast was relatively easy to provide, leaving the hinterland undeveloped.

During the period before World War II, the Italians built only a few primary schools, intended mainly for settlers' children. After the war, in the decade before independence, the U.N. required the Italian administration to expand the educational system, and the Italians did establish several secondary and vocational schools as well as a two-year post-secondary institute which sent a handful of graduates on to Italian universities to complete their degrees. Nevertheless, by 1960 there were few professionally trained Somalis from the southern area.

The Italian administration also differed in form from that of the British. Dealing with a semi-sedentary Somali population, the Italians designated village leaders as intermediaries between the colonial administrators and local people. Differences in administrative experience between the north and south were a source of tension at independence.

THE PAN-SOMALI MOVEMENT

The fragmentation of Somali homelands between the British, French, Ethiopians and Italians was facilitated by the fact that the colonial powers moving into the Horn of Africa in the late 1800s found clans feuding with each other rather than uniting against the outside threat. The pan-Somali movement first arose in reaction to colonial rule. In the early years of the twentieth century, an irredentist movement led by a charismatic religious leader, Sayyid Mohamed Abdille Hassan, with his militant dervish followers, attempted to unite all ethnic Somalis against the colonists but foundered after the death of its leader. Forced to contend with this guerrilla movement, the British found themselves more broadly entrenched in the north after its collapse.

The events of the period of the Second World War in East Africa reinforced Somali hopes of unity. In 1935, on the eve of the war, Italian and Ethiopian forces battled again in the eastern Ogaden. This time victory fell to the Italians, who overran Ethiopia and British Somaliland as well, holding much of the territory occupied by ethnic Somalis until the British swept them out of all their East African empire in 1941. Thus, by the end of World War II, the British exercised control or influence over all the Somali homelands, with the exception of the French colony of Djibouti.

At the end of the war, Italian Somalia was made a U.N. protectorate under an Italian administration. The Ogaden, including the wet season pastures of the northern camel-herders in the Haud, was federated with Ethiopia, while Great Britain retained control of British Somaliland and the Somali-occupied part of Kenya's Northern Frontier District. This partition of Somali areas created tensions that persist into the present.

Somali politics has traditionally been clan politics. Every level in the scheme of Somali clan segmentation is a potential point of political fission. Clan and sub-clan opposition and feuds have been a constant feature of Somali life from pre-colonial times to the modern era. Colonial powers, moving into the Horn of Africa in the nineteenth century, found clan factionalism and no strong or unified political resistance. The present regime seeks to overcome the fractiousness of traditional politics by appealing to pan-Somali unity and suppressing mention of clan affiliation.

THE COLONIZATION OF SOMALIA

The political partition of Somalia has its origins in colonial competition for the area which goes back to the nineteenth century. The division of the area between the British and Italians has left independent Somalia with two disparate political administrations, educational systems, and international languages to reconcile.

In the last quarter of the nineteenth century France, England, and Russia (with Italy as its ally) became interested in extending their political and economic control over northeastern Africa. Some of the impetus for this interest arose from the French and English struggle over Egypt and the Sudan, in which desire to control of the Nile headwaters played a pivotal role. Ethiopia was the linchpin in the competition. The French established themselves at Djibouti, the British negotiated agreements with Somali groups along the coast to the east, and the Italians established a colony in the Somali area along the Indian Ocean coast, where conditions permitted production of tropical crops. The Italians also controlled Eritrea, from where, in 1898, they mounted a campaign to move into Ethiopia. Their defeat at Adowa by the forces of the Emperor Menelik, who already held Harar in the Ogaden, established Ethiopia as a sovereign power in its own right.

Other economic considerations also underlay British and Italian interest in the Horn and affected the course of development during the colonial period. The British wanted to protect the already active livestock trade between British Somaliland and the Arabian peninsula to assure their colony in Aden of a permanent meat supply. The Italians looked to their East African colonies of Eritrea and Italian Somalia as outlets for economic expansion through Italian settlement as one means to reduce population pressure at home.

Neither the British nor the Italians invested heavily in the infrastructure or the social development of their Somali colonies. The British made improvements in the port at Berbera and in transport, especially to Hargeisa, their capital in the more clement highlands, but their primary interest was in channelling the already existing livestock trade to support the economic development of their colony at Aden. They undertook little in the way of educational or political development of their Somali protectorate, building only two secondary schools in over sixty years and intervening in the affairs of the nomadic population as little as possible.

INDEPENDENT SOMALIA

When the U.N. Protectorate of Somalia achieved independence in 1960, the British also granted independence to their northern colony so that it could be united with the former Italian territory to form present-day Somalia. The new Somali nation was originally set up as a liberal democracy. Little progress was made in economic and social development in the nine years before the government was overthrown. Political squabbles undermined concerted development activity. The dual colonial legacy left Somalia a divided and weak educational system, different administrative traditions in the north and south, and - in a country in which over 90 percent of the population speak the same language - no common language of government, since there was no official script for Somali. A bitter debate raged over the choice of a writing system for thirteen years.

Externally the government was committed to a program of Somali unification. Until Kenya's independence, the government concentrated its attention on attempts to persuade Great Britain to separate the Somali-occupied zone from the Northern Frontier District of Kenya and to allow it to join Somalia. The guerrilla skirmishes accompanying this effort in Kenya are known as the "shifto" wars. The failure of this effort created a rift between the Somali government and Great Britain and thus alienated pro-British northerners from the government of Mogadishu. The government then turned to supporting a Somali secessionist movement in the Ogaden in 1963, which was also unsuccessful. By the end of the decade government leaders were moving toward detente with Ethiopia.

A military coup in 1969 put General Mohamed Siad Barre in power, in a reaction to the earlier government's increasing corruption and to economic stagnation. The revolutionary government initially presented itself as reformist and pan-Somali, proscribing factionalism based on clan affiliation and mobilizing Somalis to work together for national development and pan-Somali union. Increasing dependence on Soviet aid and Russian advisors in pursuit of its goals led the regime to declare itself a scientific socialist revolutionary government in 1970.

The announcement of a Latin script for the Somali language in 1972 paved the way for educational reform and development and for administrative unification. Between 1973 and 1975 an ambitious nationwide campaign was launched for literacy and rural development.

With Soviet encouragement, the government adopted a policy of centralized control of the economy in the early 1970s. Large state-controlled farms were set up, as well as marketing boards: the Agricultural Development Corporation (ADC) as the sole sanctioned purchaser of grains; the Livestock Marketing Board (LMB) for livestock; and the Banana Board for bananas. Parastatals and cooperatives were also established to distribute imported commodities or to provide services, such as tractor service to farmers, supplied by Farm Machinery and Agricultural Services Organization (ONAT). While these institutions were never completely successful in supplanting private enterprise, the Somali business community viewed them as repressive. At the same time, a National Security Service and a National Security Court modeled on Russian institutions were created to suppress political opposition, at times resorting to clandestine techniques and draconian sentences to do so.

Two occurrences in the decade of the 1970s disrupted the initial course of the regime - the drought of 1974-75, and political realignments in the Horn that led to renewed hostilities in the Ogaden.

The two years of extreme drought brought economic crisis and, at the same time, an apparent opportunity to settle nomads. Herds were decimated, and nomads traveled far from their usual territory in an attempt to save their dwindling stock or fled, as impoverished refugees, to agricultural areas. Most of the Somali government's development funds and planning resources had to be redirected toward dealing with refugee problems, disrupting the course of development planning. Students participating in the Literacy and Rural Development Campaign in drought-affected areas were enlisted as disaster relief workers. With massive support from international relief organizations, the government set up camps for the refugees and attempted to move destitute nomads into permanent cooperative settlements - large farming ventures at Sablale, Dujuma, and Kurtunwaare and fishing villages along the coast southwest of Mogadishu. The government was remarkably successful in saving stricken nomads from starvation; it was less successful in settling them in permanent, self-sustaining communities. As pastures have improved with the ample rainfall of the ensuing years, many nomads have returned to herding or have moved into urban areas from the settlements. Production on the farms has remained low, and the villages are still subsidized by the government.

In 1977, when unrest in Ethiopia had toppled the government of Haile Selassie and its revolutionary military government appeared to be in disarray, the Western Somali Liberation Front seized the moment to try to repel Ethiopia from the Ogaden and sought support from the Somali government. During the ensuing war the Soviet Union withdrew military assistance from Somalia and provided massive military support for Ethiopia's new socialist regime. In early 1978 Ethiopian forces, reinforced by Soviet materiel, inflicted a crushing defeat on insurgent Somalis and allied non-Amhara peoples in the Ogaden. The costs of pursuing an internally popular but militarily disastrous war without external support have been a major factor in Somalia's current fiscal crisis.

During the course of this war and following it, a second wave of refugees fled into Somalia from across the border. Some of these were ethnic Somalis, but some were Oromos who also came under attack by Ethiopian forces in the Ogaden. In all, perhaps a million refugees entered Somalia, severely straining a country whose population numbered about four million. These displaced people were also received in refugee camps and provided with food supplied mostly by international donors, although as a matter of policy the government does not intend to settle them permanently in Somalia. Today the number of refugees still remaining in the camps is reduced - the government puts the figure at over 700,000, but unofficial estimates run much lower.

The departure of the Russians in 1977 was enthusiastically approved by many Somalis, who were pleased to be rid of many of the repressive measures they considered to be due to Soviet direction. Since then government policy has begun to move away from tight and centralized economic controls toward condoning if not encouraging private enterprise. The Livestock Marketing Board was dismantled in 1981, while the role of the Agricultural Development Commission was markedly reduced. These steps were taken on advice from western agencies and donors to whom the government has turned increasingly for

economic aid.

The oil crisis of the early 1970s has had mixed effects on Somalia's economy. As elsewhere, it has fueled inflation in Somalia. However, it has also brought new markets for Somali livestock and opportunities for Somalis to find lucrative overseas jobs in the Gulf states. As devout Moslems with historic ties to Arabia, Somalis readily availed themselves of the chance to work there. The limited group of educated and technically trained Somalis, whose services are sorely needed at home, has been severely depleted by emigration. However as Chapter III will indicate, remittances from Somali migrants in Saudi Arabia have had positive but poorly studied effects on the Somali economy.

As the following chapters will demonstrate, Somalia faces the same ecological constraints it has for centuries. It also continues to enjoy a long-established commercial position in relation to the Gulf states. Independence and adaptability in meeting new challenges are rooted in Somalia's past and are likely to remain forces in its future.

III. ECONOMIC ISSUES IN SOMALIA

THE SOMALI MACROECONOMY

Recent Performance of the Somali Economy

The formal economy of Somalia has been in crisis since at least 1978. Already one of the world's poorest countries as measured in terms of per capita Gross Domestic Product, it was hit by severe drought in 1974-75; severed relations with the Soviet Union, a major source of financial and technical assistance; and engaged in an unsuccessful conflict with Ethiopia in 1977-78 which led to a large influx of refugees. While government spending increased sharply in response to these events, the ability to tax did not increase commensurately and export earnings failed to grow in real terms while real imports increased sharply.

By 1980, it was clear that production and exports were stagnant, a rapidly increasing government deficit was being financed by borrowing from the Central Bank, and rapid inflation accompanied by a disastrous balance-of-payments situation had depleted international reserves.

Viewing this situation in 1981, the World Bank identified three main economic issues facing the country: lack of growth, especially in the productive sectors of the economy; poor absorptive capacity caused by demoralization of the civil service and emigration of trained manpower to the Gulf States; and emergence of dualism in the modern sector between a thriving private market fueled heavily from remittances from the Gulf and a public sector starved of resources (Memorandum on the Economy of Somalia, World Bank, March 1981, p. 3). To deal with these problems the Bank recommended policy reforms that would restore financial equilibrium and stimulate growth in the economy primarily by concentrating on the agricultural sector.

At the beginning of 1980, in response to the desperate lack of foreign reserves, which had been run down substantially, and arrears in external payments, a one-year stand-by arrangement was negotiated with the IMF, in which the Government of Somalia agreed to adopt restrained fiscal and monetary policies and to increase producer prices of a number of agricultural products in order to stimulate production. During that year, the trade deficit was narrowed through restraining imports, but inflation accelerated, reaching almost 60 percent annually; gross official reserves declined further, reaching the equivalent of only three weeks of official imports at the end of 1980; and further arrears in external debt were incurred (Somalia Stand-By Arrangements - Review and Program for January - June 1982, International Monetary Fund, March, 1982 [Confidential]).

In response to balance-of-payments pressures in the mid 1970s, Somalia had allowed a legal parallel market in foreign exchange (the franco valuta system) to function, in which imports were allowed to come into the country if the importer had access to foreign exchange. The sources of this foreign exchange were earnings of Somali workers abroad and underinvoiced earnings of livestock exporters. By 1980 nearly 20 percent of official imports were channeled through this system. The total percentage was probably much higher, given the prevalence of undervaluing such imports for assessment of import duties.

Through the first half of 1980, no major policy changes were taken by the Government of Somalia, while imbalances mounted further. At mid-year a major stabilization program was undertaken, supported by a new one-year stand-by arrangement from the IMF, which came into effect on July 1, 1981. The key policy reforms adopted under this arrangement included: devaluation of the shilling by 50 percent to SoSh 12.59 = \$1 for all transactions except for specific essential goods that would remain at the previous rate of SoSh 6.295 = \$1; prohibition of imports under franco valuta; increase of producer prices by 30 to 50 percent for most agricultural products and 100 percent for bananas; improved tax collection including increasing the tax on livestock exports; control of government expenditure; elimination of unprofitable parastatal enterprises; preparation of a new five-year plan for 1982-86; increases in interest rates on deposits and loans; and control of total credit and monetary expansion.

During the year following these reforms the Government implemented them as agreed and came close to meeting the various quantitative targets on credit and fiscal performance. The rate of inflation declined, and imports declined sharply. Banana exports increased, and agricultural output of basic grains also increased, thanks in large part to unusually good rain.

On July 1, 1982, a new stand-by agreement came into effect, following further policy reforms by the Government. The major changes were adoption of a unified exchange rate to apply to all foreign transactions, tied to the SDR as unit of account, which involved an immediate depreciation with respect to the dollar to a rate of SoSh 15.055 = \$1, and further increases of interest rates. The abolition of governmentally-controlled producer prices for agricultural commodities in favor of free market determination is also reported to have been agreed upon, although this proposal has not yet been implemented. (Although the IMF believes this to be the policy, it had not yet been explicitly announced by the Government of Somalia in July 1982.)

Development Strategies

A draft development plan for 1982-86 has been prepared and will be discussed in March 1983 with a newly-formed Consultative Group of donors chaired by the World Bank. The draft plan includes a set of National Accounts estimates and provides an accounting framework for projected growth in the period. It is primarily a public investment plan with heavy emphasis on donor support of the capital program. The main feature appears to be continuation of existing donor-supported projects, with few new initiatives in the immediate future, supplemented by commodity support. The emphasis continues to be on settlement and irrigation to increase crop production, range management schemes to increase livestock production, and to a limited extent rehabilitation of underutilized industrial capacity. The policy framework is primarily that agreed on with the IMF to include substantially greater emphasis on private-sector activity.

USAID's strategy (CDSS, January 82) is to support the reforms, in concert with the IMF and World Bank, for attainment of financial and economic stability. Points particularly emphasized by USAID are assumption of a greater role for the private sector and phasing out of guaranteed government employment for school leavers. To these ends, an unusually high proportion of assistance (74 percent of that proposed for FY1984) will be in non-project

economic support consisting of food under P.L. 480 Titles II and III, and a Commodity Import Program for non-food items. Within project aid, three-fourths of the allocation is for the agricultural sector.

Macroeconomic Analysis of the Somali Economy

One looks in vain to find any systematic analytic model of the Somali economy or analysis of likely impacts of this macroeconomic package. As the World Bank states, "The lack of explicitly stated priorities, or of a macro-economic framework, was not really felt as long as availability of financial resources was not an issue. A severe limitation, however, is that the statistical system in Somalia is too deficient to generate any meaningful data for the purpose of planning and budgeting" (p. 6). While the recent draft plan presents a macroeconomic framework, it is at best a first attempt at establishing a national accounting system, and none of the projected growth rates are based on any empirically estimated structural coefficients of behavioral relationships.

It may be more surprising to note that the IMF has not undertaken any systematic economic analysis of Somalia but has implemented a very standard IMF package based on financial considerations only. However, even in the absence of adequate data, a rough analytic model of this economy, based on fragmentary data coupled with knowledge of similar economies, could provide logical checks on the consistency of the measures taken and their likely direction of effect, if not precise estimates of magnitudes. It seems almost certain that failure to take into account the forces generating labor emigration to the Gulf States, the role of remittances in the domestic economy, and the ways in which parallel markets were functioning has led to a more costly and distorted adjustment to financial disequilibrium than was necessary.

The sequence of events giving rise to the twin problems of inflation and declining foreign reserves can be traced from the data in Tables 1-4. From 1978 on, the government financed deficits increasingly from the banking system which, in this case, is the same as printing money (See Table 1). Under the impact of the conflict with Ethiopia and the influx of refugees, expenditures shot up in 1979; domestic revenue increased, but by much less; and external budgetary support was inadequate to fill the gap. In 1979 the balance of payments worsened solely from a sharp increase in imports resulting in a tripling of the current account deficit, almost half of which was financed by a run-down of reserves.

It is clear that by financing deficits from money creation, government was pumping large amounts of purchasing power into the economy. While that demand could spill directly into demand for imports, the shortage of foreign exchange caused government to ration it, and the quantity of imports available was far less than the demand. The result was the accelerating rate of inflation shown in Table 3.

In response to these stylized facts, the standard IMF package is designed to put pressure on government to reduce its deficits by simultaneously increasing revenue from taxes and user charges, and to reduce expenditures through tightening expenditure controls and budgeting systems, closing down parastatals that require subsidies and improving financial management of

others, reducing government employment, and holding the line on salaries. In response to efforts to achieve these goals, some additional resources in foreign exchange and donor assistance are made available to ease the burden of expenditure restraint by providing resources to maintain investment levels. It remains clear that if inflationary pressures are to be contained, such fiscal discipline is necessary and appropriate.

For a small open economy such as Somalia that is rationing foreign exchange through an administrative allocation system, a devaluation will have two main effects. First, to the extent that market prices of imports are increased, it will reduce excess demand for foreign exchange by making it more expensive. Thus, fewer applications will be made to the authorities, and the allocation problem will be eased. In fact, by changing the composition of demand, market forces will eliminate demands for imports that no longer seem attractive at the higher price. At the same time, if excess demand is not eliminated and price controls on imported goods are not effective (as they were not in Somalia), windfall profits accrue to those traders and producers who receive imports at the official price. Furthermore, government is forced to increase taxes in shillings if it is to continue to acquire imports without increasing budget deficits.

The more important potential effect is the second: to increase the total availability of foreign exchange to the economy by increasing exports. By raising the price that producers receive for supplying exportable commodities, resources may be drawn from less profitable uses to increase production of those goods. Furthermore, domestic consumption of exportable goods will be discouraged, leaving a larger share of the production to be exported. At the same time, if the price of imports rises, there will be more incentive to produce import substitutes, thereby further releasing foreign exchange for other uses. In either case, there will be production effects to the extent that resources were initially lying idle for lack of incentive or else that reallocation to production of exports from activities that do not generate or save foreign exchange is possible.

Consequences of the IMF Package: As carried out to date, the reform program must be judged a failure with respect to generating net foreign exchange. The combination of eliminating franco valuta imports, devaluing to a level still above the parallel-market rate for foreign exchange, and imposition of an additional tax on livestock exports has reduced the incentives for exporting livestock and sharply reduced the inflow of foreign exchange in the form of imported goods financed by migrant earnings. The most recent adjustment of exchange rates still appears inadequate. The reason for the failure is that neither the IMF nor the Government of Somali understood correctly the role of franco valuta imports. Aside from some basic logical errors of macroeconomic analysis, the misunderstanding was perpetrated by ignorance of the social and economic connections between migrant workers, traders, and Somali extended family systems.

First the straightforward analytic error. The IMF claimed that "the system (franco valuta) which generated distortions and contributed to inflationary pressures, deprived the authorities of the foreign exchange that would otherwise have been channelled through the banking system and of control over the consumption-investment mix of imports" (IMF, March 1982). The franco valuta system could not have been inflationary -- in fact it had to be deflationary, and it is mere coincidence that monetary-generated inflation coexisted with it. Inflation would have been worse in its absence. Shillings

Table 1

Somalia Government Budget (Millions of Somali Shillings)

	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981 (est.)</u>
Total Revenue	670.7	843.4	1,419.6	1,526.0	1,421.4	2,713
Ordinary Expenditure	649.3	769.6	1,361.5	1,573.1	1,618.3	2,400.02
Development Expenditure	165.4	211.4	186.9	224.2	200.6	350.02
Other Expenditure ¹	797.0	609.3	822.7	1,337.5	1,372.1	1,500.02
Overall Deficit	941.0	746.9	951.5	1,608.8	1,769.6	734
Bank Borrowing (Net)	362.6	-222.2	408.9	920.2	671.0	347.0

¹Includes foreign-financed capital expenditures, other extra budgetary expenditures and net lending to public enterprise.

²Protection only.

Source: "Somalia - Recent Economic Developments," IMF, July 1981 for 1976-1981.
"Somalia - Stand-By Arrangement - Review and Program," IMF March 1982.

Table 2

Balance of Payments (In Millions of U.S. Dollars)

	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>
Exports	81.1	71.3	109.3	106.0	137.0	145.9
Imports	-176.1	-206.0	-275.2	-394.1	-463.2	-261.1
(Franco Valuta)	(-3.1)	(-10.8)	(-75.9)	(-34.5)	(-54.9)	(-60.0)
Current Account Balance	-66.2	-22.1	-65.1	-205.7	-135.2	-47.4
Change in Net Foreign Assets	2.4	-45.9	21.4	-98.5	-27.7	-16.4

Source: "Somalia - Recent Economic Development," IMF, July 1981, 1976-1980.
"Somalia - Stand-By Arrangement - Review and Program," IMF, March 1982.

Table 3

Average Consumer Price Index (Mogadishu)							
	1975	1976	1977	1978	1979	1980	1981
Consumer Price Index (1975 = 100)	100	114.0	126.0	138.7	171.8	273.8	398.1

Source: "Somalia - Stand-By Arrangement - Review and Program," IMF, March 1982.

Table 4

Quantities of Selected Exports							
	1975	1976	1977	1978	1979	1980	1981*
Live Animals (000)	1,610	858	1,014	1,558	1,503	1,641	1,493
Bananas (000 metric tons)	81.8	72.5	53.2	57.5	55.5	35.4	

Source: "Somalia - Recent Economic Developments," IMF, July 1981.

*Estimates from Livestock Development Agency quoted in "Animal Health and Livestock Marketing in Somalia: Summary and Policy Conclusions," Draft Report by for USAID, Mogadishu.

already in the system were used by traders to buy foreign exchange from migrants; the foreign exchange was used to buy goods which were then sent to Somalia and migrants remitted the shillings to their families. At the end of that transaction there is no increase in the number of shillings in circulation and there are more goods for which the shillings can be used. The effect has to be deflationary. The effect is the same as if the foreign exchange was remitted through the banking system and imports were increased by the same amount.

Another error was the imposition of an export tax on livestock of 25 percent, intended to "limit the windfall profits for livestock exporters" (p. 7, IMF, March 1982) (which was partly rescinded after protests by exporters) and a claim that "if the 25 percent ad valorem was levied ... and if account was taken of the devaluation of the shilling, the actual export price in domestic currency would have risen by 3 to 5 percent." What was overlooked was the fact that livestock traders, who appear to be very competitive, had bid up the domestic price of animals to a level that reflected the additional profits on franco valuta transactions (See Livestock Marketing section, p. 18). By assuming that all franco valuta profits were solely appropriated by traders, and further assuming that traders were socially distinct from livestock producers, the net incentive effects were overlooked.

It should be noted that while it is clear that foreign exchange policies affect the price signals transmitted to livestock producers, we know virtually nothing about the likely response of offtake rates and exports to such price changes. It is possible that the initial response may be to reduce offtake in order to build further the more valuable herds, although the long-run effect would be larger offtake. At the same time, only around one third of animal offtake is exported (Jamal, Appendix B) so that reduction of domestic consumption of livestock is possible.

The third and most significant problem is the failure to understand the significance of labor emigration. The World Bank identified the emigration of labor as a loss to the economy, while the IMF has ignored its potential significance. No hard data exist, but estimates are bandied about that on the order of 100,000 - 200,000 Somalis are working outside of the country (Jamal, pp. 74, 87). If the number of migrants in 1981 were 100,000 and their average earnings in the Gulf \$5000 per year (both seem to be conservative estimates), then total earnings abroad would be \$500 million, which is more than three times total exports for the year. Although workers use part of that income for consumption abroad, it must be borne in mind that if they were in the country they would also demand imported items to sustain their domestic consumption. If they were to remit on average one third of their earnings (a conservative estimate with respect to apparent remittance patterns of Indians and Bangladeshis in the Gulf), foreign exchange earnings would still be doubled! In absence of data, the point should be made simply that the magnitude is large.

Under the franco valuta system migrants could remit shillings to their families at attractive exchange rates (between 18-25 to the dollar). Even more important, they were accompanied by a supply of goods so that the families would be able to buy something of value with the shillings - there was also an option of sending or bringing goods into the country directly. There seems to be unanimous agreement that the supply of imported goods under the system was considerable. While official statements decry the fact that many luxury consumer goods were imported as a result, it is also clear that

large numbers of trucks, spare parts, cement, reinforcing bars, and other producer goods were brought in and used for investment in both rural and urban areas. The increase in cement water tanks (birkets) in pastoral areas has been notable. If the composition of imports was inappropriate, it was because it reflected the underlying patterns of demand. The failure to invest is more likely to be a problem of incentive. We have been told by contractors and businessmen that producer goods and spare parts for equipment were more available under the franco valuta system than is true at present.

What has happened is that total remittances have dropped drastically since the end of franco valuta. Although a special category of foreign-exchange accounts has been created in the Somali banking system in order to attract remittances, as of March 1982 only two such accounts had been opened (IMF, p. 9). Officials at the Central Bank remain hopeful that, with the new devaluation, migrants will begin using these accounts for remittances and correspondent banking arrangements with institutions in the Gulf states have been initiated. Nevertheless, since the official rate is still less than the parallel one, since it is uncertain whether government will honor promises of convertibility at a later date, and since rationing imports through a system of letters of credit makes it unclear whether desired goods will be available in exchange for the shillings the response may well remain miniscule. As a result these earnings, which are appropriately regarded as labor exports, remain unavailable to the official economy.

Suppression of franco valuta has succeeded in reducing the flow of imports into the country. A working market system has been supplanted by a cumbersome system of administrative allocation of Letters of Credit that helps reduce imports by imposing long and variable delays on obtaining approvals and discriminates inadvertently against small-scale entrepreneurs who cannot negotiate the official system and are unable to buy the goods they need in order to produce. It is hardly clear that the advantages of direct government control over the composition of imports, so as to accord with administrative priorities, compensate for the reduction in availability of goods for investment, inputs into production, and final consumption.

As was said earlier, part of the problem is a failure to understand how these parallel markets have worked and to recognize the ways in which migrant earnings are returned through extended family systems. But a large part of the problem is the tendency to think of the Somali economy only in terms of what takes place within the territorial borders.

Difference Between the "National" and "Domestic" Economies: Affording secure access to rising standards of material well being for the majority of the people is the purpose, and measure, of economic development. It has been achieved in some countries through capitalizing on fertile land and abundant natural resources. Upgrading human resources and accumulating physical capital has been integral to the strategies of virtually all successful economies, a process which has been facilitated by strengthened market and administrative institutions for coordinating economic activity, developing and disseminating improved technology and education, and providing physical security and a legal framework within which economic activity can flourish.

Most observers have viewed Somalia as a difficult, if not hopeless, case. Conventional measures of GDP per capita place it near the bottom rung of the "least developed." Rates of growth have been disappointing and the prospects

for improvement seem to be bleak. Development strategies enunciated both by the Government of Somalia and by international donors have relied heavily on transition from nomadic pastoralism to settled agriculture and fishing accompanied by regulation and intensification of range management. In order to accomplish these ends, radical changes in the institutional framework governing control of land and water have been called for, accompanied by introduction and dissemination of improved livestock and crop technology. The "fragile" human resource base has been repeatedly identified as a major obstacle to such transformation, calling for programs of training, extension of technical know-how, and changes in attitudes and values.

These approaches ignore or fail to recognize Somalia's real potential which is based on its two main resources -- a resourceful, skilled, and highly adaptable population and strategic location. These are the two assets that have been capitalized on to generate rapid economic development in the resource-poor economies of Hong Kong, Singapore, Korea, and Japan. Of course, the specific nature of Somalia's human and locational resources differ from those Asian examples, so that the particular ways in which they can be exploited to advantage are not identical. But the strategy of building on strengths is certainly applicable.

Contrary to the assumption riddling almost all "expert" reports on Somalia, the human resource base is not "fragile," unskilled, and ill-adapted to the imperatives of development. As is discussed at length in Chapters IV and V, the nomadic peoples of Somalia have adapted ingeniously to the requirements for wresting a living from a harsh and unpredictable environment. Their ability to identify useable grazing resources spread over vast territories and appearing sporadically is impressive. More important, they have adapted social organization that facilitated exploitation of these ephemeral assets to minimize subsistence risk. In order to take advantage of widely-scattered pastures, Somali extended-family units have divided herds into several "management units" which are entrusted to individuals or small groups which then scatter widely during wet seasons and return to some extent to more concentrated dry season water and pasture areas. Each "management unit" has considerable autonomy and responsibility and is required to take initiative in response to swiftly changing environmental conditions. At the same time, the larger unit serves to allocate resources to the smaller management units and provides pooling of risks through some reallocation of herds and consumption in response to losses. In the interriverine region of southern Somalia the assets exploited by the extended families include arable land as well as livestock (See Chapter V).

This same organizational form has facilitated Somali response to non-pastoral opportunities as well. Since World War I, substantial numbers of Somalis have engaged in trade and transport in scattered communities throughout East Africa and parts of the Gulf. The ability of family units to have members in far-flung locations, providing trustworthy management of common resources and facilitating flows of reliable information, has been crucial to their success. That these outposts have remained parts of larger pan-territorial family units is evident from the frequent movement of individuals between locations with maintenance of a base within Somalia (Hjort, in Savannah Town, makes this quite clear in discussing the Somali community in Isiolo, Kenya). Recently, large-scale movement of Somalis for wage employment in the Gulf seems to have been facilitated by these extended family networks, and visible signs of remitted earnings, including investment

in water tanks (birkets) in pastoral areas, bear witness to the continuing vitality of extended family organization for allocating resources in response to new oportunities and using the incomes generated for common purposes.

Diversification of specific skills within family units seems to have gone apace with animal husbandry and pasture management being supplemented by commercial, trading, and mechanical (particularly driving and vehicle repair) abilities. Many families are pursuing diversified income-generating and risk-pooling strategies spanning livestock and crop production, trade, and wage employment, both in urban areas and abroad. To some extent these families can be viewed as multi-plant multi-national enterprises in microcosm, and the same principles of decentralized management with centralized resource pooling used by the modern corporation are employed to advantage. This underlying organizational form is the reservoir from which is drawn entrepreneurial responses to new private opportunities in agriculture and trade (reported by recent observers, such as Elliott Berg).

The other resource upon which Somalia can draw is its strategic location in the booming economy of the Gulf. While lacking the proven oil resources of the Arabian Peninsula, Somalis have benefited from access on favorable terms to those markets for export of meat and labor services. Any reasonable long-range strategy for Somalia must take account of the opportunities offered by economic integration into this larger Gulf economy, while seeking means for making such access more secure and beneficial to Somalis.

The major reason that development plans and donor analyses have concentrated instead on intensified utilization of livestock and agricultural resources is that their orientation has been exclusively on Gross Domestic Production (the production of income taking place within the territorial boundaries of the country), rather than on Gross National Product (the production of income accruing to nationals of the country, regardless of location). Yet the latter concept is the more appropriate one for judging the economic well-being of Somali people. Thus the substantial earnings of Somalis in the Gulf are not counted in GDP and are frequently seen as causing lower GDP because of the "drain" of manpower from the economy, even though they provide higher levels of living for those individuals while they are out of the country and also, through remittances, for their families staying behind.

Following an outward-looking strategy would imply taking maximum advantage of opportunities for labor export to the Gulf in the immediate future. Agreements should be sought with Gulf states to make this source of income more dependable and secure. Policies must be designed to facilitate channeling these earning in ways that will be most beneficial to Somali families in providing access to higher and more reliable incomes. At the same time, adjustments in the fiscal system will be required to insure that appropriate functions of government will be financed and that earnings abroad will bear a fair share of the tax burde . Opportunities for modern general education should be expanded, designed not just to meet Somalia's internal vocational and technical needs but to develop an adaptable, better-paid overseas workforce as well (See Appendix 3). While there undoubtedly is scope for some improvement of agricultural and livestock production in the country, it is quite possible that in the longer run Somalia could develop an efficient export-oriented manufacturing and service sector that would maximize returns to human resources and location through exploiting the markets of the Gulf.

For Somalia, perpetuation of an extreme inward-looking development strategy based only on domestic product forces attention on the country's weakest resources - its arid and semi-arid ecology. An outward-looking strategy, attempting to maximize national product, can build on the country's most valuable assets - its people and location.

Relationships Between the Official and the Parallel Economies

Government, by definition, has control over a given piece of territory, and donors can work only through sovereign governments. Legitimacy of governments depends in part on their ability to mobilize resources to provide services that cannot be provided by small scale autonomous units within the economy. These services range from large-scale infrastructure to defense of national sovereignty - from representing national interests in international forums to providing basic education and health services. In order to do this, governments must have a base from which they can mobilize resources - to maintain support these resources must be used to provide services that are valued by at least important segments of the population. Somalia represents in an extreme degree the case of a governmental "formal" economy in shambles, while the parallel or "informal" economy flourishes. While this represents a failure to establish a smoothly functioning modern state apparatus, which has been taken by many to be the sine qua non of political development, it may not be as disastrous for the people as might appear from official statistics. Many other African countries, notably Ghana, Uganda, Tanzania, and Zaire, have exhibited similar tendencies in recent years and, in fact, the syndrome may be more of the rule than the exception in the 1980s.

Nevertheless, this presents crucial problems both for the national leadership and for donor agencies. All agree that breakdown of the basic legitimacy of national political and economic institutions is harmful in the long run and, in the short run, may lead to breakdown of law and order and gross violations of human rights (witness Uganda).

There clearly is a dilemma. Efforts to increase the ability of government to mobilize resources are frequently met by increased reliance on parallel markets, thereby further eroding the economic base of government and making coercion appear the only viable means of maintaining control. Recent emphases on the private sector, downgrading the role for government, provide a partial alternative but raise fundamental questions of what roles governments must play and how ruling groups can maintain political support in an environment where the levers of power are connected to very little.

Recent international efforts to assist Somalia have been based on an assumption that the immediate constraints of fiscal resources and foreign exchange are strangling the economy and that temporary efforts to relieve these constraints will allow scope for policy reforms that will lead the economy to a longer-run sustainable position. The IMF standby credits, PL 480, USAID economic support, and World Bank structural adjustment loans are all predicated on this notion. Clearly, Somalia is experiencing extreme shortages of imports and fiscal revenues, and these programs can help. As the various donors have emphasized, policies have to be adjusted, to reduce claims on fiscal resources and improve revenue collection and to increase exports, for the Somalia economy to become self reinforcing.

AGRICULTURAL MARKETING AND INTERNAL TRADE

The Somali government has played a very active role in agricultural marketing. It has intervened directly in many product markets on the assumption that 1) private traders are incapable of providing adequate bulking, storage, transport and distribution services, 2) government agencies can provide such services more efficiently, and 3) private traders exploit both producers and consumers by colluding to set prices and make monopoly profits. Donors in turn, have supported state intervention in the marketing system by channeling large amounts of concessionary imports through the parastatal marketing agencies and by building project interventions around their services.

Evidence from elsewhere in Africa, supported by information collected in Somalia, leads to a radically different set of working hypotheses than those underlying past Somali policy. First, state marketing agencies are less able to provide adequate marketing services than are private traders. Private trade tends to overshadow state marketing activity even in the countries where such trade is severely restricted. Transport, credit, and other bottlenecks may keep the cost of private market services relatively high, but government attempts to set up an alternative marketing system, rather than to address the constraints in existing private marketing, have generally not improved the services available to producers and consumers. Second, private traders, in general, provide marketing services more efficiently than do state agencies. State marketing agencies have proven to be very high-cost suppliers of marketing services. The high cost and inefficiency of state marketing has been one of the reasons why private trade has flourished in parallel markets. Third, competition among private traders is intense, and market prices reflect supply, demand, and marketing costs. There is virtually no empirical evidence that private traders effectively control prices or that they reap monopoly profits. Information collected in Somalia in July 1982 supports these hypotheses and directly contradicts the assumptions underlying past Somali marketing policy.

While there has recently been some relaxation of government attempts to restrict private traders and there are indications that further changes may be forthcoming, government actions have not been entirely consistent, and there seems to be little policy analysis behind announced decisions. There is still a strong tendency among government officials to regard private traders as exploitative agents who reap huge profits by taking advantage of both producers and consumers. Thus, in July 1982, when the government was reported to have agreed to legalize private trade in cereals,* private grain retailers were being driven off the streets of Mogadishu by the police and the authorities mounted a new campaign denouncing the evils of the "black market."

There has been little analysis of the cost of government intervention in the marketing system or of the effectiveness of such interventions in meeting policy goals. The level of and response to producer incentives are key elements in evaluating the costs of government market interventions and the compatibility of different policy goals, such as increased production and low consumer prices. Although most reviews of the Somali agricultural sector

*Most farmers are unaware of this change and still consider all private sales be be illegal.

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express concern about producer incentives for both crops and livestock, the marketing system for agricultural commodities has received little sustained attention. The general importance given to producer incentives in strategy documents has not led to an examination of how prices are determined or of how the marketing system performs. This has been costly in terms of both policy recommendations and project interventions.

Grain Marketing Policies

State intervention in the marketing system has been most pervasive for cereals. Until July 1981 the parastatal Agricultural Development Corporation (ADC) had a legal monopsony on the purchase of cereal crops from producers and often resorted to forced procurement. Since July 1981 producers have been permitted to sell small quantities of cereals directly to consumers, but large-scale bulking and distribution by private traders remains illegal.

ADC producer prices for sorghum and maize, the two most important staple cereals in Somalia, remained constant in nominal terms from 1977 to 1979 and increased substantially in 1980 and 1981. Real prices, however, have continued to fall (see Tables 5 and 6). In 1982, ADC producer prices are only 72 percent of financial import parity farmgate prices for maize and 67 percent of financial import parity farmgate prices for sorghum (see Table 7). Producer prices are an even smaller proportion of true import parity prices, since US no. 2 yellow maize and US no. 2 milo yellow grain sorghum are inferior products for human consumption; local maize, for instance, sells for a 50 percent premium. ADC selling prices in urban areas are also below import parity levels.

Since ADC cereal prices are uniform regionally and seasonally, do not take account of quality differences between imported and local grains, and until 1981 were identical for maize, white sorghum and red sorghum, it is not surprising that the parallel market for local cereals has flourished. ADC has not been able to procure local cereals from private producers except in the remoter districts where high transport costs make the uniform ADC price attractive. Data collected in two Mogadishu markets and six regional markets in July 1982 indicates that, contrary to the assumptions underlying past government policy: 1) almost all local grain in urban markets has moved through private channels; 2) marketing margins are relatively small; and 3) transport costs explain most of the price differences between regions.

Despite the fact that the private bulking, transporting, and wholesaling of cereals requires some subterfuge and risks police harassment, virtually all local cereals in every market visited had moved through private channels. Moreover grain legumes, such as cowpeas, that are not marketed by ADC and that, in comparison with cereals, are characterized by localized production, difficult storage, and limited demand were adequately supplied through private channels in all markets. There is every indication that private traders can provide the services to equilibrate regional supply and demand of local grains. Private traders also provide such services at lower cost than does ADC. The difference between farmgate prices offered by private traders for sorghum in the Bay region and wholesale prices in Mogadishu in July 1982 was slightly less than the ADC margin. This implies that private traders can move grain at a profit for the same margin at which ADC encounters heavy losses. Although most margins are small there is some indication that they are larger for

Table 5 ADC Nominal Producer Prices (SoSh)

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>
Maize	75	75	75	120	180	180
White Sorghum	75	75	75	120	160	160
Red Sorghum	75	75	75	120	150	150

Table 6 ADC Real Producer Prices (1977 SoSh)

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>
Maize	75	68	55	56	53	--
White Sorghum	75	68	55	56	47	--
Red Sorghum	75	68	55	56	44	--
Mogadish CPI	100	110	137	212	339	--

Table 7 Import Parity Prices for Maize and Sorghum (SoSh)

	<u>Maize</u>	<u>Sorghum</u>
FOB Gulf Ports (1981)	\$143 (US No. 2 yellow)	\$140
Plus insurance and freight	<u>55</u>	<u>55</u>
CIF Mogadishu SoSh 15.65 = US \$1.0)	\$198	\$190
	SoSh 2980	SoSh 2860
Plus handling charges	SoSh <u>235</u>	SoSh <u>235</u>
Warehouse Mogadishu	SoSh 3215	SoSh 3095
Less Internal Transport and Handling (ADC Margin)	SoSh <u>700</u>	SoSh <u>700</u>
Farmgate Import Parity	SoSh 2515	SoSh 2395
Producer Price	SoSh 1800	SoSh 1600
% of Import Parity	72%	67%

cereals, such as maize and sorghum, than for grains that can be bulked and wholesaled legally, such as cowpeas. This indicates that even though the parallel market operates quite openly, both producers and consumers are paying a premium for private marketing services that are more costly and more risky because of their "illegality." Even more importantly, ADC continues to play a major role in price determination because it wholesales large quantities of imported cereals.

In July 1982, ADC submitted a proposal to the Office of the President that its role be changed from that of monopsonist to that of manager of imported stocks and residual buyer at government-determined floor prices. Given this continuation of the trend toward liberalization of trade, two issues are of paramount importance for marketing and price policies: 1) the effect of cereal imports on domestic producer prices; and 2) the responsiveness of producers to price changes.

Past ADC policies of low producer prices and forced procurement have diverted attention from the role of concessionary cereal imports (mostly PL 480) on domestic prices. Management of import stocks has always been a key element in ADC operations and will become even more so if ADC reduces its role as a domestic purchaser. ADC officials readily admit that they have incurred heavy losses in their purchase and resale of local maize and sorghum and that they have been able to maintain the domestic price structure only because of the availability of large quantities of imported maize on concessionary terms. "Profits" on the sale of concessionary imports have financed ADC's domestic purchases and the wide availability of such imports has allowed ADC to keep prices far below world prices. ADC has been able to "purchase" concessionary imports of maize at the purchase price it sets for domestic producers and release it from the same warehouse at the ADC selling price. Since imported maize has made up the largest part of ADC marketings in recent years, there has been no incentive for ADC to increase domestic producer prices and thus the "cost" of its concessionary imports. While the availability of concessionary imports has permitted ADC to maintain its low domestic purchase prices, the sale of these maize imports at less than world prices has effectively controlled domestic cereal prices even on the parallel market.

ADC's largest stocks are imported maize, which it wholesales for SoSh 2.5/kg. This maize is available in most retail markets for SoSh 2.9/kg. The local white flint maize is strongly preferred by consumers to the US no. 2 yellow imports and sells for a 50 percent premium in all markets. The legalization of private trade in cereals may increase the efficiency of marketing operations and raise producer prices by allowing greater product differentiation, but since the cross price elasticity of both local maize and sorghum with imported maize is likely to be quite high, the level of prices will still be greatly affected by the price at which ADC releases concessionary imports. This will continue to be the case as long as ADC has sufficient reserves to meet local demand at the official price.

Since there has been considerable expansion of private grain trade and there are some prospects for even greater liberalization, there is an urgent need for research to assess the effects of current import release prices and the costs of potential ADC stabilization efforts. Past inattention to the issue and the opportunities offered by the changing role of ADC make the returns to such an effort very attractive. Such research is particularly timely, since the evolving role of ADC provides donors with the opportunity to

guide policy development rather than to lobby against established policies in which people and institutions have vested interests. The relative lack of data in Somali for such an analysis makes the effort all the more important since it will highlight current assumptions, quantify their importance, and provide priorities for future research.

Particular attention needs to be given to the institutional issues and bureaucratic incentives involved. High levels of PL 480 imports, for instance, may not be the best incentive for changing price policies, since their very existence has permitted the current price regime to be maintained. In addition, price reform to increase domestic production and save foreign exchange may be of little interest to the government when increased domestic production will in reality be eliminating concessionary imports and saving little or no foreign exchange.* Donor insistence that concessionary imports will decline and that they must be replaced by domestic production or commercial imports probably carries little weight. Thought should be given to developing a package whereby PL 480 "savings" would be available for other programs such as commodity imports.

Response of Grain Production and Marketing to Incentives

The responsiveness of Somali producers to price incentives is a major question underlying all discussion of the impact of government market interventions. The general wisdom seems to be that producers, not surprisingly, do respond to price incentives but that technological constraints in maize and sorghum production severely limit the elasticity of supply in the short and medium term. There is no doubt that cereal production is much more elastic in the long run, as technological packages are developed and adopted in response to price changes. The short-run response in Somalia, however, may be significant and greater than expected for two reasons.¹

First, the price elasticity of marketed supply is likely to be much greater than that for total production. Most observers agree that Somali cereal producers act to guarantee their own subsistence needs and then market any surpluses. Storing cereals on the farm for several years and replenishing farm-level reserves in good years attest to this strategy. ADC estimates that 25 to 30 percent of cereal production is marketed. If the elasticity of total production lies between 0.1 and 0.3, as seems likely from evidence in other African countries, and farmers are currently meeting their subsistence needs, then the elasticity of marketed surplus could range from 0.4 to greater than unity. At the high end of this range, a doubling of producer prices would almost eliminate maize imports, since one third of ADC marketings in 1980-81 were local purchases and equal quantities are assumed to have moved through private marketing channels. Although such a response is certainly at the high end of reasonable estimates, it does indicate that there is potential for significant response.

The second reason that price response may be greater than commonly assumed is that Somali producers engage in a large number of agricultural and nonagricultural activities and exhibit great mobility between such activities.

*If higher prices for sorghum and maize lead to increased consumption of rice which is imported commercially, foreign exchange requirements could actually increase.

It is implied in some analyses that, for reasons of tradition or limited alternative opportunities, resources are permanently devoted to crop production, that the technology does not currently exist for dramatically raising the productivity of these resources, and that supply response may be limited to crop substitution following relative price changes.* While there is no technological package available to raise productivity dramatically, the diversified income strategies of Somali households have almost certainly led to reallocation of resources from crop production to alternative activities in response to low prices. The idea of fixed resources tied to crop production is a narrow and static view of Somali agriculture that even casual observation tends to refute. Labor mobility has almost certainly dramatically reduced crop output because peak-season labor is a major constraint in crop production and returns to labor in livestock production and in the nonagricultural sector have risen faster than in crop production. While there are insufficient data available on returns to labor to quantify the effect of price changes, observation and informal reports in the Bay Region suggest that the recent increases in cereal prices have already reduced seasonal out-migration and led to an expansion of area cultivated. In the short run, then, response is likely to be important because of the reallocation of resources at existing levels of technology. Larger and long-term gains are dependent upon public investment in agricultural research to alleviate constraints in current production systems.

A final point to be made with regard to grain marketing is that the general concern expressed in donor policy documents about producer incentives and likely production responses has been largely ignored in project documents of the same donors. The Bay Region Agricultural Development Project serves as an example. Project documents imply, first, that sorghum production is a "strictly subsistence" undertaking and, second, that it is so because producers are tradition-bound and have low productivity. While the extreme riskiness of depending on cereal purchases in rural markets during bad years certainly leads producers to meet their own consumption needs first, they are hardly "strictly subsistence" producers. Farmers visited in remote villages in the Bay Region all sell some surplus sorghum and are acutely aware of prices in both the parallel and official markets. In explaining their sorghum marketing farmers explicitly referred to the transport and handling costs which made one or another local market or even ADC the most profitable place to sell their surplus sorghum.

An even more serious weakness in the project documents is the assumption that current low levels of production are unrelated to low prices. By ignoring the other options available to farmers, which range from livestock production to emigration, it is assumed that resources are available for both intensification and expansion of crop production without reference to crop prices and the resulting returns to these resources. The USAID project paper, for instance, explicitly states that after complete adoption of the proposed technical package it may then be necessary to look at producer incentives: "down the road a way, possibly near the end of the 20 year period, marketing improvements need to be introduced that will give family farm managers an incentive to improve quality and productivity beyond the suggested changes in this report" (Bay Region Project Paper). The Bank appraisal of the project at least attempts to look at the returns to farmer inputs but proceeds to ignore

*Recent increases in groundnut and cowpea production are indicative of response to relative price changes.

the fact that at current prices the sorghum element of the package would be adopted by farmers only if they were willing to accept a decline in the returns to their labor.* There is thus a glaring disparity between the concern with producer incentives in sectoral documents and the complete failure to consider the issue in proposed project interventions.

Livestock Marketing

The marketing of livestock has remained largely in private hands and offers striking contrasts to crop marketing. Domestic prices have been largely determined by the price for live imports in Saudi Arabia. Observations in rural livestock markets and apparent trader profit margins of only 2 percent indicate that competition among traders is intense and that producer prices have risen along with Saudi import prices.

Constraints on expansion of the trade are not well understood. Many livestock experts maintain that the Somali range is severely overstocked and that production cannot be increased. Traders, on the other hand, insist that animals are available but inadequate credit, shipping facilities and veterinary services limit exports.

Recent policy actions have shown a lack of understanding of the current livestock marketing system, let alone of constraints to its expansion. The July 1981 devaluation from SoSh 6.3 = US \$1.0 was accompanied by a 25 percent export tax to absorb the "windfall" profits that would supposedly accrue to export traders. Since only about 60 percent of export earnings (the government minimum price) was being remitted at the official exchange rate and the remainder was exchanged in the franco valuta market at a rate of at least SoSh 22.0 = US \$1.0, the effective composite rate of exchange for livestock exports prior to devaluation was about SoSh 12.5 = US \$1.0. After the devaluation and abolition of franco valuta imports, when livestock export earnings were all to be remitted through the banking system, there was effectively no change in the real exchange rate. The application of a 25 percent export tax under such circumstances could only lead to a drastic cut in producer prices. The practical effect of the combination of policy changes was to reduce producer incentives rather than increase them.

A set of data (summarized in R. Daugherty, USAID Mogadishu, internal memo 3/30/82) showed traders making apparent losses of 45 shillings per sheep or goat, 519 per head of cattle and 35 per camel, and these data were taken by the Ministry of Commerce to show that the export trade was in danger of collapse unless taxes were reduced. The fallacy was that the domestic price of animals was taken as a given cost, rather than the outcome of competitive bidding for animals that yielded returns both through official and unofficial channels. The point is simply that the devaluation was insufficient to compensate for the losses from prohibition of franco valuta imports.

A temporary halt to exports organized by livestock traders led to negotiations on the export tax level and a solution based on use of a slightly

*The Stage 1 technical package would require an additional 9 days of peak season labor per hectare, yet the incremental production would be only 25 kg/ha. At the ADC price of 1.5 SoSh/kg this yields returns to labor of 4.2 SoSh/day. Wage rates during the peak season range from SoSh 30 to SoSh 60 per day.

higher minimum price (about 70 percent of Saudi prices less shipping costs) as the basis for both official remittances and calculation of the export tax. The net result is that the decrease in the implicit tax based on the overvalued exchange rate was almost completely offset by the explicit export tax. No additional foreign exchange was generated, and the effective after-tax composite exchange rate was changed only from SoSh 12.6 = US \$1 to SoSh 13.1 = \$1.0. All available information suggests that the increase will be passed on in higher prices to livestock producers.

Considerable additional data is available concerning livestock marketing but it has not been assembled and analyzed. Municipal authorities, for instance, maintain daily records on the prices and number of livestock sold in public markets. A spot check of these records in July 1982 indicates that the data is collected quite accurately and should be available for the past several years in most markets. Additional information, not examined by the SIP team, is theoretically available from municipal tax authorities on livestock movements between regions. Assembly and tabulation of these data would go a considerable way towards describing the marketing system, particularly regional and seasonal variations in prices, and show how it has evolved in response to large price increases in the past several years.

Marketing of Agricultural Inputs

The marketing system for delivering agricultural inputs is severely underdeveloped. The Farm Machinery and Agricultural Services Organizations (ONAT) is responsible for provision of all agricultural inputs except seeds, which are handled by ADC. In practice, ONAT provides tractor rental services, but other inputs are not available unless provided in small quantities by a specific project.

ONAT is unable to meet the demand for its subsidized tractor services. Along the Shebelle, where tractor ploughing is most widespread and most profitable, there are a large number of private tractor owners who provide hire services to their neighbors. Despite the up to 50 percent higher cost of private tractor rental, it seems to be preferred by small farmers because it is dependable and available when needed. The subsidized ONAT services appear to be oriented more towards larger farmers and are available to small farmers only if additional payments are made above the official hourly rate.

Despite the general unavailability of agricultural inputs and ONAT's poor performance, little attention has been paid to delivery of such goods and services in the future. The USAID CDSS, for instance, cites 300 percent maize yield improvements in the Lower Shebelle Region that "could lead to a significant breakthrough in the next few years." The yield increases are indeed substantial and farmers visited in the region are eager to adopt the required practices. The package, however, is based on use of improved seed, urea, and insecticides, all of which have been provided free of charge for demonstration purposes. There has been no analysis of the economics of the package but it is likely to be highly profitable. The project, which focuses on developing an effective extension service, has had difficulty getting inputs even for demonstration purposes. No provision has been made for meeting even the existing demand for the recommended inputs. Thus even where the technical package is available or could be readily developed, as for partially irrigated maize production, the input delivery system constraint on its adoption has not been addressed. Even the current delivery of private tractor

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hire services has been threatened by the abolition of franco valuta, which has cut off the supply of tractor tires and spare parts.

The CDSS correctly notes the poor performance of government institutions delivering agricultural inputs and services and states that consideration will be given to developing private delivery systems. Such action is to be strongly recommended. Somali responsiveness to economic opportunities in both trade and production suggest that such a delivery system could be developed and would be self-sustaining. Imaginative use of the Commodity Import Program to provide needed inputs through private channels is likely to have a much larger pay-off than isolated project activities.

LABOR MARKETS

The characteristics of Somali labor markets are rarely, if ever, discussed in documents concerning Somali development. The implied assumption of many agricultural sector documents and project proposals is that labor markets are poorly developed and do not function well in allocating Somali human resources. This is reflected in the extremely low opportunity costs of rural labor assumed in many project economic analyses and the more general assumptions that tradition dictates the current allocation of labor in the crop and livestock sectors, rather than adaptation to economic opportunities.

As for many other aspects of the Somali economy, there are few data available for a thorough analysis of labor markets. Even casual observation of wages and the domestic labor market suggests, however, that the above assumptions correspond very poorly with reality. There is every indication of a very active national labor market. Data gathered informally in July 1982 show that nominal wages within urban areas and between different rural regions are remarkably uniform. Most informal sector activities such as petty trade, water delivery, forage gathering, portering, and construction yield average daily earnings of SoSh 40-50/day during the winter dry season to SoSh 70-80/day during the spring rains, but remain nearly constant between regions in the South. Information about the availability of wage employment, the variation in seasonal, sectoral, and national wage rates, and the costs of moving in response to such opportunities is available in even the remotest villages visited in the Bay Region. The market may not be in equilibrium and information may not be perfect, but villagers explain changes in seasonal and long-term labor migration in terms of wage differentials and the monetary and psychic costs of moving.

This disparity between the implied assumptions of development documents and the reality of Somali labor markets has two major implications. First, it has fostered a very narrow and isolated view of the Somali economy and of sectors within the economy. Inattention to the mobility of labor and its true opportunity costs has, in turn, led to a large number of questionable project interventions. It has been assumed that labor is readily available for expansion of agricultural activities without any reference to the real opportunity cost of that labor. The USAID Bay Region project paper, for example, assumes that the opportunity cost of dry-season labor for land clearing is only SoSh 4/day, while the IBRD appraisal assumes the opportunity cost of peak-season agricultural labor is only SoSh 10/day. Even more costly than specific project interventions that fail, however, is the failure of agricultural research activities to take into account existing labor constraints and the large number of alternate options producers face in moving

beyond subsistence production. Unless an integrated view of agriculture's place in the economy and of the constraints to its expansion are reflected in research activities, Somalia will be doomed to another generation of the same failed development efforts.

THE INCIDENCE OF POVERTY

In recent years, several attempts have been made to identify those groups of Somali residents most affected by extreme poverty. A summary comparison of the findings of several studies is provided in Table 8, which demonstrates that the estimates vary widely.*

The picture that emerges from the first four studies, despite their differing in their definitions of poverty and in the data used for estimation, is that almost all Somalis are very poor, with most settled farmers being desperately poor. In fact, the implied caloric intakes from these estimated incomes raise questions about how life can be sustained in these circumstances. A startlingly different view of poverty is provided by the more recent and better-founded study by Jamal, which uses newly-available national accounts data supplemented by a wide range of data from other sources. His paper is also the only one which provides a conceptually rigorous discussion of the issues involved in defining poverty.

Summarizing his findings, Jamal concludes that "we have found that the situation in the rural sector is much healthier than hitherto believed. The country is practically self-sufficient in food, and the incidence of poverty - in terms of undernutrition - is within reasonable limits," (p. 46). With respect to the urban sectors, he states: "The urban productive sectors - industry - are in ruins, but the urban sector is showing all signs of a boom. The wage incomes have fallen drastically in real terms, yet the prosperity seems to be shared by all sectors of the population. We have provided an explanation of these paradoxical trends in terms of the importance of the money repatriated by Somali workers abroad and in terms of the nature of the Somali economy and society," (p. 91).

In addition to examining the distribution of poverty across these major occupational groups, attempts have been made to identify the geographical distribution of poverty. Again, the data are very weak but Jamal states that "we get a clear North-South pattern. In the North we have rich nomads but poor farmers; in the South rich farmers but poor nomads, but these nomads have the possibility of bartering some of their milk and meat for grain to make good their calorie deficit. In sum, poverty in terms of hunger is much more likely to be prevalent in the North than in the South." However, these findings are derived on the basis of regional average incomes. No systematic data on the distribution of income, assets, or nutritional status within regions or sectors have been compiled.

While it is interesting to know who are the poor, and some donors are concerned with targeting assistance to specific needy groups, it is also important for understanding the ways in which sectors are interconnected and may be important for predicting responses to policy changes. Examination of attempts to identify a profile of poverty in Somalia reveals the fragility

*A full discussion of the bases of each of these estimates and a comparison of assumptions and detailed findings is to be found in Appendix 4.

Table 8

ESTIMATES OF INCIDENCE OF POVERTY IN SOMALIA

<u>STUDY</u>	<u>PROPORTION OF GROUP BELOW POVERTY LINE</u>		
	<u>NOMADS</u>	<u>SETTLED RURAL</u>	<u>URBAN</u>
ILO/JASPA 1977-78	49	67	42
Hicks, World Bank, 1978	70	70	42
IFAD, 1979	0	75	No Est.
Clark University, 1980	60-90	60-90	No Est.
Jamal, ILO/JASPA, 1981	33	34	35

Sources:

ILO/JASPA Economic Transformation in a Socialist Framework: An Employment and Basic Needs oriented Development Strategy for Somalia, Addis Ababa, 1977.

Norman Hicks, Poverty and Basic Needs in Somalia, Washington: World Bank, 1978 (mimeo).

IFAD Special Programming Mission to Somalia, Annex to Ch. 2; Rome, 1979.

Clark University, Eastern Africa Country Profiles: Somalia, Worcester, 1980.

Vali Jamal, Nomads, Farmers and Townsman, Incomes and Inequality in Somalia. Addis Ababa, ILO/JASPA Working Paper #29, 1981.

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of data and lack of information about the institutions of Somalia's economy. We can summarize six main gaps in the information needed for the analysis of poverty as follows:

1. Lack of information about the production strategies and activities of rural households - the degree to which nomads raise crops and farmers hold livestock, and the extent of trade within rural areas;
2. Lack of information about the degree to which wage earning is part of rural families' income-generating strategies;
3. Lack of information about the extent, composition, and consequences of large-scale emigration to the Gulf States;
4. Lack of information about the distribution of incomes through extended family structures in both urban and rural areas;
5. Lack of information about income generation in informal and parallel markets through trade, commerce, and production;
6. Lack of information to describe differentiation in income and wealth within groups and districts.

In the absence of such information, it is impossible to identify specific groups suffering poverty that can be targeted by development programs. As Jamal makes very clear, the crucial issue affecting the identification of poverty is the extent to which Somali households span the various production sectors in their income-generating activities. To the extent that nomadic families farm as well as herd and barter some milk for grain; that settled farming families also hold livestock; and that both groups have family members in wage work and self-employment in the urban and Gulf labor markets, the incidence of poverty will be lessened.

This is a theme that we stress throughout this report - the functioning of the Somali economy must be understood in terms of the varied strategies employed by extended families to generate real income and avoid undue risk. Therefore, attempts to identify poverty groups under the assumption that families are either nomad, settled, or urban are misguided to the extent that many families are simultaneously engaged in at least two, and frequently all three, sectors. On the other hand, if families do, in fact, pursue the "mixed" strategies that we have been suggesting, the need to target development assistance is reduced.

INSTITUTIONAL CAPACITY FOR ECONOMIC ANALYSIS AND POLICY MAKING

No descriptions or studies of policy-making institutions in Somalia exist, so the following observations are based only on limited discussions with representatives of donor agencies, advisory groups, some civil servants, and observations during our brief stay in Somalia.

At least to a casual observer, the most striking feature of the Somali governmental decision-making apparatus is the absence of well articulated institutions manned by trained professional staff that one takes for granted in other African countries. One has a sense of expatriate advisory groups working in a vacuum with little contact with Somali officials who are able and

willing to use such inputs for policy formulation and evaluation. Under auspices of the UNDP, an advisory group has been working for some years in the Ministry of Planning and has developed the national accounts system. However, they appear to have had little access to policy makers, were seldom asked for advice, and were not in a position to provide information that would give objective evaluations of alternative policy options. Two able civil servants in the Central Bank worked with the IMF team on specific details of implementing an exchange rate tied to the SDR, but gave no indication that they, or other professional staff, were significantly involved in evaluation of the IMF proposals which were accepted or modified in context of high-level political negotiations. Senior officials of the Ministry of Finance had responsibility for reform of the tariff structure but could not find schedules of tariffs, nor did they have information on quantities of goods coming under different categories or carrying different levels of duty. A UNDP sponsored team working on the plan to be presented to the Donors' Conference has little contact with or guidance from Somali counterparts and so functioned quite independently in putting together what they believe to be the best possible case they can make for Somalia to present to the donors.

Given Somalia's formal adoption of Scientific Socialism as a guiding ideology and the considerable technical assistance received from the Soviet Union during the 1970s, it is ironic that so few of the institutions of central planning and control are in place. The planning ministry is and has been extremely weak. The widespread lack of appropriate information has already been mentioned. Manpower planning is nonexistent. It appears that the form socialism took was the establishment of a number of public sector enterprises (parastatals) which operated virtually without supervision or requirements to meet performance standards, while their investment, allocations of inputs, and control of prices were administered in ad hoc ways from different central agencies; marketing of agricultural products were made the legal monopoly of parastatal organizations buying and selling at fixed prices; large individual projects for rural settlement, fishing, etc. were undertaken with Soviet technical assistance and control at the project level; a policy was implemented to hire automatically all graduates of the education system by the state; and certain social programs, most notably the mass literacy program, were undertaken under central direction. The pattern that emerges strongly from this is widespread public sector intervention in projects; prohibition of private activity in many sectors; a high degree of administrative control over specific prices and allocations of investment and foreign-exchange resources; large-scale involvement and control of projects by expatriate donors; but very underdeveloped Somali institutions of central planning, control, and supervision.

While the withdrawal of Soviet assistance and political opening towards the West suggests a turning away from Socialism, no coherent statement of alternative ideology, policies, or development strategy has been made, although there clearly has been de facto change coming from agreements with the IMF, the World Bank, USAID, and other Western donors. The gradual change of orientation without specific policy guidance in the context of weak institutions of central policy-making and control has given rise to the situation we have described which has been further worsened by the departure from the country of a number of key Somali technocrats in recent months.

Weakness of the University system in training economists and social scientists who could staff the professional positions required for policy

analysis is described in Appendix 3. Furthermore, there are few faculty in these disciplines and virtually no encouragement of applied research and policy advising by members of University Staff. While the Somali Research Unit for Education and Rural Development (SRUERD) may eventually become an organizational vehicle for mobilizing Somali talents in these fields, it is understaffed and stretched thin at present in its areas of competence, which are primarily education and administration. Thus one looks in vain for counterparts to the Institute for Development Studies in Nairobi, the Economic Research Bureau of the University of Dar Es Salaam, or the Nigerian Institute of Social and Economic Research - institutions with academic affiliation undertaking policy-oriented research and working with governmental agencies on specific problems.

The need to improve the quality of economic, social and technical analysis of policy options, specific programs, and projects represents an obstacle to better decision-making in government. However, the problem is not simply one of setting up appropriately-designed technical institutions supported by training and direct assistance programs. The deeper problem is that of creating a constituency among political leaders and senior officials that is able and willing to use such information and analysis in formulating development strategies and policies. There is, of course, a "chicken and egg" problem here in which leaders can hardly be expected to demand advice and information that is unavailable. And the institutions that would provide such inputs receive little support in absence of such demand. However, there is reason to believe that in Somalia the weakness in the structure of government decision-making processes is the most serious obstacle. This suggestion is reinforced by the example of Botswana, which became independent with few trained persons and institutions for policy analysis but, under the urging of a political leadership that felt a strong need to make informed decisions, used expatriate advisors very skillfully while developing domestic capacity within the ministries and Central Statistical Office. What is surprising in Somalia is the simultaneous disuse of advisory teams in central decision-making coupled with excessive reliance on such teams for project formulation and management without Somali supervision or participation.

ECONOMIC POLICY ISSUES AND PROGRAMS OF CONCERN FOR USAID

Policy Dialogue

A large proportion of USAID support to Somalia is presently in the form of program aid, through PL 480 programs and the Commodities Import Program (CIP). Given the immediate needs of the Somali economy for relief of the serious foreign exchange constraint, and the weakness of existing project assistance, this is appropriate and, at the same time, gives USAID considerable leverage for engaging in policy dialogue. In such context, and in coordination with other bilateral and multilateral donors, several policy issues deserve special attention if Somalia is to improve its economic performance on a sustained basis. The following list provides some suggested positions that USAID should take in these negotiations.

1. Through the Consultative Group, a first priority is to develop policies as part of the IMF package that will in fact generate additional foreign exchange. The obvious source is earnings of emigrants. The abolition of franco valuta has done damage. Politically, it cannot be reintroduced under the same name, but linking some large fraction of foreign exchange remitted to "open general license" for imports is necessary. Bangladesh and India have both had quite successful schemes that could be modified to fit Somali conditions.

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2. If the response of food production to freed-up prices is as great as some observers have suggested, there is a "danger" that little foreign exchange will be saved, as domestic production would merely replace concessional food aid. As incentive to the Government, one might consider donor agreements that would substitute other commodities in response to decreased demands for food aid. Alternatively, food aid could be used to build up a large domestic buffer stock of food that would save foreign exchange over a cycle of drought. The whole question of food policy needs to be addressed in a larger context than has been done to date.

3. Following from Number 1, it is essential that the role of administered allocation of imports be diminished. While there is clearly an entrepreneurial pool in Somalia that will respond to private sector opportunities, the framework of incentives can create a highly sheltered and inefficient private sector. There is a real danger that enthusiasm for private sector action, coupled with requirements for administrative allocation of permits, licenses, and foreign exchange, will reward only those businesses that are established, operate on a large scale, and enjoy favored political connections. Administration of the CIP program, which seems well designed, may afford some leverage for USAID in this regard. It would be appropriate for the counterpart funds for private-sector development to go directly to the Investment Bank. Thus credit for the commodities will be provided and the inflationary risk of adding demand to the economy by spending the counterpart funds before output has expanded by use of CIP commodities will be avoided. In the longer run, expanded activity caused by the CIP will again come to a halt unless net additional foreign exchange is generated to allow for recurrent imports needed to support utilization of production capacity expanded by the CIP.

4. Fiscal reform must remain the number one priority. In the short run government has reduced deficits by draconian cuts in health, education, agriculture, mineral development, and transportation, while increases in public works, information, the presidency, and defense have continued (IMF, March 1982, p. 8). It is clear that the present system is barely adequate for financing these normal recurrent administrative and defense expenditures. Counterpart funds generated by commodity sales do not necessarily provide budgetary support if they are earmarked for activities that would not otherwise have been undertaken (although they certainly can support desirable new programs). The point is simply that they don't contribute directly to easing the current revenue "squeeze" and should not be allowed to divert attention from the central requirement for improved fiscal systems.

5. Government employment policies are a big problem. There is agreement in principle that guaranteed employment of school leavers will be abandoned. In fact, that is quite easy at the moment, since government real wages have fallen to less than one-third of what they were three years ago. Guaranteed employment at those wages is not attractive, so that accelerated attrition will further reduce payrolls. The problem is that resignation and non-employment is selective, in that those with the best alternative opportunities in the country or abroad will be the ones to leave. Thus agencies are increasingly staffed by the least able and most demoralized persons available. In the short run this is being finessed by various schemes for paying key officials additional allowances, particularly from aid programs. Sooner or later, appropriate staffing of government and salary structures will have to be faced. The alternative of employment in the Gulf

should make this politically easier than if domestic employment were all that was available. But the problem should be thought through systematically, sooner rather than later, and should be analyzed in terms of appropriate roles for government in context of the functioning of labor markets. Compensation for workers in parastatals also needs to be adjusted very quickly with movement to a system that rewards productivity.

Support of Information Collection and Applied Research

USAID should give priority to funding information collecting and applied research projects of the sort outlined in the final section of this chapter. Given the state of information and research in Somalia, it is clear that projects are being designed and funded with consequences that could in part be foreseen if the research base were adequate. Macroeconomic policy decisions are being taken, such as implementation of the IMF package, with insufficient knowledge of the economy to ensure that such policies will, in fact, accomplish what is intended.

Given the abysmal state of existing knowledge, substantial progress and contributions can be made with relatively crude, low-cost approaches to obtaining first approximations to truth. The proposed activities in macroeconomic modelling, studying migration to the Gulf, studying domestic labor-market functioning, and selected micro studies of extended-family income strategies described below all meet these criteria. Each has the appealing feature that the information will have direct relevance to policy and project design and will generate useable first-level results in less than 18 months.

Strengthening Capacity for Analyzing and Implementing Economic Policy

In the longer run, if Somali policy-making and implementation is to be improved, capacity to undertake appropriate policy analysis and make the results available to policy makers must be enhanced. The weaknesses that exist at present are outlined below. While the fundamental obstacle is the absence of demand for such analysis by policy makers, it is clear that training and institutionalization of capacity can begin at once, without which, even if the demand were to change at the political level, there could be little response.

A first step should be identification of Somalis who could benefit from graduate-level training in applied economic analysis and development anthropology overseas. The pool of qualified Somalis is small, given the extreme underdevelopment of the University system in these areas, but it is clear that some candidates can be found.

A second step is to assist in establishing a Development Research Institute (IDS, Kenya; ERB, Tanzania; NISER, Nigeria are three models that can be explored) that would institutionalize this capacity. Ideally, establishment of such an organization would attract some well trained Somalis back to the country as a core senior staff. Persons sent abroad for graduate training would be encouraged (required) to do degree-related research in Somalia under direction of the Institute (IDS does this quite effectively in Kenya); experience, on-job training, and demonstrated aptitude by research assistants in the Institute would develop further a pool of applicants for training. Thus the training and applied research activities would be mutually reinforcing.

One obvious objection to beginning training of this sort is that there is a fair likelihood that some individuals trained under the program may not return to the country. This is a chance that should be taken. First, there is considerable evidence that Somalis can be persuaded to return home, even after extended residence out of the country. This has been a recurrent experience of the traders and transporters functioning throughout East Africa and a number of senior officials now in Government and research have been abroad previously for extended periods. Second, there is a considerable lead time required for building institutions of the type suggested. To have a pool of trained Somalis available will make it easy to build such capacity when political conditions are such that it would be desired. If the training has not started, no amount of desire can create such capacity quickly.

GAPS TO BE FILLED BY ECONOMIC STUDIES

As everyone rightly complains, the data base in Somalia is among the weakest in Africa. Rough estimates of national accounts have recently been prepared, but no one is prepared to defend them as other than rough order of magnitude. The recommendation most economists would give is to build up a data-collection infrastructure similar to that in Kenya or Tanzania. While that recommendation is correct, and should be acted on, decisions must be made and potential impacts of policies predicted before such a data base will be created. However, three studies could be carried out that would contribute substantially to the quality of decision making much sooner. Each could be carried out within a 12-15 month period and would be relatively inexpensive. While a serious applied research effort must be sustained, these studies should be considered "first phase" efforts that would provide useful (if rough) outputs in a short period of time.*

A Policy-Simulation Model of the Somali Economy

Ironically, the very lack of data makes construction of a coherent model of the Somali economy more necessary. When only fragments of information exist, some means of fitting them together in a plausible way that allows inferences to be drawn is required. It is somewhat surprising that the IMF does so little in this respect, but that is its mode of operation in almost all countries. Although the World Bank has a "standard model" that is fitted to most countries for projection purposes, one has not been developed for Somalia because of the data requirements and the fact that the general structure is not particularly applicable to the Somali case.

The first step would be to develop a stylized view of the main features of the Somali economy, suggest the driving forces in each sector, and posit interrelationships. As a first step, one would probably disaggregate the economy into four production sectors - livestock, food, import substitutes, and government. Total production in each would depend on labor, intermediate goods, and capital inputs; the allocation of inputs would respond to prices subject to quantitative restrictions; and distribution of output between subsistence, internal sales and foreign sales would depend upon prices and incomes after taxes. Government would collect taxes and provide services, financing deficits by changing money supplies. The foreign sector affords demand for exports and supplies imports at constant prices, and foreign

*See Appendix 5 for more detail than the brief descriptions given here.

assistance adds to the supply of imports. Central to the model would be the labor sector, which allocates labor between productive sectors and employment overseas, and overseas earnings supply some foreign exchange.

Particular policy instruments would have to be specified. They certainly would involve tax and expenditure levels of government, exchange rates, foreign assistance levels, import rationing procedures, restrictions on emigration, sectoral price policies and investment allocation, and policies for holding foreign exchange (particularly for remittances).

The purpose of building such a model would be to force explicit attention on the key relationships that determine response to policy actions. Best guesses of response parameters would be employed with analysis of sensitivity of results to parameter changes being explored systematically. What is particularly useful about such an approach is that a sense of the importance of different assumptions and estimates can be obtained, which then guides information collection and sectoral research to those issues that are most important for the particular policy issues that seem most pressing.

These key relationships, about which assumptions based on fragmentary evidence must be made initially in order to construct a model, can be better specified in more accurate detail as information about them is developed. As such they provide an agenda for ongoing policy oriented research of high priority. They are listed in greater detail in Appendix 5. The point is that policies are now being advocated for "getting prices right," devaluing the exchange rate, removing government regulations on marketing, providing increased credit to the private sector, and the like, on the assumptions that these policies, through changing incentives, will change production and consumption behavior in ways that will make the economy more viable and sustainable. Yet, while there is some presumption that each of these policies is likely to move the economy in an appropriate direction, there is very little information that will provide a basis for design of specific policies that are likely to be successful. Each of the areas mentioned has crucial implications for the design of macro policy. In each area, policy makers are being asked to move ahead with very little basis for informed judgment as to how they should in fact move. A high priority should be attached to generating this information and making it available to policy makers in a form that can be used for policy design and evaluation.

The results of such modelling should not be taken seriously with respect to precise magnitudes. But it is a powerful device to organize thinking, making assumptions explicit and testing their consistency, and giving an educated prediction of directions and relative magnitudes of response. If constructed appropriately, it also provides a systematic framework within which new information and better data can be evaluated.

Such a model is not a one-shot effort; neither is it a strictly academic exercise. Ideally, the group that develops it would remain in contact with Somali officials and donors over time, so that interplay between modelling, policy analysis, and information collection would be constant.

Labor Migration to the Gulf

It is essential that some better estimates be made of the numbers of Somalis in the Gulf, their earnings, remittances, and skills. Determinants of

remittance levels, channels through which they flow, and destinations and uses of remittances should be identified and estimated quantitatively. The selectivity of migrants from the Somali population, the sectors from which they withdraw labor, and the economic and social relationships that are maintained with their family groups should be identified. The eventual use of such research is to identify policies affecting migration levels and remittances that will yield maximum benefit to the Somali national economy. Such a study should proceed in three phases:

- 1) obtain what information is available in Somalia about numbers of emigrants;
- 2) go to Saudi Arabia and other states of substantial immigration to obtain information about numbers of Somalis, and identify the ways in which Somalis are recruited into employment, and determine what kinds of jobs they hold; and
- 3) having obtained a reasonable profile of migrants and their origins, conduct structured interviewing of households from which migrants are absent and of returned migrants. Appendix 5 specifies methodology for this study in greater detail. In order to obtain refined estimates of numbers and remittance levels, it would be necessary to embed such a study within a national household sample which may be useful, but at a much later date.

Internal Labor Markets in Somalia

A third priority study would examine internal labor markets in Somalia. It should consist of three main parts. These should focus on: 1) formal sector employment, wages, recruitment, career paths, and the like (some data are available here from government and previous work by the ILO); some individual interviewing would be required. One must look at such employment in provincial towns as well as in Mogadishu and Hargeisa. 2) urban informal-sector labor markets; and 3) rural wage markets.

On the basis of these studies, plus information from employers, a partial series of wages over time and with seasonal adjustments (e.g. in agriculture and construction) can be constructed. Labor markets will be analyzed in terms of how they work, what kinds of labor allocations are facilitated, what institutions bound the free functioning of such markets, and implications for income generation and distribution can be dealt with.

With this information, one can develop rough estimates of the intersectoral consequences of investments, price policies, or other interventions that impact initially on a single sector. Interventions with respect to wages and taxes can be evaluated, and public-sector employment issues can be analyzed. These studies of migration to the Gulf and internal labor markets should be coordinated and supervised by a team with experience in economics, social anthropology, and design of low-cost surveys in Africa.

Microstudies of Somali Extended Family Income Strategies

In addition to these three specific and relatively self-contained studies, a larger effort must be mounted addressed to the income-generating strategies of Somali extended families. The critical necessity for understanding the decision making in relation to resource control of such units has been stressed throughout this report and also undergirds the analysis of agricultural and pastoral systems explored in subsequent chapters.

In absence of such information, it is almost impossible to understand and predict responses to changing incentives. The degree to which subsistence and marketed outputs are readily shiftable, whether incentives to produce grain will divert resources from animal production within household economies, or the impact of export incentives on migration to the Gulf, can only be analyzed if household strategies are understood. The usual assumptions that a particular project affects only nomads, farmers, or urban workers, depending on where it is located, may well be wrong if household units are in fact simultaneously engaged in all three sectors. This list could easily be extended but the point should be clear that these information gaps are serious if economic policy and donor programs are to be purposive. We have also stressed that only in context of such information can meaningful identification be made of specially-deprived groups to be "targeted" for assistance.

In the longer run, such information should be collected periodically through ongoing research studies on a panel of households so as to provide information that is comparable over time. The Kenya Integrated Household Survey program is the most advanced in Africa, the Indian Rural Household Samples are the major international example, Botswana is initiating a Continuous Household Sampling Program, and several other efforts are getting under way in other countries. Such a sophisticated collection program will eventually be desirable for Somalia, but in the foreseeable future, a much less complex and inexpensive information-collecting exercise is warranted.

It would make most sense to begin in-depth observation of production and exchange relationships within household and extended household units in a few sites that have a good chance of being typical of larger areas. Such observation should become institutionalized ongoing activities that can be coordinated with specific projects. By concentrating on household strategies and the degree to which extended family members span productive and geographic sectors, information of immediate importance can be gleaned and hypotheses will be developed and understanding of specific features of Somali households will be obtained that is absolutely necessary for framing questions and designing sample frames in order to insure that scale surveys will provide interpretable and useful information.

Further elaboration of the need for this kind of data collection is provided in the Chapters IV and V on pastoralism and agriculture. Initially, there should be three field researchers combining in various ways expertise in social anthropology, microeconomics, and technical aspects of livestock and agriculture, under continuing supervision of an interdisciplinary team that can visit periodically to provide intellectual and conceptual coherence and continuity to the effort. It would be desirable to maintain this enterprise as a single team, even though funding might come input through specific projects since the range of expertise required is wide and there are advantages in rotating the three field researchers among the projects and combining their efforts at certain times on certain problems.

Identifying Comparative Advantage for the Longer Period

We have argued that in the longer term, a more outward-looking development strategy would be appropriate to take advantage of the human resources and strategic location of Somalia. It is likely that part of this would result in export-oriented manufacturing and service industries being established.

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It would be useful to undertake a study at this time to identify potential areas of comparative advantage that could be developed. To do so would require a careful analysis of the demand structure, and its likely evolution, in the Gulf states; identification of major competitors for these markets and their strengths and weaknesses expected to be manifest in future years; and an inventory of resources, particularly human resources not presently in the country, available for development in Somalia. On the basis of such an analysis, prospective activities can be identified, the major constraints to their efficient exploitation discovered, and plans for lessening the constraints developed.



IV. DEVELOPMENT FOR SOMALI PASTORALISTS

INTRODUCTION

For at least the last thirty years, development planners have seen the system of livestock production in Somalia as a system in crisis. Over the years there have been changes in the descriptions of the dimensions of that crisis, in the ascription of its causes, and in the prescriptions for its alleviation. The calmer voices have been those which assume livestock production merely to be backward or stagnant, and call for its general improvement. The shriller voices assert that disaster has either already befallen the system or will do so at any moment, and they call for radical reorganization.

The perpetual claim of crisis has justified a great variety of interventions, some of which are more fully discussed in the third section of this chapter. Almost all have failed, at least in the sense of having an impact on the pastoral production system(s) actually in place in Somalia. But no one has done research into the technical or economic parameters of those systems, and few of the planners make use of the social analyses of the pastoral systems that do exist. With little if any relationship between attempts at intervention on the one hand and any sound knowledge of systemic constraints based on production research or monitoring, it is hardly surprising that livestock interventions in Somalia have been so unrewarded. This chapter will serve its purpose if it highlights the gulf between project interventions and ongoing Somali pastoral production.

What is more heartening is that the pastoral system itself is thriving: with minimal interference, it supports the subsistence of between 60 and 80 percent of the population; it provides fresh milk and other dairy products daily to the burgeoning urban populations of Somalia; it provides over 80 percent of the foreign trade earnings of Somalia; it supplies 38 percent of the preferred live-slaughtered meat for the whole Arabian Peninsula and holds first rank there as the source of livestock imports; and while providing 1.5 million animals to the export trade and nearly another half million to domestic municipal slaughter, the system has proven resilient enough to recover from the 1974-75 drought, to utilize pastures in the Ethiopian Ogaden despite continuing warfare between the two countries, and to provide steadily improving prices to producers.

This record of achievement must be sustained: both the Somali state and the vast majority of her citizens depend on it. In a very real sense the failure of the external interventions that have been attempted must be evaluated in the context of the broader success of the livestock sector: it may be fair to conclude that it is just as well that the attempted interventions have failed.

Nonetheless, it cannot be assumed that the herders and the herds are best left alone altogether. There are problems in the production system and in the wider environment that can be addressed - after adequate assessment - with positive economic, social, and political effects both for herders and for the

nation. People who herd are, of course, trying to raise their incomes and their overall welfare even in the absence of any transformation of the production system that would yield radical increases within the sector. By investing in agriculture, in schooling, in urban migration, and in emigration from Somalia, they are finding ways to insure a future for themselves and their children. If they, or the most capable of them, are to continue raising livestock, it will be because livestock production offers greater returns in present and future income, in security, and in social and cultural participation than other pursuits do. As in the other chapters of this report, then, we approach the Somali pastoral production system as we do other sectors of the economy: (a) pastoral producers are able specialists but are enmeshed in a wider spectrum of opportunities and activities; (b) a proper understanding of what problems they face can only be gained from the careful assessment of their production systems; and (c) meaningful judgments as to how and where to intervene in these systems can only come from the deep understanding of how the systems work in the first place.

The section which follows, therefore, explores the major elements of Somali livestock production systems as they are. Its emphasis first is on the enterprise of livestock production itself, but then we will explore the degree to which resource allocation decisions involve non-livestock activities as well. The third section of the chapter will elaborate the perceptions which developers have had of the production system, and the kinds of interventions that they have based on those assessments. In the fourth section we offer a critique of the evidence on which present development efforts are based, and trace the implications of the dearth of evidence for present and future projects and sector-level programs.

LIVESTOCK PRODUCTION SYSTEMS

Sources of Information

Livestock is the mainstay of Somalia's economy, where 2.5 million people, approximately 60 percent of the population, depend largely on nomadic or semi-nomadic pastoral production, and a further 0.8 million (20 percent of the population) are mixed crop and livestock producers (World Bank, 1981: Vol. II, p. 2). Regrettably, as for other aspects of Somali social and economic life, there have been few good studies of the production systems of these 80 percent of the population of Somalia. From the little that has been published, a tendency has developed to consider pastoral production as one undifferentiated system, with little attention to the implicit flexibility of such systems. I.M. Lewis' classic work, A Pastoral Democracy (1961), specifically discusses the people of former British Somaliland, (now North West, Togdheer, Sanaag and the western half of Nugaal Regions), but this work has frequently been taken as the definitive statement on all Somalia. Mirreh (1978) describes some aspects of the production system in that same area (east and south of Hargeisa) more fully than does Lewis (whose focus is on political and social organization), but his book is in German and is not attracting the attention it should. Further information on herd movements and lineage genealogies in the north is provided by Heat (1951).

Further south in Somalia few scholars have worked, especially on livestock production, and little has been published. A dissertation by David Marlowe (1963) examines political and social behavior among the Galjaal Barsana of the middle Shebelle River area, and does discuss to some extent the production strategies used by these people. Virginia Luling's work in the Afgoi area in the late 1960s (1972) concentrates on social structure. Frank Mahony, who was a "community analyst" for the USOM in the Merca area in the early 1960s, wrote on the Muroside, a Hawiya lineage of the area (Mahony 1969). Italian work, especially good through the 1930's, by such authors as Puccioni (1937), Cerulli (1959), Onor (1925), Provenzale (1914), Ferrandi (1903) and others should be reanalyzed (good use of it was made by Lewis (1955) on matters of social organization), but was only cursorily consulted for this report.

For livestock marketing there is even less material. Lewis (1961) provides a good general description, while recent work by Swift (1977, 1979), Gesheker (1981) and Aronson (1980) has focused on the social and political implications of increased commercialization of livestock without presenting substantial new data. Project-oriented analyses by the Arab Organization for Agricultural Development/FAO (1979) and by Holtzman (1982) provide good sketches of current marketing institutions and conditions.

There is least information anywhere on those pastoralists who inhabit the zone affected by the USAID and IBRD-funded Central Rangelands Development Project (in Hiran, Galgadud and Mudug Regions).

Livestock Production: A Summary

There are at least three traditional livestock production systems in the country: a) nomadic pastoralism; b) mixed agro-pastoralism; c) specialized milk production by urban and peri-urban dwellers. (See World Bank Somalia Agricultural Sector Review [1981:Annex I]). The first and second of these will be discussed here: the third, while it suggests interesting development possibilities, occupies only a few thousand people, while the first two systems are practiced by some 80 percent of the total population.

Somali Pastoral Production Strategies: Somali pastoralism has three major dimensions. First, the distribution of feed and water resources has given rise to a supple ecological adaptation which entails wide-ranging transhumance by small camping groups between permanent dry season water points (usually wells) and broad areas or rainy season grasslands with only temporary surface water. Like nearly all "nomads," Somalis never wandered aimlessly, but rather had fixed home areas from which they moved as the seasons and vegetational growth required. (An assumption in some donor documents [cf. SOGREA 1981, for example] that Somalis were once free-ranging "nomads" and are now "semi-nomads" is spurious and misleading.) Somalis moved as necessary and some always had more bountiful resources than others and therefore moved less often or over shorter distances. At most, northern Somalis never hesitated, during the rainy season, to split away the main herd of camels to be tended by the young men, while small stock and a few milch camels were kept by the women and children. Nuclear family members might thus be separated for long periods, with the household elders rotating between segments as managers. Harvesting the sparse vegetation in this way, Somalis put marginal lands into the production of energy (meat, milk, and draft power) for human use.

Second, to maximize productivity and to disperse risk, Somalis have diversified their livestock production enterprises, just as they engaged in non-livestock production when it was feasible to do so. Ecological variation means that some species of livestock were especially well suited to particular zones or niches of the total rangeland resource. The dominant animal species are partially non-competitive: camels and goats are primarily browsers (each at a different level of the "aerial" or arboreal pasture), while sheep and cattle graze. With different nutritional and water requirements, differing reproduction and lactation cycles, and different patterns of disease, the four species can be mixed to sustain the exploitation of particular micro-ecological variations, and to provide faster or slower herd growth rates, varying risks of loss to drought or disease, optimal milk supplies across the seasons, lower labor requirements in herding, or highest cash sales returns. Of course some of these goals conflict; the stockman's skill is in continuously recalculating the right mix for his own situation and needs.

Third, Somalis guaranteed their own physical and social security through formal contracts (heer) of alliance among men who calculate their loyalties to one another in terms of kinship. The contracts make concrete the political obligations of lineage-mates and their followers, who also collaborated socially and economically to share certain labor tasks, to defend or extend grazing areas, to redistribute basic productive or subsistence resources to individuals in need, and to aggrandize the power of the lineage as a whole. While the affirmation of lineage and clan solidarities in the rangelands has been officially discouraged since the early 1970s, the social obligations that close kin bear to one another remain powerful influences in their lives, especially in the absence of effective alternatives. The major corollary of these social ties for livestock production is that Somalis already have networks in place that provide resource access, mediate disputes, and assure overall conservation for the general (lineage) good.

No research is available to show where or in what conditions in Somalia these mechanisms of mutuality remain most strong or break down into mere personal competitiveness. When the latter condition prevails (as it did in the western USA of the 1930s), personal maximization with destruction of overall resources (the so-called "tragedy of the commons" problem) may occur. Despite the lack of any evidence for a "tragedy of the commons" in Somalia, and despite overwhelming evidence for the existence of the social devices just discussed that should prevent it, pastoral development interventions have too often assumed the tragedy to be well advanced. Proposals to monitor range use, to control grazing, to establish grazing reserves, and to form grazing associations are merely proposals to do (or for government to do) what pastoralists may well be doing already through their own mechanisms of grazing elders, grass scouts, and kin group alliances. Even if land degradation can be shown to be occurring and to be the result of an ideology of personally exploitable commons, it must not be assumed that new (and especially centrally directed) mechanisms are necessary to overcome the problem. Only when the indigenous institutional forms can be shown to be both ineffective and non-adaptable should new mutual grazing insurance mechanisms be created.

Pastoral Resource Use in Somalia: Traditionally, no clan, lineage, or individual had a specific title to any pasture. The right to graze an area

depended on effective occupancy, which meant ultimately the power to repel invaders by force.

Lewis (1961) and Hunt (1951) provide the fullest information on these matters for northern Somalia. There, at least for most of this century, particular clans and lineages have been based at "home-well" areas in the highlands (called qo) that run east-west across the middle latitudes of the region. Areas around these home wells were the central homelands of lineage groups, such that nearby administrative centers that have grown up have come to be known popularly as the "headquarters" of one or more lineage groups. These home bases are occupied during jilaal, the dry season from December to March.

With the gu (spring) rains the pastoralists disperse widely. Herders from the mountains and northern plateau move southward into the Haud, which stretches far across the Ethiopian border, while groups that winter on the desertic northern coastal plain around shallow wells move onto the slopes or into the mountains for the hot season that follows. The camel herds may transhume hundreds of kilometers, led by herdsman who often subsist on nothing but milk for several months. Sheep and goats go less far, but still move out of the base area to preserve its feed supplies for the next dry season. As the gu rains end, the herds and flocks are at maximum dispersion. While the herders remain in general clan territories, the relative abundance of rainy season pasture makes boundaries less important, and the broad clan "territories" overlap and shift with little friction. The Haud lacks permanent water, so that grazing is influenced by the distribution of temporary natural ponds, shallow wells dug in porous areas, and cement tanks and basins constructed by individual herders and especially by traders seeking to concentrate animals at points convenient to trade routes.

As the short summer dry season (hagaa) proceeds, most of these water points dry up, and some animals begin their return to the home wells. If the fall (dir) rains are good many animals remain far out in the grazing areas until the onset of jilaal again forces them home. (It should be noted that the full integration of lands now in Ethiopia into the traditional seasonal rounds of large numbers of northern Somali is one major basis for the Somali historic claim over these areas).

In the center and south of the country, patterns of movement are in part similar to those in the north. Some nomads oscillate between the coastal plains, for example the Obbia or the Merca plains, and areas inland during certain seasons. From the central rangelands herders move westward into the Haud and Ogaden in the same patterns as the northerners. In the highest rainfall areas movements, however, are more restricted: along the Shebelle, for example, some groups move closer to the river during the dry season when the range of the disease-carrying tsetse fly is restricted, but move outward again during the rains to home areas away from both tsetse and potential conflict with farmers over damage to their crops. Since there is a marked double alternation of annual wet and dry seasons in the south, in some cases the transhumance pattern is also reduplicated in one year. (See Map 4B for a schematic indication of transhumance movements.)

For Somali mixed agro-pastoralists, Marlowe (1963) offers some data on land use in one clan grouping, the typicality of which is not known. Some 16,000 to 18,000 Barsana occupy an area of about 1,000 square miles west of the Shebelle near the town of Villabruzzi. Sixty percent of the Barsana combine transhumant pastoralism with cultivation, 25 percent are fully pastoral and the rest are fixed cultivators. South of the core cropping area lies the preferred grazing area, called geel-geel ("many camels"), where nomad families and older members of agricultural families spend the rainy seasons with the stock. In the dry seasons about half of each group move nearer the river to the east of the crop lands, while the other half move back across the harvested fields to the home-well areas to the north. A secondary grazing area extends in a rough ellipse all around the croplands, while in drought years even more remote lands, including those around a reserve well system at El Gambole, are used. Natural and man-made water basins throughout the zone allow fuller exploitation of the forage-resource than would otherwise be possible (Marlowe 1963:40-50).

Detailed information on the transhumance patterns of each major grouping in Somalia are lacking, even though such knowledge would seem to be a crucial requirement for any range resource planning in the country. The Non-formal Education section of the Central Rangelands Development Project will begin to document the movements of camping groups in the three central regions where it is working.

The examples given demonstrate how closely pastoral movements are equilibrated to the distribution of water supplies. The control of water closely governs the use of surrounding pasture. Access to river and dry river-bed (tug) water, the control of bottom lands, the building of private and public wells and tanks, the fine-grained management of home-well areas, and the movement of commercial water tank trucks to grazing lands all are constant concerns for Somali stock-raisers.

Pastoral resource control is the basic content of rangeland politics. Water, especially in the dry season, is more controllable than grass and so is the keystone of pastoralists' own and government's range policies. Well surveys in other countries have proven valuable guides to the levels, intensities, and modes of resolving conflicts over resource utilization, and should be begun in Somalia as part of the national range development strategy.

Livestock Distribution:

The National Herd: Estimates of the total numbers of livestock in the country have varied widely. The World Bank Agricultural Sector Review compiles the various estimates as follows:

Table 1. Livestock Population Estimates 1964-1975 (000 head)

<u>Source</u>	<u>Year</u>	<u>Cattle</u>	<u>Camels</u>	<u>Goats & Sheep</u>
Halilovic	1964	1,490	2,970	10,530
Hartley	1966	1,756	2,000	7,000
Walker	1966	1,756	1,874	5,724
Pillai	1968	2,500	2,500	9,000
Hartley	1968	2,500	2,500	15,000
JP 15	1971	2,767	-	-
German Planning and Advisory Group	1973	3,000	3,000	15,000
IDA	1974	3,000	2,500	14,000
Government census (as corrected)	1975	3,950	5,270	24,730

Source: IBRD 1981: Annex 1, Table 2. JP 15 figure from Livestock and Range Sector Study. Mogadishu: SDR/MNP, March 1981, p. 7.

The author of the Ministry of National Planning Livestock and Range Sector Study believes the 1975 stock census figures (it is not clear how the "census" was carried out) to be radically over-estimated, but concludes that by 1980 livestock numbers may have been approaching those given for 1975. If these numbers are true, Somalia has the largest camel herd of any country in the world.

Variations in Herd Structure: The same 1975 census broke down the figures for the four major species by region, as follows:

Table 2. Numbers of Livestock by Species and by Region, 1975 (000 head)

Region	Camels	Cattle	Sheep	Goats
<u>North West</u>	<u>926</u>	<u>189</u>	<u>3157</u>	<u>3013</u>
1. Waqooyi Galbeed	606	145	2242	2161
2. Togdheer	320	44	917	852
<u>North East</u>	<u>600</u>	<u>101</u>	<u>3132</u>	<u>3370</u>
3. Sanaag	205	74	1521	664
4. Bari	240	15	1388	2095
5. Nugal	155	12	223	611
<u>Central</u>	<u>1146</u>	<u>558</u>	<u>1724</u>	<u>4478</u>
6. Mudug	751	340	1136	2744
7. Galgadug	395	218	588	1734
<u>Shebelle River</u>	<u>960</u>	<u>993</u>	<u>708</u>	<u>2098</u>
8. Hiraan	461	170	287	1159
9. Shebelle Middle	205	382	325	720
10. Shebelle Lower	293	419	90	200
11. Benadir	1	22	6	19
<u>Juba River</u>	<u>1242</u>	<u>1755</u>	<u>595</u>	<u>1572</u>
12. Gedo	784	528	500	725
13. Juba Middle & Lower	458	1227	95	847
<u>Inter-Riverine</u>	<u>554</u>	<u>355</u>	<u>134</u>	<u>466</u>
14. Bakool	192	100	55	274
15. Bay	362	255	79	192
TOTAL	5428	3951	9452	14977

Source: IBRD Agriculture Sector Review, from Ministry of Livestock, Forestry, and Range; corrected from Three Year Development Plan figures. (IBRD 1981:Annex I, Table 1).

Given the doubts referred to above as to the totals in this census, these regional figures should be viewed with skepticism. Taking the same figures but recomputing them in terms of the importance of each species in various zones of the country highlights the degree of species variation as one moves from north to south.

Table 3. Importance of Domestic Animal Species
(Expressed as Percentage of Animal Units)

	Animal Units '000	Cattle	Sheep	Goats	Camel
		-----%			
I. Northwest	1,791	8	18	22	52
II. Northeast	1,331	6	24	25	45
III. Central	2,213	20	8	20	52
IV. Shebelli	2,035	39	4	10	47
V. Juba River	2,481	50	2	4	44
VI. Interriverine	<u>898</u>	<u>32</u>	<u>1</u>	<u>5</u>	<u>62</u>
Total	<u>10,749</u>	<u>28</u>	<u>9</u>	<u>14</u>	<u>49</u>
Shebelle River without Hiran	1,293	51	3	7	39
Juba River without Gedo	1,152	72	1	2	25

Source: IBRD Agricultural Sector Review (1981), Annex 1, Table 4, from Mission calculations.

To the extent that these figures are reliable, they demonstrate the relative insignificance of cattle in the north and of small stock in the south.

Two tables show interesting variations in the stock holdings of individual households. Broken down by region, again from the 1975 census, households held the following average numbers of stock:

Table 4. Estimated Average Number of Livestock Per Household by Region, 1975

<u>Region</u>		<u>Camels</u>	<u>Cattle</u>	<u>Sheep and Goats</u>	<u>Total Livestock Units</u>
I.	<u>Northwest</u>				
	1. W. Galbeed	7.8	1.9	68.2	16.1
	2. Togdheer	6.7	0.9	37.8	11.2
	Sub-total:	7.3	1.5	56.6	14.2
II.	<u>Northeast</u>				
	3. Sanaag	7.6	2.7	80.9	17.9
	4. Bari	8.3	0.6	120.1	20.8
	5. Nugal	9.7	0.8	52.1	15.6
	Sub-total:	8.3	1.4	90.3	18.6
III.	<u>Central</u>				
	6. Mudug	18.8	8.5	97.0	35.3
	7. Galgudud	11.3	6.2	66.3	22.9
	Sub-total:	15.7	7.6	85.0	30.3
IV.	<u>Shebelli River</u>				
	8. Hiran	16.5	6.1	51.6	26.5
	9. Middle Shebelli	5.0	7.8	22.2	13.5
	10. Lower Shebelli	4.4	6.3	4.3	9.9
	11. Benadir	-	-	-	-
	Sub-total:	7.0	6.9	19.8	14.5
V.	<u>Juba River</u>				
	12. Gedo	19.1	12.9	30.0	32.4
	13. Juba (Before separation into two regions)	3.7	12.9	3.2	14.3
	Sub-total:	8.9	12.9	12.5	20.5
VI.	<u>Interriverine</u>				
	14. Bakool	10.1	5.3	17.3	16.1
	15. Bay	7.5	5.3	5.6	12.3
	Sub-total	8.3	5.3	9.0	13.4
	TOTAL:	8.9	5.3	41.3	17.3

- Notes:
1. Source: Table 19-4 of 1979-1981, Three Year Development Plan. Revised Draft. From IBRD Agricultural Sector Review, Annex 4, Table 3.
 2. Livestock units calculated on the basis of FAO norms: Cattle = .8; Camel = 1; Sheep and Goats = 1.

Note the relatively smaller holdings of sheep and goats in the south and the larger cattle holdings in the riverine areas. The much larger herd sizes of the central regions is nowhere substantiated by other sources of information.

Even these figures, however, mask differences in types of stock held among different families within a region. Three small-scale surveys of questionable quality in the early 1970s bring out the different mixes which are said to occur in individual enterprises:

Table 5. Nomad Livestock Holdings

Combination of type of Livestock	Households by combination of type of livestock					
	Northern Somalia		Juba Area - Southern Somalia			
	Burao		Afmadu		Bardere	
	Number	%	Number	%	Number	%
Camels	271	5.9	137	13.4	230	27.0
Cattle	9	0.2	566	55.5	429	50.0
Sheep and Goats	1540	33.4	5	0.5	-	-
Camel and Cattle	-	-	187	17.9	141	17.0
Camel, Sheep, and Goats	2406	52.3	58	5.7	-	-
Cattle, Sheep, and Goats	88	1.9	15	1.5	41	5.0
Camel, Cattle, Sheep, and Goats	290	6.3	56	5.5	6	1.0
TOTAL	4604	100.0	1019	100.0	847	100.0

Notes: Afmadu Survey was conducted in March 1974 after the first gu rains and is likely to understate the number of camels. Burao Survey was made in February 1974, and Bardere Survey in August 1973.

Source: Central Statistical Department, Pilot Survey of nomadic households in Burao district, 1974; Pilot Survey of nomadic population using Hiloos as a source of water, Bardera district, 1973; Pilot Survey of nomadic households in Afmadu district, 1974.

From: IBRD Somalia Agricultural Sector Review (1981), Annex 1, Table 5.

Here the points of interest are the large proportion of households in the north who claim to own no large stock, and the large proportions of single-species enterprises in the south. If true, southern Somali households find species diversification less adaptive than stated above in the general discussion of pastoral strategy. It is not clear what factors, environmental or socio-economic, might select for this purported specialization.

Finally, there appears to have been a shift in the overall herd composition over the years from 1950 to 1973 (ILO/JASPA 1977, corrected) as follows:

Table 6. Changing Species Composition of Herds

	<u>1944-51</u>	<u>1973</u>
1. <u>Northern Somalia</u>		
ratio of camel to cattle	5.4 : 1	1.8 : 1
	<u>1964</u>	<u>1973</u>
2. <u>Southern Somalia</u>		
ratio of camel to cattle	1.4 : 1	0.5 : 1

- Source:
1. Northern Somalia: estimates for 1944-51 calculated from J. A. Hunt - "A general survey of the Somaliland Protectorate, 1944-1950", 1951 - Hargeisa, Chief Secretary.
 2. Southern Somalia: FAO Agricultural and Water Surveys Somalia. Final Report Vol. IV Livestock and crop production. Rome, 1968.
 3. Camel : Cattle ratio for 1973 is discussed in the technical paper on Nomadic Pastoralism in Somalia.

From: ILO/JASPA 1977

The JASPA mission notes that these data should be interpreted with caution, and that shifts may not be uni-directional since, for example, drought years can redirect emphasis towards camels and goats, the more hardy species. Yet overall, there has apparently been a shift toward sheep and cattle, presumably due in part to good weather through the 1960s, increased demand for mutton and beef in Somalia's external markets, and perhaps a shift of labor into agriculture in some areas. Interviews carried out by the present SIP team reveal no clear identification of which if any elements of livestock production are being run down to permit the exodus of young men to Somali cities and foreign labor markets.

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Livestock Product:

Family Holdings: A recent report by Vali Jamal for ILO/JASPA (Jamal 1981) suggests that the average nomadic family owns stock worth perhaps 24,000 SoSh per family, at 1977 prices. The 1975 livestock census would suggest that the central regions had higher than average holdings, the north lower than average (because of the small number of cattle) and the south about average holdings. Generalized for the whole country, Jamal computes the "average" family herd as comprising 10 cattle, 12 camels, and 65 sheep and goats (Jamal 1981). This average, of course, obscures the regional differences in herd structure. The IBRD Agricultural Sector Review distinguishes three different "typical" herds in the country:

(a) in the five northern regions, the family keeps about 7-10 camels, 40-100 sheep and goats, and few, if any cattle; (b) in the central regions and the drier (interriverine) areas of the south, the family herd is from 10-20 camels, 5-13 cattle, and 20-90 sheep and goats; (c) in the river valleys, the household keeps 6-13 cattle, 4-5 camels, and only 3-30 sheep and goats (IBRD 1981: Vol. II, p. 4). These estimates are somewhat lower than Jamal's but in any case it is not clear upon what actual herd data either set of figures is based.

Subsistence Output: From such herds, Somali pastoralists produce milk, milk products (especially ghee), meat and skins for their own use and for exchange. According to Jamal, the national "average" herd would allow a Somali family to produce enough calories for its own use, with of course an extremely high protein intake. The favorable rate of exchange of livestock products for grain (at 1979 prices one liter of milk [775 calories] would buy 1 kg. of grain [3500 calories] in the north and 1.5 kg. of grain [5250 calories] in the south) meant that pastoralists could feed themselves with grain with a considerably smaller than "average" herd, and/or they might sell dairy products for some of their other consumption needs (Jamal 1981:25-26). In addition, pastoralists of course sell animals, young mature males, to finance other consumption.

The persistence of family herding enterprises providing subsistence to most Somalis is obviously proof of the long-term viability of pastoralism in its various sub-types around the country. We lack, however, any specific information on household production among Somali herders. Even in the best of research climates such monitoring is arduous, and subject to such wide fluctuations by season, by micro-environment, and by year that a few adequately intensive observations by a single researcher can be disappointingly misleading. In Somalia no such field studies have been undertaken. The pilot household surveys organized by the Central Statistical Department in the middle 1970s asked family heads to recall the quantities of milk and ghee produced over the prior one-week period (in November 1975), but only the gross totals are given in the tables, and it is doubtful that much significance can be attached to the figures (nor is it clear, for example, if the milk figures given are after the young animals have suckled or not). Adequate studies of human subsistence would have to begin with assessments of herd structure and composition, human household composition and management strategy and then sample various types of different herd situations over a long period. In the meantime marketed dairy and other livestock products can be studied in more routine household surveys to establish the absolute levels of commercial involvement of pastoral households. Only the first of these types of study can sufficiently determine poverty incidence or levels of

nutritional need. Since subsistence production is the motor of family herding, measuring subsistence production is a vital need if we are to understand long-term trends in livestock enterprise management and the viability of this fundamental economic type.

Commercialization and Producers' Incomes: There is a persistent image among non-specialists that East African livestock herders indiscriminately build the largest herds possible, without regard to the land base or to commercial opportunities. It has become clear to specialists, however, that observations of herd composition and commercial statistics reveal a thriving trade in livestock. Somalis have been especially ardent marketers of surplus animals, the livestock trade having been described by Arab geographers as early as the 1300s. We have an increasingly good general portrait of the commerce in livestock, once professional traders buy the animals in (trade herd) "assembly" markets. But we still lack information on household marketing decisions or on the patterns and rates of marketing in terms of family cash needs and income strategies.

Gross rates of animal off-take from the national herd have been estimated using variable methods but regrettably few field minimal measurements. As can be seen in the following table, estimates have varied by as much as a factor of four: as the compiler of the table suggests laconically, "even allowing for climatic events, these estimates reveal great disparity" (Allanson 1981).

Table 7. Some Rates of Livestock Offtake Estimated in the 1970s.

<u>Source</u>	<u>Year</u>	<u>Cattle</u>	<u>Camels</u>	<u>Sheep & Goats</u>
-----% offtake----				
Official Government	1970	7.6	1.0	36.7
World Bank	1975	10.0	2.5	30.0
Hunting's Sector Review	1975	5.3	5.1	16.2
Hunting's (recalculated against the 1975 census)	1976	3.9	2.4	10.0
World Bank:NRDP appraisal	1975	6.3-11.0	0.8-5.7	4.0-16.0
World Bank:CRDP appraisal	1978	5.0-8.0	2.0-4.0	15.0-20.0
World Bank: Agricultural Review	1979	4.0-5.0	1.0	11.0-20.0
Food Security	1980	8.7	3.2	16.0
SDR/MNP Sector Study	1981	7.0	1.2	27.7

Source: Allanson (1981) from SDR/MNP Livestock Sector Study, p. 16.

Despite the lack of firm data, it is clear from the table that offtake rates demonstrate the high involvement in commercialization true of Somali pastoralists throughout the country. Combined with the fact that exports are, by law, of male animals only, it becomes evident that the herdsmen are

rigorously culling animals not needed for reproduction and herd management. No sentimental cow-collectors, these Somalis, but rather stern judges of commercial advantage! Nonetheless, until we have much more sophisticated data on offtake rates and strategies, composition by age, species, and sex of the commercial stream (including domestic sales and exchanges), and geographical and seasonal variation, we cannot know such crucial information as, for example, whether there is a looming supply constraint to the increase of exports, or a threat to subsistence food production from rising export price incentives.

Determining the terms of trade for pastoral products at the family enterprise level is one of the best ways of assessing the long-term viability of small-holder stock raising. No matter where absolute prices go, livestock raisers can only be expected to remain at their work as long as prices for the products of their labor bring them returns equivalent to (or better than) those they could gain by liquidating and embarking upon other ventures (in farming, trading, wage migration, etc.) Some analysis of the terms of trade for Somali livestock products has been made by economic anthropologist Jeremy Swift (1979) on the basis of limited observations over many decades. Swift suggests that herders have been losing a long battle against the rising prices of the goods they routinely purchase. Indeed, a partial explanation for any overgrazing there is might lie, says Swift, in the growing desperation of herdsmen to make up in the quantity of production what they are losing in each exchange. Swift's calculus rests heavily on the expectably distressed trade values of animals being sold off during the 1975 drought. On the other hand, Jamal argues from aggregate data that over the whole of the 1970's, the nomads' terms of trade and purchasing power increased significantly vis-à-vis both farmers and urban dwellers. Producer cash incomes quintupled, he says, from 1970 to 1978 (Jamal 1981: 10-15). The issue of the relative net value of livestock products is clearly of central importance to developing effective pastoral policy. Resolution of the debate will require more careful longer-term price series to understand this parameter of the livestock industry. (See Appendix 5, Study 6C)

The Organization of the Livestock Trade: The general outlines of livestock commerce are better known than the stockmen's actual responses to commercial opportunities. Almost entirely in private hands, the livestock trade moves over a million and a quarter animals annually from Somali producers to Saudi Arabian (and other Gulf area) consumers.

In the countryside, tiny trading settlements - a tea shop, a provisions shop or two, and perhaps a few craftsmen's workshops - have grown up in a fine network. In these settlements, intermediaries in the livestock trade begin the assembly of commercial herds. A herder may bring his own animal in to sell, or it may be brought by his relative who plans a few days' sojourn out of the rangeland. Initial buyers may be close kinsmen or more distant relatives, more permanently resident in the settlements, who act as outlying buying agents for larger-volume traders. Herders also commonly take a number of animals they wish to dispose of to a larger market (often just before departure for the major transhumance at the start of the spring rains). They consign the animals to a dilaal, who can be trusted both to know the details of market conditions (including the reliability of the buyers' promises of later

payment) and to secure the best deal for his principals. In the north each transaction is a private bargain; in the southern agricultural areas the market is by auction.

Middle links in the marketing chain may be roving agents of major traders or exporters, or sedentary speculators (gedisley) who buy on their own account, recondition weaker animals around the settlements, and resell to traders' agents late in the rainy season. Once in the export channel, traders have the animals they have bought trekked or trucked to the major holding areas outside the port towns, above all to the lands around Burao and Hargeisa in the north, but also to the Afgoi area outside Mogadishu. Final sales are arranged into herd lots actually being constructed for export against orders in hand. Except for a variety of tax payments at the various markets, financial transactions routed by licensed exporters through government banks, a final government veterinary inspection, and shipment aboard the joint government-private sector shipping line, all of the fundamental marketing operations are privately organized and managed.

Indeed, livestock exporting is a vertically integrated industry. From the point of first sale to the final sale to butchers in Saudi Arabia, a small class of influential merchants (ganacsato) controls this key sub-sector of the Somali economy. Large traders have invested for many years in cemented water tanks in the Ogo plateau and Haud areas in order to precipitate concentrations of animals on accessible truck routes, and many of settlements have grown up around these water points. Livestock traders sometimes own but otherwise charter the truck fleet for assembling the herds. Traders who have bought animals for reconditioning have special interests in the prohibition of grazing around settlements by nomads' herds. Other traders have bought and demarcated or fenced valley bottoms in order to harvest the natural grasses for feed for animals at the ports or on board the ships. They own hay storage compounds near the ports, especially at Berbera. They provide wranglers to feed and water animals on the four-day (from Berbera) or longer voyage to Jeddah, and it is their agents in the Arabian cities who secure the orders for shipments. The entrepreneurial talent displayed by the livestock merchants has assured Somalia's primacy in Arabian markets since the 1950s: in 1978 one-eighth of all the red meat on the tables of Saudi Arabia and Gulf States was from Somalia, and the market prospects were for steady growth. (FAO/AOAD 1979).

Private Sector Profits in the Livestock Trade: Profits from the trade are substantial but probably not spectacular. About 400 licensed exporters make bottom-line profits of about SoSh 40 per sheep (or goat) and SoSh 115 per head of cattle. Something like 75 of these men control over 50 percent of all trade, which in 1981 amounted to 1,314,000 small stock and 116,000 cattle (plus 14,000 camels not included here). SIP team calculations on these gross parameters suggest that the big exporters may average \$35,000 each in net profit (SoSh 439,000 at SoSh 12.465 = U.S. \$1.00), and the rest may each net about \$8,000.

Despite the concentration of exports in the hands of these few hundred exporters, there is little evidence that producers in the rangelands are being bled of their production. Dilaal in Hargeisa report keen competition even for

their close kinsmen's favor and have no captive suppliers; nomads have rapid knowledge of price and currency shifts and can and so usually withhold sales until they are sure they are having increased receipts passed through to them.

It should be noted that further profits to traders accrue from the return trade in consumer goods from Saudi Arabia and Djibouti. Hard currency earnings from livestock beyond those which must be remitted through the banking system are either sold at parallel market currency prices (in mid-1982 still above SoSh 20 = U.S. \$1.00) to goods importers or used to finance imports by the livestock traders themselves. That this trade is lucrative is vividly remarked in a Somali proverb which compares the traders' export work to drudgery, and the import work to gratification: used in the context of an argument about abolishing the franco valuta trade, it says, "Do not tie the mouth of the threshing ox" (cited in FAO/AOAD 1979). There is no data available on which the aptness of this metaphor might be tested, but the hypothesis that is worth testing is that the export trade merely fuels a higher profit balance on the import side of the ledger.

Summary: A number of different livestock production systems operate in Somalia. They are organized around and succeed in providing subsistence to three-fifths of all Somalis, and supplement subsistence cropping to another fifth of the population. Surplus dairy products (milk and ghee) are sold, as are the vast bulk of male animals unnecessary to breeding or transport operations and the hides or skins of animals killed for meat. Changes in the mix of species in the national herd toward cattle and sheep and away from camels reflect sensitivity to the market for meat in Saudi Arabia, but it is not known what effects such changes may be having upon the rangelands or upon subsistence security. The livestock trade has consistently thrived and is one of the two or three major examples of the efficacy of the Somali private sector: even in the periods of strongest government challenge to private capital, livestock merchants were much too important to national revenues to be tampered with. Trade has expanded into the hinterlands with transport growth, and the new national highway has permitted deeper penetration of the countryside by the major traders. Supply constraints, on the other hand, are not known, since there is neither accurate information on production nor on effective services available to the primary producers. Substantial but uncounted numbers of young men are leaving the countryside, or being deployed away by their families, to try to secure incomes outside the livestock sector; much of this transfer may turn out to be desirable if the enterprises which remain produce equal or greater returns to the sector, but there are also disturbing signs that the small-holder sector may be slowly liquidating assets altogether for the greater security of urban resources. If that happens, Somalia's range resources will be unutilized and will fall into disrepair, its major foreign exchange pump will be dismantled, and its major source of internal tax revenue will run dry. It is in no one's interest to clear the rangelands before sound judgements become available that it is in the pastoralists' and the country's advantage.

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PERCEPTIONS OF CRISIS VERSUS SYSTEMS DEVELOPMENT: DEVELOPMENT EFFORTS IN THE LIVESTOCK SECTOR

Introduction

The livestock sector in Somalia and its various systems of production and exchange have only barely begun to be described in any detail. As compared even with similar semi-arid pastoral areas in the West African Sahel or in anglophone East Africa, little is known of the basic parameters of production and market conditions. With only a weak development of administrative field capacity or academic interest during colonial days, the post-independence governments of Somalia have been severely handicapped in planning programs addressed to the economic or social realities of the countryside. In lieu of projects generated by knowledge from "below," as it were, developers have been forced to rely on the much less specific perceptions they have gained externally as to what has needed to be done.

A major continuing theme in these perceptions has been the repeated assertion that "crisis" conditions in the pastoral sector demand immediate responses, inevitably responses that will ameliorate the lives of pastoral producers. This history of "crisis" responses has meant that an alternative, long-term, less panicky but more important set of initiatives has been neglected, to the peril of the sector.

In particular, the "pastoral problem" has been seen successively as a crisis of veterinary health, a crisis of immobility, a crisis of social control, a crisis of overpopulation, and a crisis of overgrazing. The themes have been intertwined, and the actions that were supposed to quell the particular crisis at hand have been diverse. The total contribution of these interventions to sectoral development has been, it will appear, negligible.

The "Health Crisis"

As in many other countries, the livestock services in Somalia were first organized to combat veterinary diseases that periodically ravaged the national herd. Mass inoculation campaigns were effective, and rinderpest was brought under control. Trypanosomiasis has been fought, although bovine trypanosomiasis remains a major health constraint in the riverine areas. At specific outbreaks of the disease the "health crisis" is real enough, but again as in other countries (and not only in Africa) the preoccupation of the livestock service with matters of animal health has clouded government's view of the livestock sector. A Ministry of Livestock led by veterinarians developed its concerns by instituting sanitary inspection of urban meat supplies, modern dairying to ensure safe milk for the quality urban market in Mogadishu, a high-quality vaccine laboratory, veterinary assistant training, and other medical services. While all these elements have their place in a national livestock strategy, in Somalia these facilities have been built without a broader analysis of the gains to be made from these (as against other) investments in the sector. At the same time, there are many complaints from pastoralists that the animal health services do not effectively reach out to the rangelands. Further work in the animal health field has been supported by the British (in the early 1970s in the north), and by the Germans (in the early 1980s in the south and central areas). A long-dormant project for

rigorous animal health surveillance in the stream of exported animals (and thus concentrating on the northern triangle) is now again under active consideration, especially since Saudi Arabia has voiced strong concerns that Somalia guarantee that the live animal trade not threaten the new livestock projects in Saudi Arabia. At this juncture between the traditional animal health projects and new and potentially expensive ones in field outreach and export control, it is probably appropriate to mount a careful epidemiological survey with economic and social components to define an optimally appropriate level and pattern of investment in veterinary health.

The "Crisis of Immobility"

Despite the historic vitality of the livestock trade and the dynamic adaptation of Somali nomads to their fluctuating ecological conditions, development planners have portrayed pastoralists - like farmers - as stubbornly bound to tradition and incapable of change. At independence, one zootechnician (Bozzi 1960) held that Somali pastoralists were so constrained by climate and destructive economic competition that only radical intervention policies could enable any economic development at all. Indeed the first Minister of Agriculture, Salad Abdi Mohamud (1960) wrote at the same time of the need to regulate and rationalize land use and to sedentarize the nomads in order to increase yields and benefit pastoralists' living conditions.

Immobility, the presumed "backwardness" of producers, meant that it was difficult to foresee any improvements in the existing sector, and it implied the replacement of the existing (now called "traditional") sector by new forms of production, devised "top down" and directed centrally. By independence the zootechnical research station at Uar Mahan was seen as the cutting edge of a new technology that would replace the old. By 1979 neither it nor the sheep farm at Assura or the Afgoi Dairy Farm - all meant to develop new technology - had reached full development or benefited livestock producers (World Bank 1981, Vol. II, p. 16). The Trans-Juba Livestock Project, as well, conceived to build a new production system by buying weaned cattle from nomads and building a new ranch, irrigated fodder farms, a feedlot, and ancillary services, collapsed soon after it was initiated in the mid-1970s, in part because the supply of weaners was simply not forthcoming. Hopeful and large investments in new production systems have thus not yielded their expected results, while the assumption that the old and tried systems need replacement has not been tested.

The "Crisis of Social Control"

Efforts by governments to assert greater control in rural areas have been widespread everywhere in the developing world - Tanzania's villageization policy for dispersed farmers, for example, was based on the assumption that administration and the provision of services required the geographical concentration of the rural population. Central governments have routinely seen nomadic pastoral movement as a force inhibiting their integration into national administration, even when they recognize that such movement is a primary economic mechanism for harvesting vegetation to serve human food needs. Since the early 1960s and the first development plans, the Somali government has enunciated a goal of sedentarizing the nomads. Investment for this goal has included the provision of stock-water points, in the late 1960s

with European assistance (the EEC Pilot Project) and currently with USAID funds, on the assumption that more water near "home" (dry season) grazing areas would induce greater stabilization of the nomadic population. To the contrary, research in other countries shows that nomads are conserving feed, not water, in "home" areas for the difficult period by moving away in the wetter periods. While there may be other good reasons for providing water points, sedentarization can only be contemplated when it makes greater economic sense to feed animals year-round without nomadizing that with it - and at that point, nomads are very likely to sedentarize themselves without government intervention. In the meantime, sedentarization as a political strategy for providing services or administering remote populations will remain counter-productive to nomadization as an economic strategy for maximizing national production (see Aronson 1980). In any case, premature sedentarization policy, implemented by governments on the assumption that it will help consolidate their power, usually misfires and creates more antagonism than there was before. For these reasons, it is perhaps fortunate that no large sums of money have been spent on settling nomads against their will in Somalia. A general belief that sedentarization would be desirable remains, however, and suffuses the next two misperceptions that crises are at hand.

The "Crisis of Overpopulation"

By 1974, when drought struck much of Somalia, a belief had already grown that the rangelands were being degraded by the sheer growth of human and livestock populations. The overstocking of the rangelands has been seriously estimated to be at a rate three times the carrying capacity (Ministry of National Planning, Livestock and Range Sector Study, pp. 8-9), although no one has attempted to explain how it is that livestock are surviving at all at such densities. The IFAD mission in 1979 also held that "overcrowding and increasing vulnerability constitute the real problem of the rangelands." Only the FAO/AOAD mission expressed scepticism about official reporting of the livestock crisis, commenting that "actual developments...seemed to prove those assessments erroneous ever again...[the latest developments] seeming to prove that herds twice the size...[that] experts had called the maximum...can be thriving and still expand in Somalia" (FAO /AOAD 1979, p. 43).

There are no reliable measures - not even any solid "guesstimates" - of the capacity of Somali rangelands to hold stock or people. Yet when the Abaar drought of 1974-75 left scores of thousands of people without any stock at all, the government embarked on a program of resettlement in agricultural villages that was motivated in great part by a sense that the devastation had provided an opportunity to relieve the "overcrowding" in the rangelands. The drought was a real crisis, but the strategy for handling it was based on the untested assumption that future droughts could be alleviated by resettlement. The Settlement Development Agency (SDA) was thus set up, with great fanfare, not only to manage the initial settlements of drought refugees but to provide a permanent siphon through which nomads would be pumped out of the ranges and into settled agricultural villages. The ILO/JASPA team calculated in 1977 that 185,000 nomads should have been settled in this manner by 1981 (ILO/JASPA 1979, pp. 25-26). As it happened, despite large investments by numerous enthusiastic donors, it was not even possible to sustain the original drought refugees in the settlements, let alone to create and populate new

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settlements. But again, the issue is the original assumption that the range was radically overpopulated - no studies have documented (or were carried out to test) the point, while in the absence of an effective instrument for relieving the assumed pressure, the rangelands in fact continue to hold and support a population presumably growing everywhere (except, perhaps, in those areas of the northwest most affected by the exodus to the labor markets of the Middle East). The decision by Somali authorities (World Bank 1981, Vol. I, p. 3) to revise the total 1980 population figure for the country from about 4.2 million to 5 million, excluding refugees, would only wreak further havoc with statistics for range densities, overpopulation, nutritional decline, and the like, if indeed these numbers continue to be calculated or extrapolated from original data that is shaky at best instead of from solid empirical research.

The "Crisis of Overgrazing"

The death of large numbers of animals in recurring droughts, assumptions that backward and anarchistic methods lead traditional graziers to exploit rangelands destructively, judgements deduced from the worldwide population crisis that the rangelands must also be full to bursting, and optimism that ecologically oriented specialists could suggest immediate technical "solutions" to rangeland problems have all conspired in the creation of the perception of an overgrazing crisis in Somalia, as in other nomadic pastoral areas of Africa. In every case, range livestock and vegetation experts brought from countries with long histories of privatized land rights have elaborated projects based on centralized adjudication of claims, the assignment of grazing rights to producers according to scientific calculations of nutritional availability, and close external regulation of grazing based on these prior steps. Famine reserves, village reserves, rotational grazing systems, and livestock collectives all share these fundamental elements. As we shall see in the next section, the response to this supposed overgrazing crisis has included two major projects, in the Northern and Central Rangelands, whose fundamental assumptions have recently been challenged by consultants (SOGREAH 1982), Ministry of Planning experts (Project Implementation Unit 1982), and range evaluators in other similar range projects (e.g. Horowitz 1979, Galaty et al. 1981).

Evidence for range degradation is difficult to come by. J. A. Hunt, the first systematic observer of the Somali countryside, noted overgrazing and trampling in the approaches to northern Somali "homewell" areas and suggested some means of alleviating the problems, but he specifically noted that his opinion was that "the country is not overstocked" (1951, p. 177). Apparently the British Somaliland administration already disagreed, for the official foreword to Hunt's government study wished to "cross swords" with Hunt on the point. In 1971 U.S. range analyst Thadis Box reported "denuded land around the agricultural settlements" where enclosure of land for crops was a recent development, but in general a "system of range use [that] fits in very well with both the needs of the range vegetation and the needs of the animal" (Box 1971, pp. 226-27).

By the late 1970s overuse and deterioration of the range resource was perceived as widespread. The World Bank Central Rangelands Development Project Appraisal Report (1979) notes only a few specific examples of slope erosion and overgrazing around settlements, but it generalizes very simply

that "rangelands in the area are degraded" (Vol. II, p. 51). The only evidence offered for the blanket assertion is of three sorts:

1. That the botanist Hemming noted declines in the wildlife population, especially of big game animals;
2. That Hemming also noted negative changes in landscape stability and rapid surface deflation in many areas; and that
3. The geographer E. Hall had noted that extensive stands of largely dead acacias in 1943 had been completely removed, presumably for firewood, by 1973, leaving the soils open to erosion (Vol. II, p. 50).

There may be other, more direct evidence of overgrazing, but if there is, it has not been cited in the development literature. Ironically, the major degradation reported - namely that caused by the disruption of new crop enclosures or by the search for village firewood - has been used to justify major programs of intervention in the pastoral production systems of nomadic herders. It might be suggested now, that counter-evidence is available that the burden lies with the alarmists, the propounders of "crisis," to prove their assertions more fully before further investment is made along their lines of strategy.

Summary

Development specialists have tended to pick up a series of catchwords and build them into large-scale programs for change. With respect to Somali livestock production, successive alarms have been rung for crises in animal health, in "immobile" traditional methods, in the need for asserting control over nomadic populations, in overpopulation and in overgrazing. When implementation of strategies built on these perceptions has broken down, planners have generally simply picked up a new issue and built a new program. In the meantime, virtually no testing of assumptions has taken place, nor has the measurement been undertaken of the actual production strategies that have, after all, sustained Somalis for at least a millenium.

In this way, a curious dualism has grown up between a thriving pastoral economy on the rangeland - with its particular opportunities, constraints and critical issues almost completely unexamined - and a long-term series of sector programs that have, in the words of Thadis Box, "met with resistance and...resulted in failure" (1971, p. 228), and that offer to producers, in the gentle words of the World Bank, only "services [that] are usually poor and sometimes non-operational" (World Bank 1981, Vol. II, p. 12). With this glum general assessment of livestock programs in the Somali development effort, it is now necessary to examine the major program in which USAID is involved, the Central Rangelands Development Project, in more detail.

THE CENTRAL RANGELANDS DEVELOPMENT PROJECT

The Central Rangelands Development Project (CRDP) is the third major, multi-laterally funded project in Somalia to be based on the range management approach to livestock sector development. Like its predecessor and model, the Northern Rangelands Development Project (NRDP) (and many other projects

elsewhere), the CRDP concept drew particularly urgent inspiration from the calamitous Africa-wide drought of the early 1970s, which killed as much as 30 per cent or more of Somali livestock in the 1973-1975 period. Like the NRDP as well, it is now undergoing strong challenges to its conceptual foundation even as it tries to reach full implementation under difficult administrative and field conditions. Since there is still time and will to insure that the CRDP does play a constructive role in the sector, it is worthwhile to review here its premises and plans, and to examine the validity of the challenges addressed to it.

The Project Concept

In the wake of the drought, as in the American dust bowl conditions on the range-lands in the 1920s, the central task for developers was perceived to be the restoration and preservation of the dessicated land base. If range recovery were only a matter of a different year's rainfall, then no human intervention would be necessary. But because overstocking and overgrazing were deemed to be major contributory factors to the apparent range degradation, the control of stock numbers and grazing was judged a major means toward restoring the range. "The problem," says the CRDP Project Paper, is "excessive" population and range utilization, under which conditions "there is little regard for the needs of pasture or range" (CRDP PP: p. 1).

The Project Strategy

Given the definition of the problem and the recognition that straightforward destocking or depopulation programs were not likely to be acceptable solutions, the CRDP hypothesizes that a system of range management can both restore the rangelands and lead to a secure future for the range-based livestock industry. The range management model that is elaborated for the CRDP is borrowed directly from the NRDP. Its central intervention component is the creation of three types of grazing reserves: (a) town and village reserves, each 400 square kilometers in size with an internal system of rotation for grazing improvement; (b) 20 range grazing reserves of 900 square kilometers each, located around a major water point, and again with internal rotation among four blocks of grazing; and (c) twelve 600 square kilometer famine reserves, closed (except for bush control) until needed in exceptional drought conditions. Veterinary coverage of the project zone is to be increased, and a dialogue with pastoralists about livestock improvement is to be begun. When these parallel actions are completed, it is believed not only that the range will have been restored, but that incomes will have risen and that the route to the old goal of sedentarization (here expressed as the "concentration of pastoral communities" [USAID 1979:3 and IBRD 1979:14]) will have been paved.

Implementation

By mid-1982 three parallel sets of activities had begun under CRDP. First, a range resources inventory and the resulting detailed mapping have been completed. Second, a non-formal education (NFE) unit has recruited range officers and elders in the project zone as contact field informants and as local animators of project support activities. Third, a USAID-funded team of range ecologists and taxonomists has arrived to begin the implementation of

grazing reserves. The team plans to choose a "priority district" in each of the three CRDP Regions in which to concentrate the creation of reserves, with detailed district grazing plans based on vegetational analysis to be elaborated by early 1983.

Critique

There is now general agreement among experts that the grazing reserve system envisioned for the Northern Rangelands has failed. The Project Implementation Unit of the Ministry of National Planning has offered the tersest analysis (MNP:PIU 1981:6): (a) Famine Reserves sites were identified, but no water points or grazing restrictions were implemented; (b) The few seasonal range grazing reserves that were created were simply versions of the traditional transhumant system under which pastoralists left their home grazing areas for the rainy season. For the government then to announce those areas "closed" was merely to recognize the existing management system; (c) the sixty town or village reserves that were created were popular, apparently because they enabled sedentary stock-owners (most probably with other occupations in the settlements) to keep pastoral herds and flocks away from the village environs. The reserves may thus be seen as a form of zoning in favor of the villagers, enforced by project staff who are themselves often stock owners. Ironically, then, the very people brought into a settlement to work on a project aimed at serving pastoralists find themselves supporting grazing rules designed to exclude their ostensible "clientele," the pastoralists. In addition, there is some evidence that wherever reserves of any type have been established, some government grazing guards have been abusing the system by running their own animals in the "closed" areas or informally selling access to others. In short, none of the three types of reserves planned in the NRDP is serving its intended purpose, and some may be serving in ways directly counter to those intentions.

If the problems in implementing such grazing reserves lay only in administrative coordination (water point construction, fair grazing regulation) or in an adequate information base (grazing system beneficiary analysis, for example), then the CRDP might be expected to learn from past mistakes and to do better than the NRDP. Indeed, CRDP implementers claim that they will set up viable reserves and that their information base will be far better than that gained by the NRDP. The USAID-funded team recognizes that "a particular pre-conceived grazing system cannot be imposed on traditionally nomadic pastoralists" (LBII 1982:6), and the World Bank-funded N/E unit is gathering some types of data that may help to gain recognition of pastoral herdsmen's needs and constraints as grazing reserves are elaborated.

But if, on the other hand, the concept of grazing reserves for rangeland recuperation is wrong, or not crucial, then the CRDP may find itself at a more basic impasse. In its evaluation of the NRDP, the French technical consulting firm SOGREAH says flatly that the grazing reserve system as a whole is based on untested assumptions. "No experiments have been carried out in Somalia to justify this concept, and on the contrary, experiments in other countries have shown that prevention of grazing in fact ... works in precisely the opposite direction to that sought [i.e., "grass recovery"]" (SOGREAH 1982: II, 1, 28).

Among the evidence, not cited in the SOGREA report but known to the present analyst, are the following items: (a) in grazing trials in a USAID-funded project in Niger (Niger Range and Livestock Pilot Project), experimental grazing intensities even higher than those in the surrounding rangelands had the effect over short periods of diminishing transpiration from the plants and therefore of preserving soil moisture for an excellent second flush of growth. Heavy grazing also kept some less preferred species from crowding out the more preferred ones. (b) In careful studies in the Malian Sahel, it was demonstrated that indigenous systems of range use in the late 1970s (despite judgments of irreversible degradation) were producing as much animal product per unit area as those in comparable areas of Australia and the U.S. (Breman 1981). Productivity per enterprise (or, per worker) was lower, of course, but that issue points in very different directions from immediate external intervention for grazing management control. (c) In Somalia small enclosures built to test the natural regeneration of vegetation failed to produce a species mix appreciably different from the rangelands as used.

On the theoretical level, thus, there is some reason to doubt that substantial gains in livestock or range productivity are to be made by interventions in the grazing system or by the substitution of reserves based on analysis of range vegetation condition and trend over the productivity of the herding system already managed to such resilient effect by Somali herders on their own.

If this accumulating scientific information suggests that range management is not the binding constraint on livestock production, then the non-range-based constraints on Somali grazing systems must be investigated with care. The range movements and animal husbandry strategies of pastoralists are influenced by changing feed and water supplies, of course. But they are also conditioned by patterns of pest and disease prevalence, by the location of friendly or hostile social groups (non-herders as well as other herders), by labor availability and herd investment strategy, by personal needs such as the location of health or school facilities, and by numerous other factors. Pastoral families and communities are obviously the best judges of their own requirements. If any collective restrictions on those judgments are needed - and we have noted that there is room for doubt on that score - such restrictions will only be respected by herdsmen if the restrictions themselves respect the herdsmen's vital interests. Thus grazing system design oriented primarily to rangeland improvement may well prove ineffective in influencing the small livestock producers in the way the CRDP project team hopes.

LIVESTOCK SECTOR RECOMMENDATIONS

Livestock sector project work has repeatedly come at sector development from perceptions arising from external and relatively superficial assumptions of some crisis in the sector. As shown in earlier sections of this chapter, developers have attacked a "crisis" in health, then a "crisis" of overstocking, then a "crisis" in range degradation. Through it all, as an FAO team remarked in 1979, "Somalia has been able to stand up against actual developments which seemed to prove these assessments erroneous ever again" (FAO/AOAD 1979:43). Indeed, projects have come and gone without leaving much tangible effect, dire predictions have faded away, and in 1979 a national herd "twice the size of what ... experts had called the maximum carrying capacity

of the 'overgrazed' rangelands, can be thriving and still expand in Somalia" (FAO:AOAD 1979:43).

Livestock sectoral development and change on the ground have thus had a life apart from sectoral planning and project work. Perhaps such divergence of the herdsmen's and the developers' realities is only to have been expected in a country as deprived as Somalia is of resources and infrastructure for effective government service outreach. Assuming the stable growth of government, and will and capacity in the sector, it is possible to recommend certain actions at the level of existing projects, of projects now in early stages of design, and of overall sector program.

Existing Projects

CRDP data needs: At the request of the Mission, while in Mogadishu this team prepared a draft scope of work for a level of social and economic analytical effort necessary to give CRDP interventions a point of departure and an ongoing monitoring capacity that begin to take account of the complexity of herdsmen's situations. The scopes of work for intensive studies meant to supplement the broad-scale surveys of the CRDP NFE Unit are included as Studies 6A-C in Appendix 5. The premise is that a more open responsiveness to herdsmen's needs can begin now, with the results of research incorporated into both ongoing project activities and forthcoming redesign periods.

Since this scope of work was prepared, the National Range Agency and its cooperating donor agencies have agreed to fund and implement one segment of the proposed work, namely the anthropologist, who will also serve as cooperatives advisor to the CRDP. This welcome addition to the Project will meet some of the needs discussed above, and will, as well, address some of the more general recommendations on range monitoring in Somalia proposed by Geoffrey Allanson (1981). The appendix scope of work, in a modified form, is retained here to provide what further guidance it can to Somali livestock sector specialists on additional tasks that should be undertaken.

Agro-pastoral projects: The Bay Region Agricultural Development Project (BRADP), the North West Region Agricultural Development Project (NWRADP), and the Agricultural Extension Project all interface with livestock development, either because animal traction is an activity being pursued that is a direct point of inter-sectoral contact or because, in a much more general sense, nearly all farmers are also livestock owners and are constantly shifting labor, capital, and management attentions between sectors. The existence of such intimate connections in the reality of livestock rearing makes coordinated action by government livestock and agricultural officers mandatory. In Somalia as in most other countries, coordination is not easy, especially given the existence of wholly separate Livestock and Agriculture Ministries. At the project or regional level, nonetheless, the means for real collaboration will have to be found. Otherwise, essential conditions for the success of one intervention will change the whole basis for another intervention: an obvious example is that if the intensification of labor is to proceed in agriculture the owner-operation of livestock herds is likely to diminish (there are some reports to this effect for the North West Region). Again, overall rural development is a matter of taking appropriate notice of the actual socio-economic conditions of production.

Forthcoming Projects

Animal Health and Marketing: After several years of inactivity, new interest is being shown in a project that would address itself to the health and handling of animals in the commercial stream. In part this new interest has arisen because port facilities have run down (or been damaged by flood in the case of Berbera); in part it seems opportune to try to aid the thriving private sector now that the somewhat heavy hand of the recently-abolished Livestock Development Agency has been lifted; importantly, it is also because there are reports that Saudi Arabia will begin to insist on firm health measures to protect its own livestock industry.

It is obviously important to build up an appropriate government role in marketing without smothering the thriving commercial system: support of credit and banking facilities, reform of taxation levels and procedures, market development and forecasting, health surveillance, and the provision of transport infrastructure are all part of this role.

It is equally important, however, not to lose sight of the primary producer. If he (or she) cannot raise the productivity of the livestock enterprise, then either he or his children will leave it, or he will resort to extraordinary means (which might include overstocking) to keep up with his increasing cash needs. Exporters say that animals that they are handling are as large and as healthy as ever (interviews in Hargeisa and Mogadishu; July, 1982); but some experts claim that rising domestic meat prices and an increasing municipal slaughter of female stock indicate that the overall system reached its limits. If marketing is to increase, therefore, intervention must take place to provide larger animals more quickly from range grazing. It is timely, therefore, to suggest that animal health - in the broad sense, including nutrition - is a matter which cannot be limited to the commercial herds. A major program of veterinary outreach should and can be planned, since Somalia is already producing both veterinarians and veterinary drugs much faster than the Ministry of Livestock can deploy them to the field. Models of a community-based outreach service now exist in Ethiopia and Niger, and advice should be sought on the costs and potential benefits to Somalia from mounting such services. An assessment of potential animal feed stuffs should also be made, with a view to the possible use of agricultural by-products for high-quality emergency feeds for at-risk animals and/or to build drought reserves.

Sector Programming Strategy

Livestock sector planning must move from the state of responding to perceived general crises to a stage of detailed programming based on long-term monitoring and research activities. Agricultural project planning in Somalia has already become location-, problem- and crop-specific, and livestock planning must follow the same strategy. To make this possible, critical statistical and other data-gathering services must be created and implanted within the Ministry: the proposals of Geoffrey Allanson (1981) can serve as a detailed basis for discussion.

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Somali livestock production and marketing systems continue to serve domestic subsistence and urban demand as well as a vast and increasingly discriminating foreign market. Livestock development investment possibilities must be ranked according to priorities that will best serve the long-run development of all these components of the industry. Most of the investment necessary can be through the private sector, since, as we have seen, virtually the whole industry is already in private - and effective - hands. Three types of pre-investment study might now prove fruitful:

Subsistence versus Commercial Production: It has been asserted that subsistence production has declined relative to commercial production (Swift 1979:453-455), with costs to the reproduction and maintenance of family labor among small producers. If subsistence income and subsistence security are declining, the family livestock enterprise may be doomed unless market returns can provide not just for consumer goods and food but for the old age assistance, disaster insurance, and other goods that traditional social strategies provided. The assertion of subsistence production declines, therefore, needs to be tested, with studies of species mix in family herds and consequent milk supplies, milk and meat disposition studies, and studies of capital investment cycles. Assessments also need to be made of the growth of herding as wage work, since rated wages often indicate that traditional mechanisms that held out the possibility of more immediate capital regrowth have failed. Investment in upgrading subsistence income and security may prove salutary to the whole industry.

Intensity of Commercialization in Different Geographical Areas: Brief regional or district level studies of livestock marketing could point to appropriately fine-grained investment needs in transport facilities, veterinary care, market stimulation, or the provision of credit. The effect of the new national highway on grazing patterns should form a part of this study, since there are reports of concentrations of animals near this road.

Urban Bias in Livestock Investment: Balanced livestock development requires that no undue emphasis be given to cheap urban meat supplies at the expense of other possible developments. Levels of investment in facilities for the Mogadishu-Benadir urban markets have been high in recent years, whether in poultry, improved dairying, or the condition of markets and abattoirs. The opportunity costs of using scarce national resources in this way should be examined in discussions of further developments of this type.

Red Sea Marketing Studies: The pioneering efforts of the FAO and the Arab Organization for Agricultural Development (FAO/AOAD 1979) in analyzing the meat markets and supplies of the Arabian peninsula and north-eastern Africa must be replicated, updated, and elaborated. Since this commerce is crucial to Somalia's future, the GSDR should support efforts to examine fully not only quantitative factors of supply and demand but also marketing and financial arrangements in and among the various trading partners. As one example of how far beyond the present state of technical knowledge actual arrangements are, it is interesting to note that Yemeni buyers are taking the best rams from northern Somalia possibly for resale into Saudi Arabia, with part of the proceeds reentering Somalia as trade goods from Djibouti and part being used

by Somali traders for purchases of livestock in Ethiopia! Somalia should look to encouraging the best interests of her traders in this complex network but can only do so with much more precise knowledge of what that network actually involves.

Summary

The livestock sector is the foundation of Somalia's economy, yet the concrete elements of its functioning have received scant attention from government, foreign donors, or scholars. It must retain its vitality over the long term in the face of the increasing challenges of alternative occupations available to its present and future herdsmen (unless its productivity with less workers), or alternative supplies available to its customers. To do so, the sector must be developed in full collaboration with the producers themselves. Studies must begin - far from having been "studied to death," the sector has hardly been studied at all; alternative investment decisions must be weighed; a variety of outreach services must be created and nourished. At a more general level, living standards must be increased for all Somalis - as one nomad remarked, "What good does it do to have veterinary doctors for our animals when we are dying of diseases?" The real test of sector development lies with the choices that become available to men such as this one, as they decide about the kinds of lives they and their children will live.

Dryland farming directly supports only 14 percent of the Somali population and occupies less than one percent of the total land area. Its significance in development policy planning is greater than is indicated by its present economic role, for it is believed that the intensification and extensification of cultivation can substantially increase crop production, help reduce the national food deficit and perhaps absorb excess population from the pastoral sector. In support of this policy USAID and other donors are currently financing a major agricultural development project in the interriverine area (The Bay Region Agricultural Development Project).

It is clearly recognized in USAID's Agricultural Sector Strategy for Somalia that agricultural development activities will be successful only if they deal with the central problems faced by farmers, build upon the strengths of their existing farming system and household economic strategy, and realistically assess the availability of natural and governmental resources needed to lift binding constraints. The purpose of this chapter is to summarize what is known about these issues in the interriverine area and, in light of this information, to suggest ways that present policy and projects can be improved.*

THE INTERRIVERINE AREA: LAND AND PEOPLE

The interriverine area covering 208,500 square kilometers between the Shebelle and Juba is by far the largest tract of fertile land in Somalia (See Maps 1, 3, and 5). Rainfall in the area is the highest recorded for Somalia as a whole but averages less than 600 mm per annum, with variations in the range of 400-570 mm in good years. Moreover there is great variability within the area and periodic droughts can be expected once in every four to five years.

Three broad types of land use are found within the area: pastoralism, rainfed agriculture, and irrigation. Pastoralism predominates in the dryer regions and is based, as in the northern and central parts of Somalia, on a locally varying mix of sheep, goats, cattle and camels. The principal crops are sorghum or maize in higher rainfall areas, and sesame, beans, and squashes. Contrary to some reports, rainfed agriculture has been practiced in the interriverine area for at least four centuries.

Traditional small holder irrigation along the Shebelle and Juba rivers is practiced in two ways: by successively planting the alluvial soils along the rivers as the annual flood recedes, and by constructing irrigation channels from runoff streams or rivers. In either case, maize is the staple crop but beans, fruit, cotton, sugar cane and tobacco are grown as well.

*Our emphasis is on the Bay Region, in recognition of its present economic importance, its potential future significance, and because it is the site of the experimental Bay region project.

Today most of the high quality land along the rivers (about 35,000 ha) has been appropriated, in most cases without direct compensation (See World Bank, Somalia Agricultural Sector Review, Annex 4, pp. 12-13), by modern sector, public or private, large scale controlled irrigation schemes. It is used to produce sugar, bananas, grapefruit, and other export crops.

The people of the area between the rivers are, for the most part, ethnic Somalis, with the Rahanweyn and Digil clan families (categorized as the Sab) numerically predominant. The organization of these clan families is broken down into a composite cluster of numerous smaller groups who moved into the region over the centuries in successive waves, pushed by drought or enemies or pulled by the additional security of cultivation or perhaps, in the more recent period, following the trade routes that bisected the region. More recent arrivals have affiliated themselves with holder groups as clients, and their descendents have gradually been absorbed into the host group over several generations. The social and political organization of the interriverine pastoral and rainfed peoples thus tends to be organized on a more territorial basis than in the north. Leadership is based to a greater extent on locality, social classes are more clearly differentiated, and political relations more hierarchical.

The riverine peoples along the Juba and Shebelle, by contrast, are to some extent distinct from one another and from other inhabitants of the area. Groups found along the lower portion of both rivers are the descendents of slaves brought from Kenya and Zanzibar prior to the suppression of slavery. Many of them speak Swahili and are less well integrated culturally, socially and religiously into the dominant Somali society than other groups. Groups found along the upper Shebelle are evidently of part Bantu and Galla origins, but they are linguistically and culturally closely allied with their ethnic Somali neighbors. Both groups have few livestock because of tsetse infestation and subsist largely on the cultivation of mixed crops raised on fields adjacent to their permanent settlements to which they bring the flood waters of the river through irrigation channels. The social and political organization and religious beliefs of the riverine groups is distinct from that of the ethnic Somalis, with greater emphasis on the cohesion of the local irrigation-based community. As the rest of this chapter is primarily concerned with the dry land farmers and pastoralists who inhabit the Bay region, these distinctive social and cultural forms will not be examined.

SETTLEMENT IN THE BAY REGION

The distribution of permanent human settlements in the Bay Region corresponds closely to the distribution of land with the highest potential for cultivation in terms of soil fertility and rainfall. As is shown on Map 5, this land is scattered in a broken arc, running from the southwest through Dinsoor to Baidoa and from there to the Bur Acaba area to the southeast. In these areas the arable farming system is long established, stable, and well adapted to the agro-ecological environment and makes effective use of existing resources. Approximately 90 percent of the land in the cultivation cycle is under crops in any given year, and only 10 percent in fallow. In some areas up to 70 percent of the land is in the cultivation cycle. In others, particularly in the southwestern part of the region farthest from the main road, there is greater potential for the expansion of cultivation (See Map 5). A recent land use survey by Hunting Technical Services estimates that

approximately 320,000 ha are cultivated and that there are another 70,000 to 80,000 ha of land for potential expansion. (Hunting Technical Services, 1982, pp. 20-25.)

The land around the settled and cultivated areas with lower potential for cultivation is used for grazing (Map 5). In addition, there are apparently extensive areas of range which are underutilized during the dry season because they lack an all-year water supply.

In areas of permanent cultivation from six to eight households, with an average of from five or six members, are grouped in hamlets, often enclosed by a thorn fence within which they keep their livestock at night. The hamlets are permanent, though their inhabitants may have to leave them and move from 80 to 100 km away if their wells and ponds run dry during the dry season. Hamlets may be from a few hundred meters to a kilometer or more from one another, separated from each other by their respective fields and, in some areas, common pastures. A cluster of hamlets constitutes a territorial-administrative unit known as a bullo which usually shares a common hand-dug pond (uar) or well. A dozen or so bullo, generally separated from one another by wider areas of common pasture, make up a village or tullu, under the administrative control of a headman who may be selected democratically in accordance with tradition or, with increasing frequency, appointed by the government.

Nomadic settlements, by contrast, are scattered between the areas of permanent cultivation and in the peripheral areas of the region where cultivation is not possible. Both the nomadic settlements and constituent households are smaller than those of permanent settlements.

According to the 1975 Somali National Census there were approximately equal numbers of farmer and pastoral nomad households in the Bay Region, though the settled farming population was more than 40 percent greater, due to larger family size (Figure 1). Another 20 percent of the population was classified as non-agricultural.

Figure 1. Bay Region Settlement Types
(based on 1975 census, projected to 1980)

		No. Persons	No. Households	No. Persons
	<u>1975</u>	<u>Est. for 1980</u>	<u>Est. for 1980</u>	<u>Per Household</u>
1. Non-Agricultural (mainly wage-earners and townspersons)	20%	68,683	16,700	4.1
2. Settled Farmers (including semi- nomads)	47%	161,405	29,400	5.5
3. Pure Nomads (most of whom live in the region)	<u>33%</u>	<u>113,327</u>	<u>31,500</u>	<u>3.6</u>
TOTALS:	100%	343,415	77,600	4.4

(From USAID "Bay Region Agricultural Development" Project Paper, Annex XIII)

This official classification of households by settlement type is misleading, for it masks the fact that households of two or three types are often grouped together in larger extended family management units. The individual households, under the management of closely related kinsmen, enjoy considerable autonomy in day-to-day affairs but constitute a single extended family unit in regard to the allocation of resources and the pooling of risk.

The larger extended family unit may be managed primarily by one individual if the individual households are headed by a father and his sons, or "jointly" if the households are headed by brothers or cousins. In either case, individual household members, capital, and consumer goods can be transferred from one household to another to adjust income and consumption imbalances, to obtain higher prices for produce, to take advantage of employment opportunities, to start a new enterprise such as a shop, to place a child closer to a school, or for other similar purposes.

This institutional pattern of extended families pursuing a mixed income strategy that may combine herding, cultivation, wage labor and commerce is merely a variation of the pattern of economic organization discussed in Chapters III and IV above.

Nor is this pattern new in the Bay Region. Lewis, citing earlier Italian sources, notes that:

Many of the clansmen in this area between the rivers practise a dual economy. Indeed the most fortunate not only possess several fields in different places which enable them to profit from the unequal seasonal distribution of rain, but also sheep and goats, and herds of camels and cattle. In these circumstances the head of the family often spends most of his time in his cultivating village where at least one of his wives is settled with her children, while another wife and her children live as nomads with the flocks and some camels and cattle. A third wife may move with the main cattle herd. This pattern of dispersion of family units indicates some of the economic factors which underlie polygyny. Where the mixed farming unit consists of a group of brothers it is usual for the eldest to live on the farm while the others manage the stock units. (Lewis, in FAD/Lockwood 1968 pp. 11-12.)

More recently Paula Roark, working in the Bay Region, observed that settled villagers distinguish "family nomads" from guest nomads and that they regularly exchange places with the former from time to time. (Roark, 1982, p. 7.)

INCOME STRATEGIES

The income generating strategies and farming practices of Bay Region households and extended families are well adapted to meeting the challenge and risks of exploiting pastures and good soils in an uncertain climate. The basic agricultural strategy is agro-pastoral and is characterized by a high degree of spatially decentralized and well coordinated integration of

cultivation and livestock production.* This agro-pastoral strategy is complemented by a strategy of moving labor to the riverine zone during the dry season and, in times of severe drought, taking refuge there. In the present century income strategies have been broadened to include migrant wage labor on modern sector plantations, in Mogadishu, and most recently in the Gulf states. An increasing number of extended families have also been investing in commercial enterprises, urban real estate and transportation (trucks).

Individual household and extended family sources of income serve differentiated but complementary needs. For settled farming households food security rests heavily on the production and storage of sorghum. In good years some sorghum is also sold for cash, which is used to buy consumer goods, including medical care, or to purchase livestock. Livestock serve several economic functions. Small ruminants provide farming households with meat and are sold when small amounts of cash are needed. Cattle and camels contribute some milk seasonally but seem to be equally or more important as a form of inflation-proof (though not drought-proof) savings and as a capital investment. All forms of livestock have greater liquidity than land or crops. Seasonal or longer term rural labor migration to the riverine area is primarily used both to earn wages and to ensure food security. Overseas labor migration, post-elementary education, and investments in urban real estate, transport, or commerce represent an effort to attain substantially improved socio-economic and hence security status.

Agriculture

The same concern with avoiding risks and with the efficient use of resources that characterizes extended family and household income strategies as a whole also is evident in the way they carry out each of their productive activities. In crop production, techniques of land preparation, planting and weeding, harvesting, and storage are labor intensive. They are designed to minimize the chances of crop failure due to drought and to survive drought when it occurs. Each household usually has several fields, totalling five to ten hectares or more, depending on its inheritance and labor supply, which are scattered to reduce the chances of crop failure. The fields are first cleared of weeds and stubble from the previous season's crops. If the weeds have been controlled well, minimum tillage techniques are used to conserve moisture. In some parts of the region a distinctive pattern of bunding is used to retain rainwater runoff after a downpour. This labor intensive activity requires leveling and ridging and results in a waffle-like pattern of square plots two or more meters on a side. In at least one area (Audinle) fields in a natural basin are arranged so that they receive supplemental run-off water from the surrounding higher ground (Schmidt 1981).

The main crop sown is sorghum, often interplanted with cowpeas. In recent years peanuts have been increasing in popularity, as the oil is a satisfactory substitute for more valuable ghee, which can be sold to traders and townsmen.

*A somewhat similar system of agro-pastoral exploitation is to be found in Botswana. See, for example, Peters 1982.

Plant spacing also reflects the farming household's concern with risk. To the outside observer planting appears sparse, uneven and, from the point of view of maximum production, sub-optimal. Experts familiar with dryland agriculture, however, believe that this pattern of planting densities represents a compromise which is "high enough to take advantage of favorable moisture seasons but low enough to survive and produce something during relatively dry seasons" (Schmidt 1981).

Weeding, which is believed to represent the binding labor constraint on production and involves women and children as well as men, also has a critical water conservation function, as weeds are in competition with crops for moisture in the soil. By all accounts, Bay Region farmers keep their fields remarkably weed-free. The head of field trials at Bonka Agricultural Research Station near Baidoa told us that farmers' fields are much "cleaner" than his. According to Onor, writing in 1918, fields increased in value with use as intensive weeding progressively reduced the weed population from year to year (Onor 1924).

Storage is essential to cope with the ever-present threat of crop failure. Year to year variations in rainfall are great. The World Bank (1979) estimates suggest that partial crop failures occur throughout the region once in every five gu seasons and in one out of every three dir seasons. For this reason the largest part of the sorghum harvest is stored in underground pit granaries from two to three meters deep. The pits are dug, dried, sterilized with fire, and lined with stalks before being filled with unthreshed sorghum heads and covered with stalks and soil. It is said that sorghum has been stored successfully for up to ten years in this way, though losses of up to 30 percent due to insects or moisture are also reported to be common problems. Farmers are said to store enough grain for four or five years' consumption against the possibility of prolonged drought.

Livestock production is integrated in household and extended family units in several ways. Small ruminants and a milch herd are kept in the vicinity of the farming household's residence. Camels, cattle, and additional sheep and goats are generally herded separately from one another at a considerable distance from the settled farming area by "nomadic households" of the extended family. As among the pastoralists described in Chapter IV, there are complex, well coordinated, and regulated patterns of seasonal migration and range management throughout the Bay Region. These include the movements of households and herds of the region's minority of "true nomads," as well as of nomadic households which are branches of extended families that also practice cultivation.

Another form of integration is achieved by grazing livestock on sorghum stalks, stubble, aftermath, and weeds, which in turn provides some manure for the fields. Enduring but contractual arrangements regulate this practice when it involves the animals belonging to distant kin or true nomads.

A few households also use oxen or camels for traction to plough their land. This practice, which was introduced by the extension service, is not yet widespread. This has been variously attributed to the over-design and inappropriateness of the plough introduced by the Wyoming project in the mid-sixties, the fact that weeding, rather than plowing, is the binding labor constraint on production, the reluctance of livestock owners to force their

animals to work, and the expense of feeding the oxen or camels near the village during the plowing season. This last hypothesis seemed to be confirmed in one village we visited, but further study is badly needed on this topic before further attempts are made to introduce or re-design animal traction.

On a day-to-day basis, labor for these productive activities is organized primarily on the basis of the household or households of the extended family that are co-resident in the same compound. Men alone usually perform the heaviest work, such as cultivation and bunding. Women play an essential role in weeding and help with harvesting. There are no strict customary rules governing this division of labor. Women participate with men in basic household decisions concerning crop and animal production and have special ownership rights and management responsibilities concerning sheep, goats, poultry, ghee production, and hides and skins sales. Both men and women milk large livestock, participate in skin and hide preparation, and attend to animal health needs. In other economic activities men are primarily responsible for labor on pond and house construction. Women are responsible for securing water and fuel wood, as well as for a wide range of household tasks, of which the most arduous are threshing and milling food grains. Women can also own and manage pack animals and in polygynous families often act as sub-herd managers of large stock.

In sum, it appears that the cultivation and herding strategies of the Bay Region's rural inhabitants represent a reasonably efficient adaptation to local conditions in light of available technology, factor endowments and their economic needs.

Migration

Migration by individual members and entire households has long been a part of the income and risk avoidance strategy of Bay Region extended families. In periods of prolonged drought they sought refuge as worker-dependents in riverine villages on the lower Shebelle and Juba. Throughout much of the present century, and perhaps earlier, men from the Bay Region, sometimes accompanied by other members of their families, have sought casual employment during the dry season in the irrigation-based villages along the rivers and, more recently, near commercial sugar and banana plantations.

During the present century many families from the Bay Region settled permanently near the plantations. They did not, however, sever their social or economic clan ties with the Bay Region, for when the gu rains were plentiful perhaps as many as 80 percent of them sent members back to cultivate their lands. In the Bur Acaba area, which is closest to the developed region of the Shebelle, men return to their "home" lands to cultivate their fields for as little as two weeks, leaving a wife and other kinsmen behind to weed and tend the crops, thus exhibiting yet another permutation of the flexible kin-based economic unit.

Today the direction and significance of labor migration to the riverine areas is related to variations in rainfall and producer prices in the Bay Region as well as wage rates and opportunities for employment in the riverine area. Thus, for example, in recent years dry season labor migration by members of poorer households from the Bur Acaba area to the lower Shebelle, and from Baidoa to lower Juba has declined from perhaps 25 percent to 10

percent of households, and some households have shifted their main base back to the Bay Region from the riverine area. Informants attributed these changes to higher commodity prices and better rainfall in the Bay Region and to the desire to obtain individual written titles to a share of the traditionally held family lands.

In the past decade labor migration to urban areas has also become significant for an increasing number of households. By the late 1960s young men from the Bay Region had begun to migrate in numbers to Mogadishu, where many of them settled near the market and sought unskilled work. Once again, economic ties with kinsmen, in the Bay Region were maintained. Remittances in cash and consumer goods were sent back to older kinsmen, and investments were made in agriculture, especially in livestock. Children from the rural areas were sent to live with urban kinsmen to learn a trade or go to school. This pattern of rural-urban household linkages persists today. Indeed we encountered several examples of it on a brief field trip off the main roads more than 80 km from Baidoa.

In the mid-seventies Mogadishu became a staging point for labor migration to Saudi Arabia, and men from the Bay Region began to go abroad. Direct labor migration from rural areas of the Bay Region to Saudi Arabia seems to have become significant only over the past two to three years. Villagers we interviewed in five farming communities from 20 to 70 km from Baidoa on the limestone plateau indicated that this change is due to the fact that more families can raise the ten to twelve thousand shillings' investment needed for the trip. This, in turn, they related to a tenfold increase in livestock prices over the past few years. Nevertheless, it is only the sons of wealthy households who can afford to go. Land, they reported, is not sold to finance labor migration. In the villages we visited, between 3 and 6 percent of the households were said to have members in Saudi Arabia.

Earnings from workers abroad are used to purchase consumer goods, to invest in residential and rental property in Baidoa or in small Toyota trucks for commercial use, and to establish shops in town or in the rural areas. No one interviewed in the villages suggested the remittances would be invested in rural land or agricultural improvements (other than livestock). It seems that families sending sons to Saudi Arabia hope thereby to achieve a significant improvement in their security and social status.

Summary and Conclusions

Households and extended families in the Bay Region have long engaged in flexible, multiple income strategies, often requiring multiple residence and involving the transfer of labor and capital resources from one decentralized management unit to another in response to changing circumstances. The strategy a particular household and extended family decides to pursue depends on its consumption needs; the age and sex structure of its labor force; its access to productive resources, including arable land, water, and pasture; its location in relation to commodity and labor markets; its assets, most particularly in livestock; and its ties with kin groups in urban centers.

This pattern of flexible organization and income strategy has enabled Bay Region households to cope with the rigors and risks of an unpredictable climate and to take advantage of changing opportunities in their wider

economic and political environment. It has also created important linkages between local, national, and even international commodity and labor markets as households allocate their energies and resources between differing productive activities in response to changing conditions.

Understanding the nature of variations in household and extended family organization and the linkages between the local and national economy is essential to formulating an effective rural and agricultural development strategy for the Bay Region and other regions in Somalia. It is unrealistic to regard Bay Region farmers as isolated, tradition-bound, and static, and to expect that their options will be narrowly constrained by their local, agricultural enterprise alone. Thus, for example, it would be unrealistic to assume that there are no opportunity costs to additional labor inputs required by new agricultural practices, that there are no risks in further agricultural intensification and specialization, or that there are no savings available for capital investments in the region. Similarly, development projects focused narrowly on one sector are likely to have unanticipated consequences for the total economy of a region. Planning will have to take these institutional and economic realities into account, and for this to be possible it is of the utmost importance that studies be launched that will illuminate them with greater clarity. (Studies 2, 3, 4, 6, and 7 described in Chapter VI and Appendix 5 are designed for this purpose.)

THE MANAGEMENT OF PUBLIC RESOURCES

In the past, access to scarce public resources, including dry season pasture, arable land and water, was controlled by two kinds of indigenous social institution, the dia-paying clan group, which united groups of extended families on the basis of patrilineal kinship ties, and locally-based user associations based on contractual agreements to construct and maintain capital projects. Recent political, economic and administrative changes in the Bay Region, as elsewhere in Somalia, have altered the nature and effectiveness of the control exercised by these institutions. It is essential that policy makers understand this transformation in the nature of rights in public resources if they are to foster wise resource management and, at the same time, to provide incentives for increased production and investment to farmers.

In the past the clan-based system of dia-paying groups provided the widest framework for resource control and management as well as for security. Individual households and extended families had rights of access to pasture, arable land and natural water sources in virtue of their membership in or contractual arrangement with a corporate dia-paying group (see Chapters II and IV). Their ability to exercise these rights was contingent on their acceptance of the obligations of membership, of which the most important were the obligation to participate in collective responsibility and blood payments for killing, the defence of the group's resources against other groups if necessary, and the contribution of labor to develop and maintain dry season water ponds and wells manage by their group.

Wet season pasture was not scarce and was, in principle, open to all friendly groups for grazing, though in reality hostilities between dia-paying groups or coalitions of groups often restricted access to particular pastures. It is not clear whether access to dry season pastures, per se, was

restricted but the artificially created waterpods and wells without which many of them could not be utilized were held by "specific clans, clan segments and individuals, title being acquired by the act of expending physical effort in their construction and maintenance." (Lewis, 1968 p. 17.)

Access to these wells and, less frequently, to the ponds was usually freely granted to alien but non-hostile groups on a reciprocal basis. In times of scarcity, however, such rights might only be granted in return for some payment in money or kind (Lewis, 1968, p. 17). In the Bay Region with its harsh and variable climate, resources such as water and dry season pasture that were scarce only in years of drought were of great strategic value. For it was surviving bad times, rather than maximizing production in good times, that was of paramount importance.

A household's access to arable land in a particular locality, whether under cultivation or reverted to bush for fallowing, was held by virtue of its affiliation with the local dia-paying group specific clan groups. These groups thus constituted a kind of corporation in which all members were shareholders, while the chiefs and elders served as officers. Every clan member, in principle, had the right to cultivate some land, provided he fulfilled his clan obligations. He was not, however, guaranteed access to an equal share of land, desirable land, or land in a favored location. Individuals held particular parcels of land or fields marked out by bush, stone, and aloe boundaries. These individually held plots were inherited through the male line, though they might be worked jointly by the heirs.

While potentially arable, uncleared land does not appear to have been scarce, cleared land in which labor had been invested for a number of years and which consequently had lower weed densities was valued. Transfers of this type of land between clansmen seem to have been permissible. Land transfers to outsiders were permitted only if they were willing to become subordinate clients to the owning clan.

During the period of Italian colonial rule dia-paying group boundaries were marked out, in an effort to control friction between adjacent rival groups. This suggests that good quality cultivated land was scarce, even though low quality, unused land was abundant.

The other indigenous organizational framework for managing public resources is provided by voluntary but contractually binding associations of users. The most important resource managed by this type of organization was (and is) water. While man-made ponds and wells on which most settled villages are dependent are "owned" symbolically by the individual or group of individuals who organized the original work of excavation, access to them is shared by all households that agree to contribute their labor to the construction and maintenance of these public resources. Each water user association has a democratically elected water committee, which establishes a code of rules regulating the use of its water and a maintenance schedule. The rules stipulate fines for wasting water or for polluting it by improper use, such as washing clothes or watering animals. The committee also appoints water guards who enforce the rules and make sure that only association members use the water when it is scarce.

Associations of villagers organized without regard to kin-group affiliation are also organized to clear bush and open new lands, to plant and harvest, and to engage in house construction.

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The two principles of organization, by clan group and by user association were not, to be sure, independent of one another: for the villagers who voluntarily joined the associations owed their very residence in that village to their clan affiliation.

During the present century the role of these indigenous resource management institutions has been weakened and altered and the land rights vested in them transformed by the erosion of the clan group system; but the expansion of central government authority, improved transportation and the related development of commodity and labor markets; and, most recently, by technical change.

While neither the colonial nor post-colonial regimes have been able to dispense entirely with the clan-based institutions at the grass roots level, their political, jural and land holding functions have progressively been restricted. The Italians sought to tame and modify the clan system to suit their administrative needs. The post-independence Somali regimes have attacked the clan system more directly. In 1960 the government passed legislation officially abolishing the social status of client groups and upholding the right of every Somali citizen to live and farm wherever he chooses, independently of his particular clan and lineage affiliation (Lewis 1968, p. 21). The change was not immediately or entirely effective in remote areas like the Bay Region, for farmers' security and social relationships with one another remained enmeshed in the matrix of clan and kin ties. Later, the present government, in further attempts to erase the traditional social order, substituted a state-imposed death penalty for the traditional system of inter- and intra-clan blood money payments and made any reference to clan membership illegal.

Today it is the government's position that all land belongs to the state and that individuals and groups can exercise only leasehold rights. Unused land is held to revert to the state, which can lease it to an individual, a corporation, a cooperative, or use it directly for a state enterprise. Under a rather liberal interpretation of eminent domain, the government has also appropriated land used by traditional riverine groups into state settlement and irrigation projects (Scudder 1981).

With the gradual replacement of the decentralized, autonomous clan by the centralized state bureaucracy as the ultimate repository of land rights and the commercialization of sorghum production, there has begun a transformation of land use rights from a politically guaranteed right to subsistence to an economically valuable "good" acquired, lost, and valued in terms of regional, national, and international market forces. The pace of this transformation in the meaning of land rights varies with proximity to urban markets and administrative centers.

There has been a limited land market in the interriverine area for centuries. During the early part of this century, following the example of Italian concessionary companies working plantations at Johar, Afgoi, Gende, Scalambot, Giammam and other locations, wealthy Somali entrepreneurs began to invest in considerable land holdings in the lower, riverine area for the commercial production of fruit, maize and other crops. These sales were negotiated with both the clan elders and the individuals actually working the land, if it was under cultivation (Lewis, 1968, p. 21).

Today in the Bay Region the sale of agricultural land is increasing, though it does not appear to be common, and it is not considered wise. We were, for example, able to interview a farmer who had recently sold land to a merchant from the city of Baidoa so that the latter could raise crops near his newly established shop in the village. Other elders present at the interview expressed disapproval, claiming that they hold the land of their forefathers to the sixth generation and more and that they wish to pass it to their children. Elsewhere a woman member of a democratically elected village committee told us that it was good to sell livestock to finance labor migration to Saudi Arabia, but not to sell land. Whatever the incidence of land sale and its moral connotations, agricultural land prices have risen rapidly over the past few years in communities more than 50 km from the administrative center of Baidoa.

Of greater significance than the increased sale of land, a phenomenon which is not new, is the registration of land title with the government, an action which provides, at once, an index of the extent to which the dia-paying group has lost its role as a repository of land rights, and of the increasing commercial value of land.

In the Bay Region land registration of leasehold was instituted in 1966, but titles were granted at first, for the most part, to townsmen and government officials. In 1979 registration became officially mandatory on pain of a fine. A fee of ten shillings was made payable annually for each registered holding, regardless of its size. In 1980 alone we were told that over 12,000 individuals, many of them rural, registered land in Baidoa. Though we were unable to inspect the land registration records in Baidoa, villagers interviewed in the countryside, including women, insisted that they had registered title to their land.

Outside the Bay Region there are widespread reports of land registration. In the Afgoi area villages are reported to be registering their land en masse as a response to the granting of titles over nearby land to outside urban entrepreneurs (Jan Haakonsen, personal communication). In the countryside around Hargeisa pastoralists complained to us bitterly that both townsmen and their own relatives were registering and fencing formerly communal bottom land essential to dry season grazing. This pattern of registration and fencing, both for immediate use and as a form of speculative land banking, was confirmed by a Somali anthropologist originally from this area.

Democratically structured water user associations still organize the construction and maintenance and manage the use of village water supplies in most Bay Region communities. The only exception appears to be water from government and donor financed sources, which is sold to users who, in turn, have been unwilling to make additional contributions to maintenance.

Experienced observers have noted water user associations and similar forms of organization to be unusually well developed in the Bay Region and consider them to be an important resource that should be built upon to the greatest extent possible. Whether this is done or not will depend not only on whether they are given explicit recognition in law and in project implementation, but also on the scale, cost and sophistication of technology introduced into the area. Pumps that serve a larger area than a village or that require maintenance not available through private channels, for example, will reduce the role and effectiveness of the associations. On the other hand, the same

democratic organization for public resource management that has proven effective for water control may be suitable for giving local communities local control over other publicly valued resources including health services and education.

Summary and Conclusions

Resource tenure has received too little attention in Somali development policy for several reasons. One is that, in years of adequate rainfall, labor rather than land or water has generally been the binding constraint on production. This has obscured the critical role of access to dry season water sources and high potential land (in terms of soil quality and moisture) in dry years. At the same time traditional clan ideology held that access to natural resources was an inalienable attribute of group membership. Today this theme is reiterated in new form in government policy that holds access to these resources, held in trust by the state, to be the right of all citizens. It is becoming clear, however, that land and water tenure are assuming ever greater economic importance as the rural economy becomes commercialized, and that secure access to them will become increasingly important to individuals and groups as incentives to investment, and, at the same time, may become the focal point of new conflicts. It is essential that Somali development policy begin to take greater account of the types of de facto rights that presently exist and of their significance for future institutional change and economic development.

ECONOMIC AND SOCIAL CHANGE

In spite of the setbacks caused by drought, war, refugees and realignment in the international arena, and in spite of its apparent isolation and backwardness, economic and social conditions in the Bay Region, as elsewhere in Somalia are far from static. With the growth of Baidoa and other urban centers and improvements in local private transport there has been an increase in the commercial sale of milk and ghee and the growth of a regional labor market. In agriculture economic growth seems to have occurred rather than because of government policy, due to the efficient operation of parallel markets and private investments in transportation (discussed in Chapter III). The demand for consumer goods has increased. In addition to sugar, kerosene, and cloth, which have been available for some years, other goods, including tailored clothes, foodstuffs, and manufactured goods are available in newly opened village-level shops, many of which are owned by members of local families. Radios, while not yet common, are much desired and are increasing rapidly in number.

In the area of social change, the most dramatic progress has been made in the areas of adult literacy and women's rights. The literacy campaign left few settled communities untouched; and writing (in the modern script) is often used to record the decisions of local councils and the regulations of water user associations. School enrollments and interest in post-primary education have been increasing as well. While public health care is virtually unobtainable in the region at present, better-off families often take sick members to Mogadishu for treatment.

While these and other changes are not yet dramatic we believe that they are likely to have an accelerating impact on the incentives, opportunities and economic strategies of rural people in the Bay Region.

CRITIQUE OF CURRENT DEVELOPMENT INITIATIVES

The Bay Region is currently witnessing the implementation of its first major development project. This project, which is experimental in nature though ambitious in size and scope, represents a first exploratory step towards tapping the potential of the interriverine "internal frontier" to support a greater and more settled population and to produce more food crops for urban markets. The project was designed under severe time constraints and, for this reason, was based on a number of widely held but not well tested assumptions about the region and its people. Here we will briefly critique these assumptions and the project interventions that flowed from them and will suggest ways that the project can be strengthened during its second phase. In the following section we comment briefly on the implications of our findings for USAID's agricultural sector strategy.

The \$50 million Bay Region Project is funded from five sources in three distinct administrative groups. These are USAID, the World Bank (which administers funds from the African Development Fund, the International Development Association, and the International Fund for Agricultural Development), and the Government of Somalia. To make matters more complex, the project involves departments and agencies of four ministries - Agriculture; Minerals and Water Resources; Public Works; and Livestock, Forestry and Range. The project is thus in fact, though not in name, also Somalia's first experiment in integrated rural development at the regional level. Problems of coordination and administration are, however, beyond the scope of this discussion.

The major project components are: agricultural intensification and extensification through land use capabilities studies, extension, veterinary services, adaptive/demonstrative research, and a seed farm; water supply; access roads; project management; and evaluation. USAID is providing technical assistance for agricultural intensification, water supply, and evaluation through three separate projects (0101, 0113, and 0104). In recognition of the experimental nature of the project and the paucity of information about the region, it is to be implemented in two phases, with a major mid-project redesign effort.

The first phase rests heavily on a set of assumptions that are not well supported by our analysis or by the studies carried out to date by the project. The most important of these are:

- o That there is much undercultivated, arable land in the area;
- o That present agricultural practices are inefficient, poorly integrated, and environmentally degrading;
- o That acceptable improved cultural practices and technologies suitable for the area are currently available;
- o That the basic productive unit is the independent farm family household, practicing subsistence agriculture and characterized by untapped labor resources, but with little access to other sources of income or investment capital;

- o That human capital, in the form of agricultural, entrepreneurial, and managerial skills is undeveloped, and local institutions for development are absent; and
- o That the local economy is isolated and static, with weak linkages to national commodity and labor markets.

Agricultural Extensification and Intensification

It was assumed in both the World Bank Appraisal (November 1979) and in the USAID Project Paper (April 1980) that there are approximately 350,000 ha of potentially productive arable land in the Bay Region which are not presently utilized. Subsequently the Hunting Technical Services survey cited above has reduced this estimate to between 70,000 and 80,000 hectares.

It was also assumed in the project planning documents that the Bay Region farming systems were inefficient, degrading, and poorly integrated. Perhaps because Bay Region farmers are pastoralists who have taken to growing crops and become more sedentary only in recent times, the planners hypothesized, the farming system now practiced is "land intensive, exploitative, and not very productive." (World Bank, 1979, p. 7.) It was held to be characterized by "unsatisfactory land preparation, low quality seeds, inadequate seeding rates, uneven plant coverage, and inefficient weed control..." (ibid., p. 8). Moreover, the Bank planning document asserts, "Practices to maintain soil fertility, conserve soil moisture, avoid high wastages in crop residues and stored food grains are largely unknown to farmers..." (ibid, pp. 7-8). "Land is cleared, cultivated for several years until yields become unsatisfactory and then allowed to revert to bush fallow for one to three years." (Ibid., p. 7.) In regard to livestock, the planners held that much of the rangeland has been affected by continuous overgrazing, and that cultivation and livestock production are not well integrated (ibid., p. 8; USAID 1980, p. 19).

The project design documents are optimistic that this dismal situation could be addressed by an existing technical package. Thus they state, "Substantial increases in crop yields and production can be realized by introducing appropriate technology requiring little or no capital investment. Technology levels on most farms are presently so low that the introduction of very inexpensive 'minimum package' technologies would have large impacts on overall production." (USAID 1980, p. 19.) The project document therefore places high priority on strengthening the National Extension service in the Region, so that it can "concentrate on a few important crops, a limited number of easily understood tasks, and practices that could produce substantial increases in output using existing farmer resources without unduly adding to the risks inherent in the production environment. These would include husbandry practices such as field preparation, sowing and weeding and methods of improving the post-harvest utilization of food crops and crop residues." (USAID 1980, p. 6.) The regional veterinary service is also to be strengthened.

Subsequent studies by Hunting Technical Services and by Schmidt have, as was noted above, cast serious doubt on the assumption that the Bay Region's indigenous farming systems are poorly adapted to local conditions and that risk-free improved practices can easily raise production. This poses two challenging problems for the project as it evolves. One concerns the role of extension, the other concerns the scope of adaptive research.

Our interviews with extension agents and farmers suggest that attempts to promote agricultural practices that are not effective, such as row planting and denser plant populations or sorghum varieties that do not store well in underground pits or appeal to local taste, only serve to reinforce the farmers' opinion that extension workers are ignorant outsiders with little to offer and the extension workers' view that the farmers are ignorant and stubborn and require top-down government direction if they are to improve their lot. This is particularly unfortunate, as there is already a serious lack of communication and trust between farmers and agents, due to linguistic and cultural differences between the inhabitants of the Bay Region and Somalis from other regions. The background and training of a majority of extension agents does little to overcome their negative attitudes towards rural people.

At the time of our field visit, in July 1982, a USAID contract team for agricultural intensification had not yet been selected. It is evident, however, that the scope of adaptive research will have to be broadened considerably beyond the field trials currently being held at Bonka station if their results are to address realistically the needs of Bay Region agriculturalists and the binding constraints in their present farming systems, in the wider context of extended household family income strategies.

Recommendations: In response to these challenging problems, we recommend that:

1. The extension service should not promote row planting, denser plant populations, ox traction, or any other technical innovation until its value and proper context of application is understood from on-farm research.
2. The formal training of extension agents should be modified to include a major emphasis on what is known about the adaptability and resilience of indigenous farming systems in other African countries and in Somalia. This should be part of a more general effort to change the attitudes of extension workers and other project personnel towards rural people and farming practices.
3. Throughout their on-the-job training and in the course of their day-to-day work, extension agents should be encouraged to engage in a dialogue with farmers in order to understand their problems, perspectives, and proposed solutions.
4. A great effort should be made to recruit more extension workers from the rural parts of the Bay Region.
5. The on-the-job field training and ongoing work of extension agents should be modified to include periods of residence in village communities and working seminars with farmers and members of the farm systems research team.
6. The adaptive research effort should be broadened to examine constraints on production in the context of different types of household and extended family resource endowments and income strategies. Thus priorities for agronomic adaptive research would be established in light of actual labor constraints and opportunity costs, risk aversion strategies, and other social and economic considerations. The results of this effort may reveal, for example, that the most promising areas for research are in pest control, post-harvest storage, or in the concentration and use of surface water.

Given the present dearth of information about local farming and income strategies, the type of adaptive research effort proposed here need not be costly, though it should be sophisticated. A promising, cost-effective way of carrying out this type of first approximation research by interdisciplinary teams has been described by Hildebrand, based on his work at ICTA in Guatemala (Hildebrand 1979). Ideally, extension workers should also be involved in this research effort as a routine part of their work.

Water Supply

During the first three years, the water supply component of the project is concerned with studies to obtain a better understanding of groundwater occurrence and the effective use of ponds (uar), hand-dug wells, and drilled wells. Fieldwork is confined to drilling experimental wells in order to plan a larger program of drilled boreholes in the limestone plateau, where the chances of success are believed to be highest. Subsequently it was decided to organize village water user associations and to enlist their help in selecting sites for the experimental wells. This activity was well under way at the time of our visit.

The emphasis on village water supply (as opposed, for example, to range water) and on drilled wells (as opposed to ponds) rests on the assumption that the provision of permanent water for humans and animals will improve the quality of life and levels of production, since villagers will no longer have to leave their settlements during the dry season or in dry years.

Village water supply is indeed the limiting constraint on settlement and land use in the high potential land areas of the Bay Region, for there are few naturally occurring water sources. Improved village water supply is clearly desired by local people and has a variety of social and potential health benefits, especially for women. Moreover, the participatory approach that has been taken by the contractor to siting the experimental wells is an excellent example of the way that existing, democratic organization in the Bay Region can be strengthened and build upon. The following cautionary comments should therefore be understood as suggestions for ways of broadening the impact of a good program, rather than as criticism.

Three issues deserve further attention. The first relates to the assumption that enabling villagers to remain in their permanent settlements will, in all cases, be desirable. Information reviewed earlier in this chapter does not support the assumption that seasonal population movements are currently a constraint on grain production, since labor for weeding during the rains, rather than soil preparation during the dry seasons, appears to be the binding constraint. Moreover, there is evidence that people engage in productive activities in the areas to which they move during the dry season. The returns from these activities and their contribution to household income and security should be assessed to determine the appropriateness of allocating resources to village water supply in general and to particular villages.

The second issue concerns the emphasis on drilled wells instead of surface water ponds. Prolonged residence by humans and their associated livestock has often caused degradation around water points provided by governments in Africa. Surface water, by contrast, can be planned to match grazing and browsing resources. It may be possible to overcome this potential problem by relying, once again, on the effective village-level user organizations found in the region.

A further difficulty posed by the reliance on drilled wells has to do with the maintenance of pumps. At present, local water user associations construct and maintain ponds and regulate water use. The new water user associations being formed by the project will be dependent for maintenance on a centralized bureaucracy and on a level of technical service that does not yet exist at the regional level. This concern was expressed by the contractor. In light of most developing countries' experience in village water supply and of the institutional and technical track record of government services in rural Somalia, it seems likely that dependence on drilled wells and government-serviced pumps will increase, rather than decrease, risk and may undermine a vigorous form of local organization with considerable development potential.

A third problem with the present almost exclusive focus on drilled wells as opposed to surface water concerns the distribution of benefits. The financial cost of providing bored wells is so high that only a small minority of rural communities can benefit from the program. Nor can any spread effect be anticipated, since other villages will not be able to finance well construction with their own resources. In addition to being inequitable, this uneven provision of highly subsidized water will be costly to the project in terms of participation and interest in other project activities.

Recommendations:

1. Whether, where, and to what extent village water supply is a constraint on production and on household incomes should be investigated as a part of the studies that should be carried out in the region.
2. The least sophisticated effective pump technology available through any source should be adopted.
3. During the second phase of the project the possibility of providing assistance to user associations in pond construction, in addition to drilled wells, should be considered.
4. The private sector should be involved to the greatest extent possible in the provision of pump maintenance and pond construction. This may require some technical assistance, credit, or subsidy, but it should be possible to draw upon existing investment potential and entrepreneurial talents.

Road Construction

The assumption that feeder roads must be developed in the Bay Region is undoubtedly correct. It appears, however, that the road construction program could have greater developmental impact if local communities were allowed to participate in planning road alignment and in determining the sequence of road construction, as has successfully been done in Kenya. Greater community participation in road planning would ensure that roads met local economic needs and would make it possible to obtain at least a modest commitment to road maintenance from users.

It is also essential that policies and procedures be established to compensate farmers for the loss of high potential land taken for construction. This is not presently done.

Studies and Evaluation

Studies figure prominently in the Bay Region project's first phase. At the time of our visit good progress had been made on the land use and hydrological surveys. Proposed socioeconomic studies had not yet been undertaken, except for the contracting of a three month preliminary survey by an anthropologist. This delay is unfortunate, since better understanding of social and economic institutions is needed for the impending mid-course project redesign exercise.

Recommendations: To the greatest extent possible, an integrated and coordinated approach to information gathering should be established throughout the remainder of project implementation. This effort should comprehend the farming systems research to be carried out by the USAID contract team for agricultural intensification, the information activities recommended for the extension service, and the socioeconomic study of income strategies recommended below.

The proposed Bay Region Income Strategies study should be a component of or a complement to the Microstudies of Somali Extended Family Income Strategies discussed in Chapter III and in Appendix 5, Study 4. Its overall objective is to obtain a clearer picture of the strategies by which households and extended families obtain income, avoid risk, save, and invest, especially as these activities relate to the Bay Region project. A brief description of the study is found in Appendix 5 (Study 7).

AGRICULTURAL STRATEGY ISSUES

Our foregoing analysis of social and economic institutions and income strategies in the Bay Region is generally supportive of the conclusions and recommendations of USAID's Somalia Agriculture Sector Strategy. This document, prepared in the fall of 1981, differs on a number of basic assumptions from the earlier Bay Region Agricultural Project Paper. Here we note only the major points on which we agree or differ from the Sector Strategy.

We strongly support the conclusions that "the single most important characteristic of Somalia agriculture is that it must function in a drought prone ecology," that risk avoidance will dominate decisions made by farmers and herders on production and marketing, and "that agricultural development must take place in an environment in which there is always a substantial risk that changes brought about through development activities may bring about unacceptable degradation of the environment." (Somalia Agricultural Sector Strategy, p. 72.)

We also agree with the second main conclusion, that the nomadic way of life for livestock producers is "a uniquely efficient way of using a large part of the ecology and environment of Somalia to sustain and enhance human life" (ibid., pp. 72-3) but would add that a degree of seasonal residential mobility may well be efficient for some crop producers as well. As was noted in Chapter IV, we do not agree with the Sector Strategy that there is clear evidence of over-population, overstocking, and degradation of the rangeland.

We strongly agree with the third major conclusion that "crop producers have developed and are operating in an efficient production management system, given the level of technology" (ibid., p. 73). We would add that they are linked to national commodity and labor markets in ways that further enhance their ability to avoid risks and make efficient use of resources.

We agree with the recommendation that high priority be placed on the development of an adequate knowledge base and improved technology but would place greater emphasis on the need to develop a comprehensive agricultural research strategy.

It is widely recognized that agricultural research in Somalia has not responded to the needs of farmers and herders and thus contributed little to achieving the country's full agricultural potential. This has been due to poor management, inadequate resources, and inappropriate research programs.

These problems are all manifestations of the fact that Somalia has no agricultural research strategy. There is no basis for assigning priorities, for directing work in particular disciplines, or for integrating disparate activities into a coherent program. As a result, the agricultural research "program" is a collection of specialized activities reflecting the interests and training of individual researchers. Not surprisingly, there has been little coordination of research activities and research has not dealt with the problems facing producers.

The research of the Ministry of Agriculture's Agricultural Research Institute (ARI) is limited to experiment-station agronomic trials and even within this limited sphere there are no procedures for identifying priorities to guide the design of experiments. The Ministry of Livestock and the National Range Agency have responsibility for livestock-related research, but little research is undertaken. Against a background of calls for greater integration of crop and livestock activities by producers, the research and extension establishments have remained highly fragmented. The considerable integration of crop and livestock activities by Somali producers has been completely ignored with the result that scarce research resources have been allocated to inappropriate activities. Continued government interest in developing short stalked sorghum varieties for regions where the value of stalks for forage can be as great as that of grain is just one example.

The recommendations made by researchers and extension workers have been adopted by very few farmers and rarely in their entirety. As in many other countries,* this has been attributed to farmers' resistance to change, ineffectual extension, inadequate credit, or poor delivery systems for agricultural inputs. While each of these factors may contain some validity, visits with research personnel, extension staff, farmers, and herders suggest that most of the current recommendations simply do not suit the circumstances of Somali producers. Current recommendations for changed planting patterns and increased plant densities in regions where land is abundant, labor scarce, and rainfall highly variable may be a case in point.

*See CMMYT's Planning Technologies Appropriate to Farmers: Concepts and Procedures upon which the following discussion relies heavily.

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Past efforts to strengthen Somali agricultural research have not taken farmer/herder circumstances into account and have confounded development of a strategy for conducting agricultural research with specification of the activities to make up a research program. Design of an experiment station based agronomic research program which has been the focus of past efforts, implies that research priorities have already been established and that there is sufficient information about producer constraints to develop the appropriate station experiments. Such assumptions are highly unrealistic in the Somali setting. As a result, project proposals have consisted primarily of lists of the specialties, ranging from entomology to rural architecture, for which technical assistance is desired. Each new project has just specified a slightly different research program rather than addressing the underlying problems. The resulting research activities clearly do not reflect the following observations, with which we strongly agree, from the USAID Agricultural Sector Strategy paper: 1) Somali agriculturalists and pastoralists operate very efficiently given the natural and socioeconomic environment they face; 2) collection of information about current production systems and the technical, economic, and social constraints that jointly limit their expansion should have the highest priority; and 3) agricultural research must start with the actual problems of Somali producers.

The poor performance of agricultural research in Somalia is not an intractable problem if it is faced squarely. The purpose of agricultural research is to develop technological packages that can be widely adopted by Somali agriculturalists and pastoralists. A strategy or set of procedures for establishing priorities and fulfilling this purpose are needed.

Given the human, financial and administrative constraints facing agricultural research in Somalia and the complex nature of current production systems, the most effective approach would be on-farm research that identifies the circumstances facing different groups of producers, assesses which constraints are most amenable to technical solutions, conducts on-farm experiments to develop recommendations in real farmer/herder circumstances, and evaluates their adoption by farmers.

While there is an increasing realization that past research has not addressed the actual problems of Somali farmers and herders, proposed solutions risk being equally inappropriate by assuming that adequate information on the constraints in existing production systems is already available and just needs to be taken into account in designing programs. This assumption has led to research on solutions to acknowledged constraints that completely ignores other equally binding constraints. Research on alleviating farmers' stalk borer problems has, for instance, focused on the extremely labor-intensive practice of applying granular insecticides to each plant. Labor availability, however, is already a serious constraint during the treatment period, when agricultural wages reach up to SoSh 70/day, and farmers are unlikely to find it profitable to adopt the proposed solution. Many ARI researchers appreciate the skills of Somali farmers and herders and are supportive of the idea of linking research more closely to their needs, but there has been no institutional process for systematically acquiring information on current production systems or for using such information to establish research priorities.

It is essential that procedures to obtain a knowledge and understanding of farmer and herder circumstances and to plan appropriate experimental work become a permanent, formalized part of the agricultural research program. The relevant "circumstances" include natural ones, such as climate, soils and topography, and pests and diseases which impose biological constraints, as well as complex socioeconomic ones. The relevant socioeconomic circumstances include those external to individual producers, such as product and input markets and land tenure, credit, and extension institutions, as well as those that are internal such as farmer/herder goals and the labor, land, and capital resources constraints of individual families. It is crucial that one remember that all of these circumstances interact to influence current farmer and herder practices. Research on any one of them in isolation is likely to be of little or no use in developing extension recommendations. Implementation of such a research strategy thus calls for a small team of biological scientists and social scientists to work jointly in each stage of the research process: identification of farmer/herder circumstances and constraints, design and implementation of on-farm experiments to develop improved technologies, and ultimately assessment of farmer experience with recommended technological improvements.

As a final point, it is important to note that the diversity of Somali agro-pastoral systems make the above approach both necessary and very practical. It is a necessity if agricultural extension is to develop improved technologies that can be widely adopted. It is also highly practical since it requires the identification of groups of farmer/herders facing similar circumstances and thus is divisible and can be conducted initially on a scale appropriate to Somali implementation capacities.

Our findings support the recommendation that increased investments be made in human capital development, including general education (see Appendix 3), though our rationale for this recommendation places less emphasis on the "fragility" of existing human resources in rural areas.

Our reservations concerning the recommendation that human and animal pressure on nomadic grazing areas be reduced before we have better information on actual conditions and trends has been set forth in Chapter IV.

We are in agreement that the knowledge base for ways to improve crop production is so limited, and the existing farming system sufficiently efficient, that in the near term assistance to small farm operations should focus on infrastructure improvements and policy changes that would facilitate the further development of the indigenous private sector.

Finally, while we agree that institutional support systems need to be strengthened, we believe that there is a very real danger, in the Somali context, that the usual type of training and institution-building activities may simply create a larger cadre of poorly paid government employees with little to offer farmers, poor motivation, and a vested interest in furthering the growth and prerogatives of their own organization.

VI. SUMMARY OF RECOMMENDATIONS

The analysis presented in this report supports two broad changes of emphasis in Somali development policy. The first is a shift away from the present extremely inward-looking development strategy based only on domestic product, which focuses attention on the country's weakest resources - its arid and semi-arid ecology, towards an outward-looking strategy that attempts to maximize national product by building on the country's most valuable but undervalued assets - its people and location.

In the short run, following an outward-looking strategy requires taking maximum advantage of opportunities for labor export to the Gulf. Agreements should be sought with Gulf states to make this source of income more dependable and secure. Policies must be designed to facilitate channeling these earnings in ways that will be most beneficial to Somali families in providing access to higher and more reliable incomes. At the same time, adjustments in the fiscal system will be required to insure that appropriate functions of government can be financed and that earnings abroad will bear a fair share of the tax burden.

In the long run it is quite possible that Somalia can develop an efficient export-oriented manufacturing and service sector that will maximize returns to human resources and location through exploiting the markets of the Gulf. An outward-looking strategy must be seen as a complement, rather than an alternative to a strategy that continues to seek increases in agricultural and livestock production.

The second major policy change recommended is a shift away from the present overly centralized, controlling, top-down and technically naive transformational approach to rural and agricultural development, to an approach that builds on the strengths of indigenous systems of agriculture and resource management, knowledge of the environment, and commercial and entrepreneurial activity. Adopting this approach requires that more attention be given to correctly identifying constraints in existing agricultural and economic systems and to lifting these constraints in ways that will enable rural Somali households and larger groupings to function more efficiently without reducing their ability to cope with the risks imposed by their harsh environment or their flexible ability to transfer labor and capital resources from one location to another in response to changing needs and opportunities.

The more specific recommendations for policy changes, priority studies, institution-strengthening activities and project modification discussed in detail in analyses in the preceding chapters follow from and support these broad shifts in Somali development policy.

POLICY RECOMMENDATIONS

In coordination with other donors USAID should use its non-project aid leverage to urge the following policy changes:

1. Generate additional foreign exchange by linking some large fraction of foreign exchange remitted by workers abroad to "open general license" for imports (Chapter III).

2. Provide the Somali government with greater incentives to increase domestic food production by making a donor agreement to substitute other commodities in response to decreased demands for food aid (Chapter III).
3. Diminish the role of administered allocation of imports to ensure broad participation and competitive conditions in the private sector expansion of marketing and services (Chapter III).
4. Assist the government of Somalia in meeting its essential recurrent expenditures by allowing counterpart funds generated by commodity sales to be used for general budgetary support. Such funds should not be earmarked for development activities that would not otherwise have been undertaken (Chapter III).
5. Abandon the policy of guaranteed employment in the government for all school leavers and establish salary scales that will attract and hold essential qualified personnel in the context of Somali labor markets (Chapter III).
6. Reassess general educational policy and institutional capacity in relation to the potentially increased earnings and remittances that can be obtained by a more skilled emigrant labor force in the Gulf states (Chapter III, and Appendix 3).
7. Assess carefully the longer range potential for increased local manufacturing for export to the Gulf states (Chapter III).

To build upon the strengths of Somalia's rural economy and the indigenous institutions, knowledge and agricultural practices upon which it rests, the following changes in rural and agricultural development policies are recommended.

8. Capitalize on the strength of the indigenous private sector and manifest entrepreneurial and commercial skills of rural Somalis by:
 - A. Continuing to reduce the role of government parastatals in grain marketing;
 - B. Giving clear signals to private grain traders that their activity is legal and that bulking is permitted;
 - C. Distributing agricultural inputs through the private sector;
 - D. Encouraging the private provision of tractor and other agricultural services wherever possible;
 - E. Permitting the importation and distribution of spares and building materials through the private sector; and
 - F. Ensuring the availability of basic consumer goods to provide adequate incentives for increased production.

9. Shift to an incremental approach that takes account of the strengths as well as the weaknesses of existing farming systems. This will require major changes in policies concerned with agricultural research, extension, and training; settlement policy; and the choice of technology, such as:
 - A. Developing an agricultural research strategy that will provide a basis for assigning priorities, directing work in particular disciplines and integrating disparate activities into a coherent program. This strategy must be based on information about current production systems and the technical, economic, and social constraints that jointly limit their expansion so that research can be addressed from the outset to the problems actually faced by Somali producers. Since this information is not presently available, it is essential that procedures to obtain it and to plan appropriate experimental work become a permanent, formalized part of the agricultural research and planning program. This requires an institutional framework within which teams of biological and social scientists work jointly in each stage of the research process. (Chapter V)
 - B. Placing less emphasis in agricultural extension on the promotion of new cultural practices and technologies that have not yet been tested by rural Somalis, and greater emphasis on gathering information about regional variations in the kinds of problems faced by producers and their experience with traditional and newly introduced ways of responding to these programs. The formal training of extension agents should place much greater emphasis on what is known about the adaptability and resilience of indigenous farming systems in other African countries and in Somalia. Field training should include a period of supervised residence in rural communities and working seminars with farmers. Priority should be placed on recruiting extension workers with rural origins and assigning them to their home region, even if this requires remedial training in some subjects (Chapter V).
 - C. Assisting the government of Somalia in re-assessing its past policy favoring the planned settlement of pastoralists and semi-nomadic cultivators (Chapter IV, Chapter V).
 - D. Assisting Somali planners in reassessing criteria used in the choice of technology for agricultural projects in light of past experience in Somalia and elsewhere in Africa (Chapter V).
10. Revise policies concerning access to natural resources, including water, browse and graze, and arable land, to give clearer recognition to the rights and responsibilities of "traditional" groups and institutions. This is necessary to ensure these groups security of tenure, to provide them with incentives to develop the resources, to counter rising levels of conflict concerning the control of natural resources that are taking on added value in the process of development, and to promote and strengthen existing resource conservation practices. This recommendation applies specifically to the range and water tenure of pastoral groups, the water and range management institutions in the interriverine area, and the rights of villagers who depend on flood recession agriculture for their livelihood (Chapter IV, Chapter V).

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11. Use existing traditional groups and forms of local social organization in planning and implementing development initiatives. While the Somali political leadership's desire to foster a sense of national identity is understandable, the current policy of denying or minimizing recognition of traditional groups based on kinship, community, and religion is counterproductive. Such groups perform important functions in the articulation of rural peoples' interests, dispute settlement, the mobilization of resources for community projects, the organization and management of commercial activities, communication with government officials, the dissemination of vital information concerning government policy, and commodity and labor markets, and the management of natural resources.

Most of these organizations are broadly participatory and democratic in regard to their leadership and decision making processes. They already play an important, though not fully appreciated, role in local government and rural development activities. This role can be enhanced by giving them increased recognition in the law, in administrative procedure and in the planning and implementation of development programs. The alternative of continuing to create new government and government sponsored institutions in the rural areas will continue to expand government's recurrent costs and will fail to capitalize on one of Somalia's most valuable resources, the resilient and flexible character of its indigenous social organization.

RECOMMENDED STUDIES

We recommend that USAID and other donors give high priority to funding the studies outlined in this section and spelled out in greater detail in Appendix 5. The need for a better data base in Somalia is well recognized, but creating it will take many years. In the meantime decisions must be made and potential impacts of policies predicted. The following studies are intended to help meet these short term needs and, at the same time, to be a first step towards, but not a substitute for, the long term goal of creating a data base similar to that presently available in countries like Kenya and Tanzania.

Each study is designed to clarify one or more of the key assumptions that underlie development planning in Somalia discussed in this report. Each can be carried out in 12 to 15 months and will contribute information that is directly relevant to policy formulation and project design. They are comparatively modest in cost and are designed to provide indicative findings that represent a significant improvement over available data. It is also anticipated that carrying out the studies will contribute to the longer term objectives of developing a sampling frame and identifying meaningful questions in the Somali social and institutional context, creating a demand for better policy-relevant data, and increasing the capacity of Somali institutions to carry out applied social research for development.

Policy-Simulation Model of the Somali Economy

The purpose of building such a model would be to force explicit attention on the key relationships that determine response to policy action. Best guesses of response parameters would be employed, with analysis of sensitivity of results to parameter changes being explored systematically. What is particularly useful about such an approach is that a sense of the importance of different assumptions and estimates can be obtained, which then guides

information collection and sectoral research to those issues that are most important for the particular policy issues that seem most pressing.

The results of the model should not be taken too seriously with respect to precise magnitudes, but it is a powerful device to organize thinking, making assumptions explicit and testing their consistency, and giving an educated prediction of directions and relative magnitudes of response. If constructed appropriately, it also provides a systematic framework within which new information and better data can be evaluated. (See Chapter III and Appendix 5 for further discussion.)

Labor Migration to the Gulf

The objective of this study is to obtain better estimates of the numbers of Somalis in the Gulf, their earning, remittances, and skills. Determinants of remittance levels, channels through which they flow, and destinations and uses of remittances would be identified and estimated quantitatively. The selectivity of migrants from the Somali population, the sectors from which they withdraw labor, and the economic and social relationships that are maintained with their family groups would be identified. The eventual use of such research is to identify policies affecting migration levels and remittances that will yield maximum benefit to the Somali national economy. (See Chapter II and Appendix 5 for further discussion.)

Internal Labor Markets in Somalia

The labor migration study should be complemented by (or, ideally, combined with) a study of internal labor markets. This study should include analyses of: formal sector employment, wages, recruitment, and career paths; urban/informal sector labor markets; and rural wage markets. At all points, this study should probe connections between wage labor and the income strategies pursued by rural-based extended families.

On the basis of this information it will be possible to develop rough estimates of the intersectoral consequences of investments, price policies, or other interventions that impact initially on a single sector. Interventions with respect to wages and taxes can be evaluated, and public-sector employment issues can be analyzed. (See Chapter III and Appendix 5.)

Microstudy of Household Income Strategies

In addition to these three specific and relatively self-contained studies, an effort must be mounted addressed to the income-generating strategies of extended families. The critical necessity for understanding decision making in relation to resource control of such units has been stressed throughout this report. The primary objective of this study is to understand and predict responses to changing incentives. For example, the degree to which subsistence and marketing inputs are readily shiftable, whether incentives to produce grain will withdraw resources from animal production within household economies, or what the impact of import incentives will be on migration to the Gulf can only be analyzed when household strategies are understood. Over the longer run, such information should be collected periodically through ongoing research studies on a panel of households, so as to provide information that is comparable over time. (See Chapter III and Appendix 5 for further details; See also Bay Region Income Strategy Study below.)

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Long Term Comparative Advantage Study

This study would identify potential areas of comparative advantage that could be developed. To do so will require undertaking a careful analysis of the demand structure, and its likely evolution, in the Gulf states; identifying major competitors for these markets and their strengths and weaknesses expected to be manifest in future years; inventorying resources, particularly human resources not presently in the country, available for development in Somalia. On the basis of this analysis, prospective activities can be identified, the major constraints to their efficient exploitation discovered, and plans for lessening the constraints developed. (See discussion in Chapter III.)

Commodity Markets Study

There is an urgent need for a study of agricultural markets. The principal objectives of the study should be to clarify the response of livestock offtake rates and exports to price changes; the supply response of grains and other commodities; the effect of current import release prices; and the costs of potential ADC stabilization efforts. Since crucial assumptions about the functioning of these markets are presently being made on the basis of little systematic information, a significant improvement can be made by collecting and analyzing data available from municipal records and other sources, including selected interviews. Results of the study will contribute to the development of price policies and a food aid strategy, and will help establish priorities between investments in infrastructure, institution building (e.g. agricultural credit), and targeted production projects. (See discussion, Chapter III.)

Studies of the Social and Economic Context of Pastoralism

The three proposed studies include a study of pastoral production, an anthropological study of the social aspects of pastoral production systems, and a study of commercialization in the Central Rangeland Development Project area. They are intended to:

1. Link the aerial inventorying to on-site intervention by researching the human response to and management of the physical environment. Since, through hard-won human ingenuity 400,000 people now support themselves in the Central Rangelands, knowledge of their production systems and constraints is a first principle in designing technical packages for them.
2. Establish rapport between pastoralists and government services. Somali pastoralists interact with the services only cautiously. Demonstrating respect for their livelihoods and problems can only come by understanding them, and is the only way to gain their confidence.
3. Identify constraints to production increases, which may be linked to grazing management strategies, or may come from veterinary factors, husbandry practices, labor constraints, economic incentives, political instability, or other factors. In the long term, the CRDP and its successors cannot assume that one factor, grassland management, is the only key to higher productivity and incomes. Such a strategy, especially since there is some directly contrary evidence, is at best highly risky.

4. Yield a range of advice on strategies to be followed in further Central Rangelands Development.

The studies could be mounted as a coordinated package or separately, depending on USAID's information needs of the moment and on the resources available.

Bay Region Income Strategies

The results of this study should be immediately useful to project management and, in the longer run, will contribute to the monitoring and evaluation activities of the project, of the newly created monitoring and evaluation unit in the Ministry of Plan, and, if possible, to the larger effort in Studies 2 and 3.

The principal objective of this study is to obtain a clearer picture of the strategies by which households and extended families in the Bay Region obtain income, avoid risks due to uncertain rainfall, save, and invest, especially as these activities relate to the components of the Bay Region Agricultural Development Project. It should be a component of, or closely coordinated with, the microstudy of Somali household income strategies.

Institutional Effectiveness Study

Development assistance is transformed into concrete rural and agricultural development activities through a variety of public and private organizations. The efficiency and effectiveness of these organizations varies according to the nature of the activity, their internal rewards systems, accountability, potential for corruption, and fit with indigenous social and cultural institutions. Somalia has experimented with a very wide range of organizations in recent years. This study would gather data from existing organizational records and interviews with key personnel to assess the strengths and weaknesses of each type.

STRENGTHENING SOMALI CAPACITY TO CONDUCT AND USE POLICY RELEVANT SOCIAL SCIENCE RESEARCH

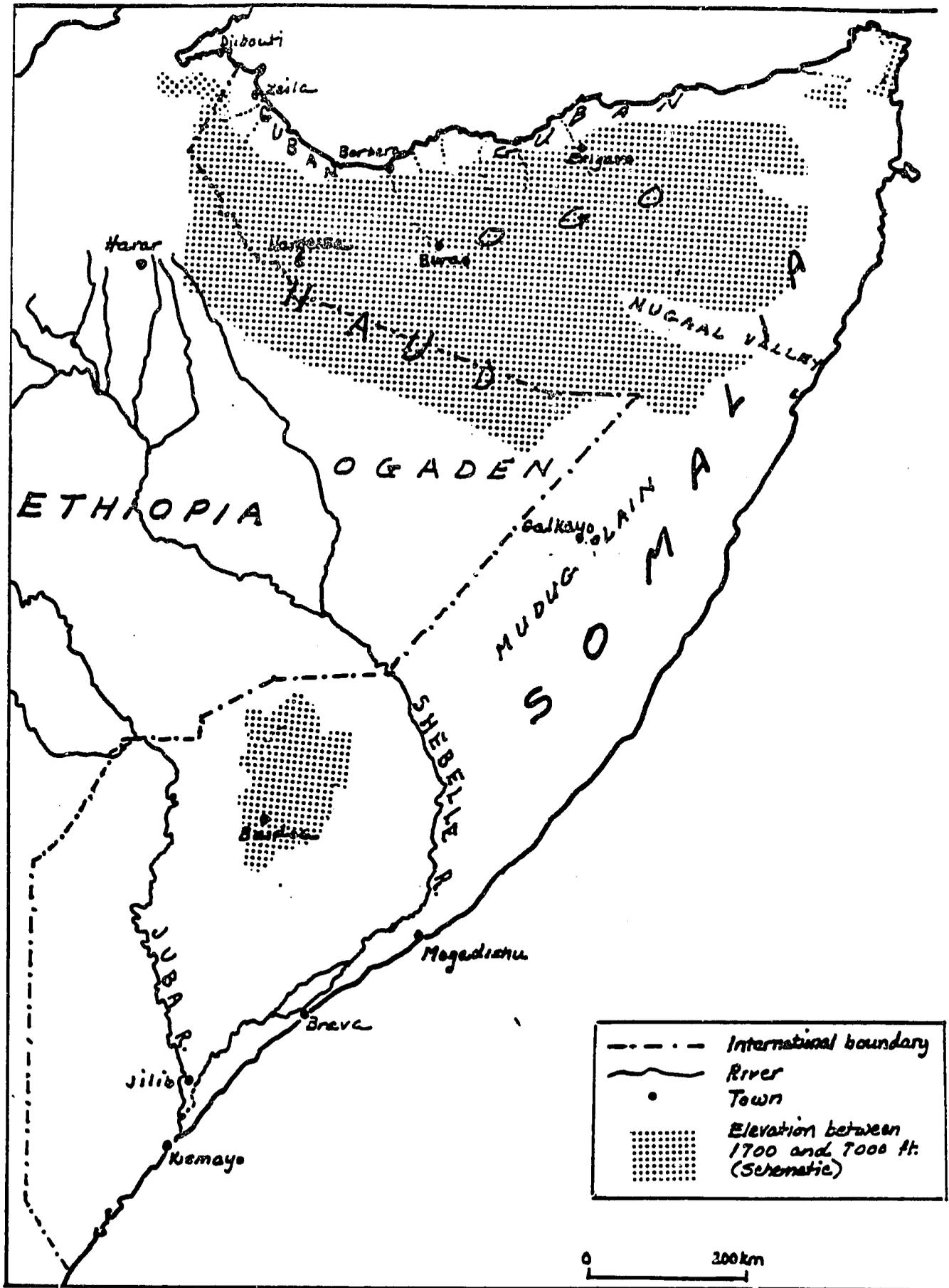
Despite the emphasis that has been placed on public sector intervention in projects and on administrative control over the economy, Somalia's capacity to generate and use socioeconomic data for central planning, control and supervision is extremely limited. While it will take many years to develop a data base and analytical capacity equivalent to those found in Kenya, Tanzania or a number of other African countries today, a number of steps in this direction should be taken immediately:

1. USAID and other donors should give priority to funding the studies outlined above. Given the state of existing knowledge, substantial progress and contributions can be made with relatively crude, low-cost approaches of this kind to obtaining first approximations of the truth.
2. A survey of research manpower needs in the government, the National Academy of Arts and Sciences and the University should be carried out.

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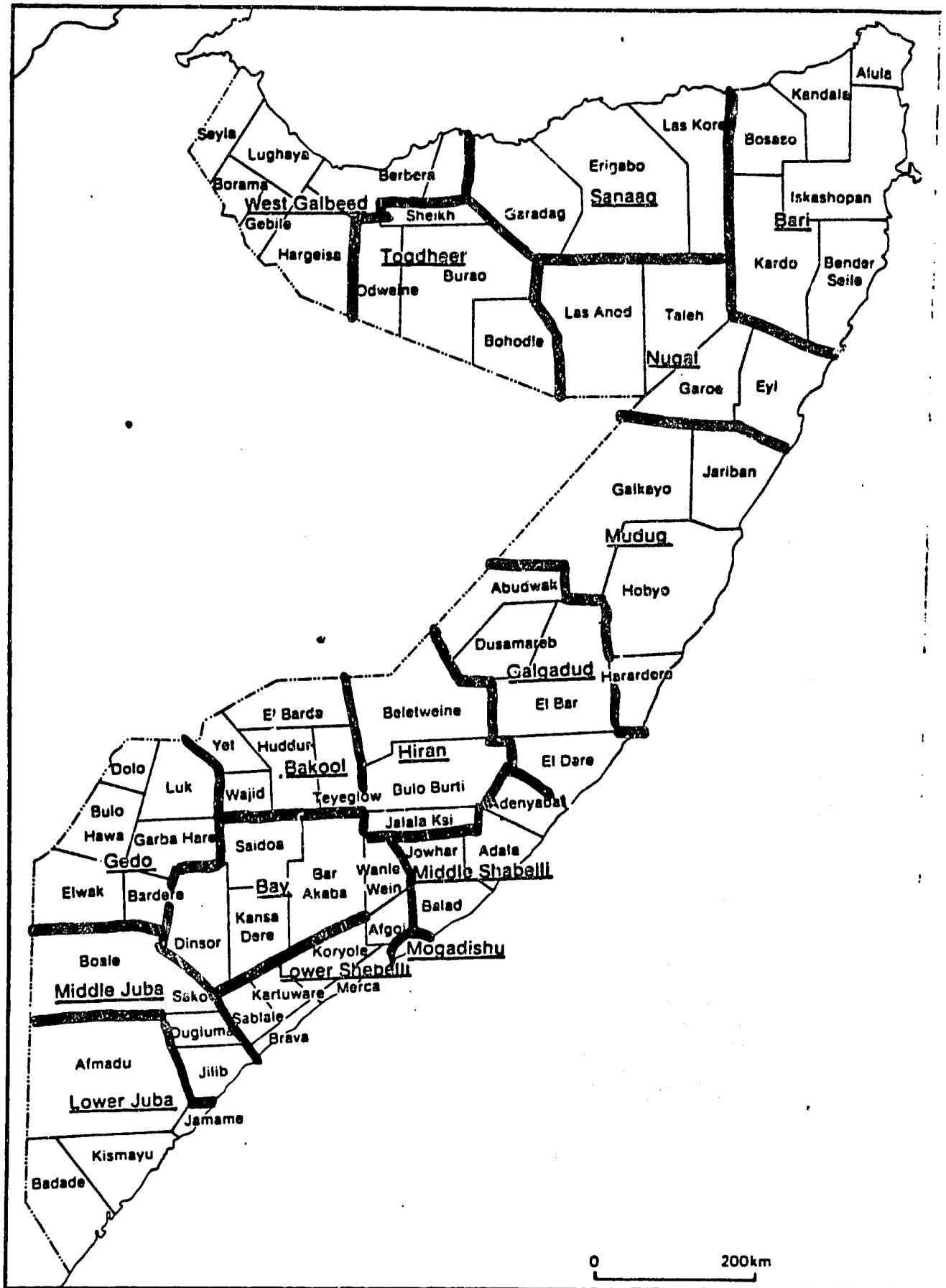
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3. Somalis who could benefit from graduate-level training in applied economic analysis, development anthropology and other social sciences overseas should be identified, as a first step towards meeting these research manpower needs. They should be given long-term training at institutions with experience in African development oriented research and should, to the extent possible, conduct their research in Somalia on problems for which they are likely to have responsibility upon the completion of their studies.
4. The possibility of establishing a Development Research Institute similar to those found in Kenya, Tanzania, or Nigeria should be carefully explored. (See discussion in Chapter III).
5. In the longer run, ways of strengthening social science development studies at the University should be found.



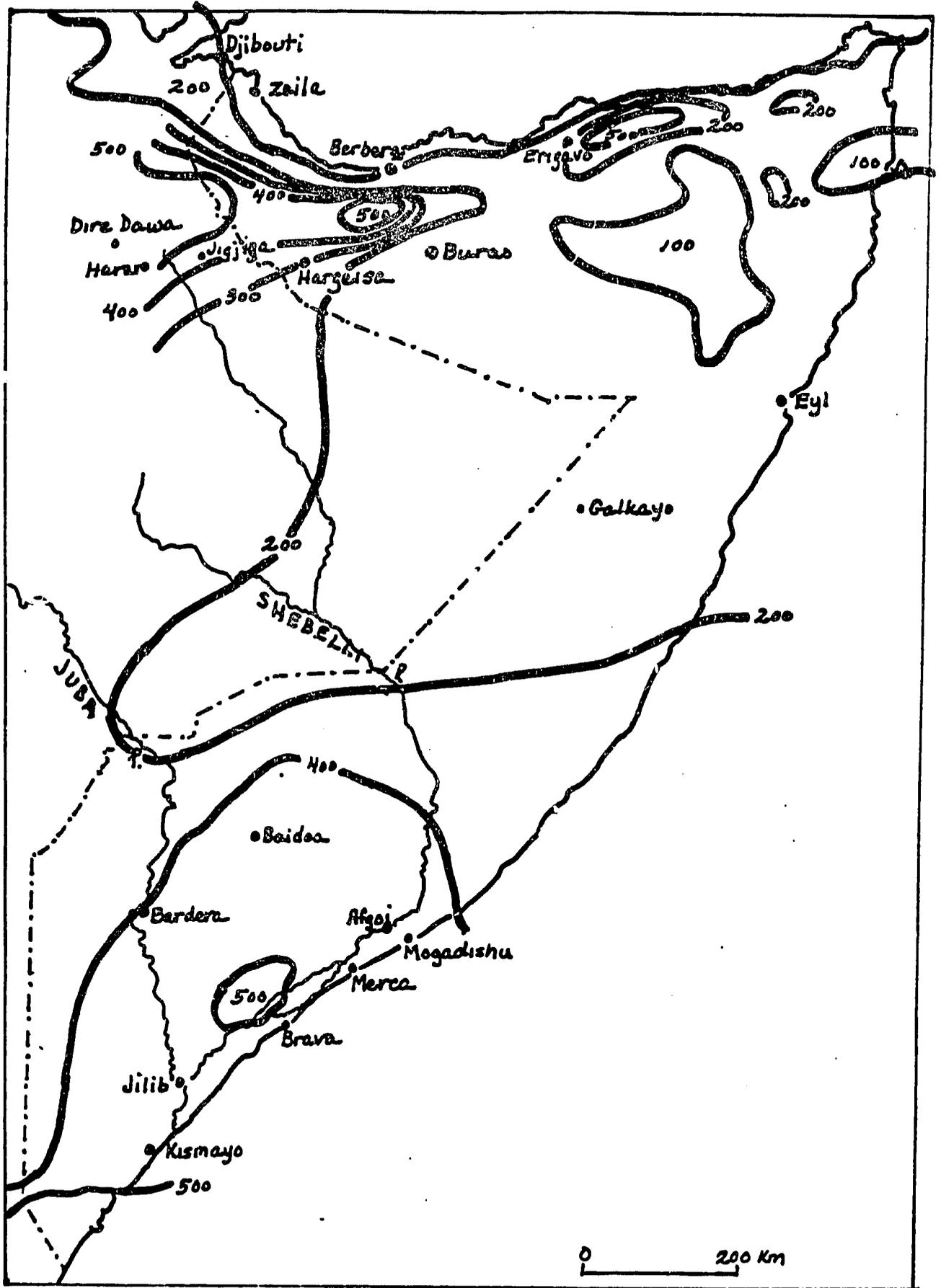
MAP 1: Physical Features of Somalia

Source: Area Handbook for Somalia, 1977.



MAP 2: Somalia - Administrative Regions and Districts

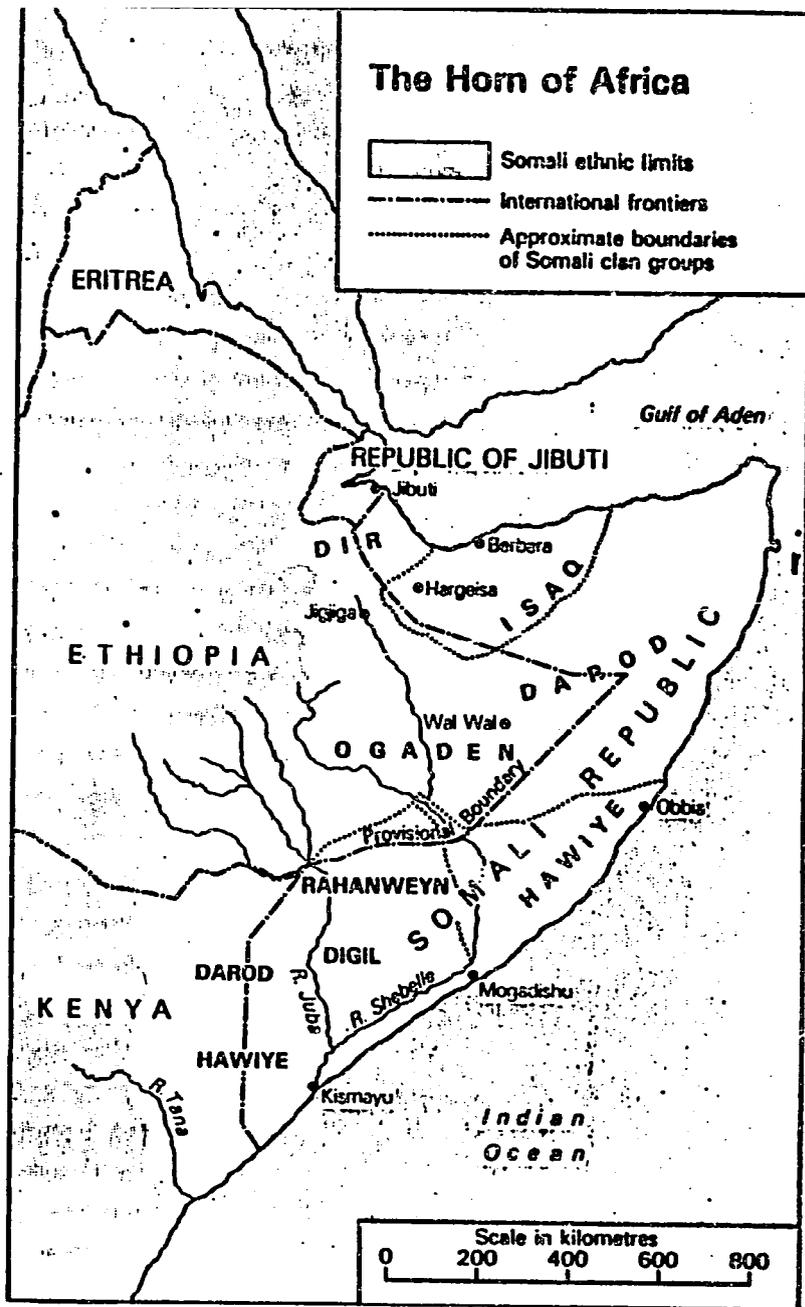
Source: USAID, Somalia CDSS, 1982.



MAP 3: Somalia - Rainfall, in Isohyets

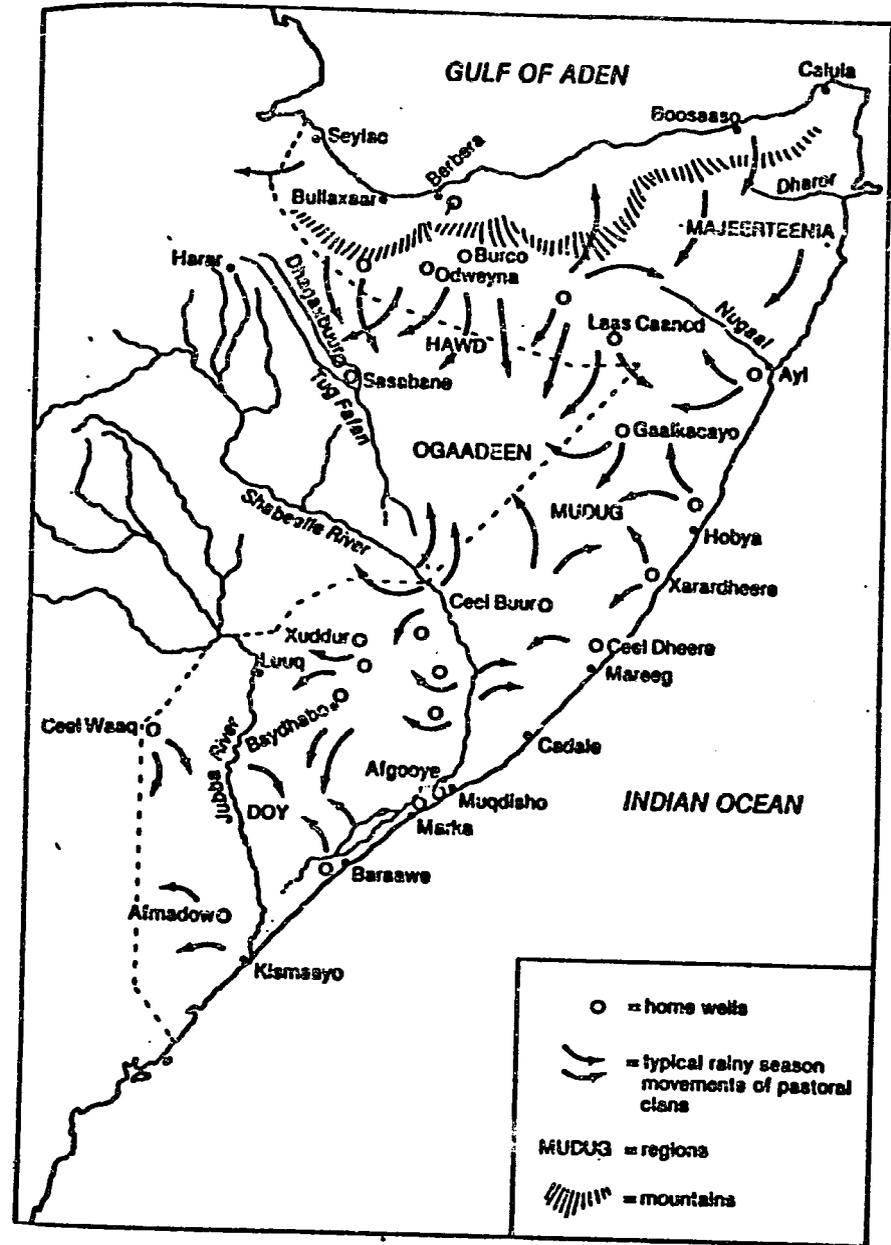
Source: USAID, Somalia CDSS, 1982.

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MAP 4a: Regional Distribution of Somali Clans

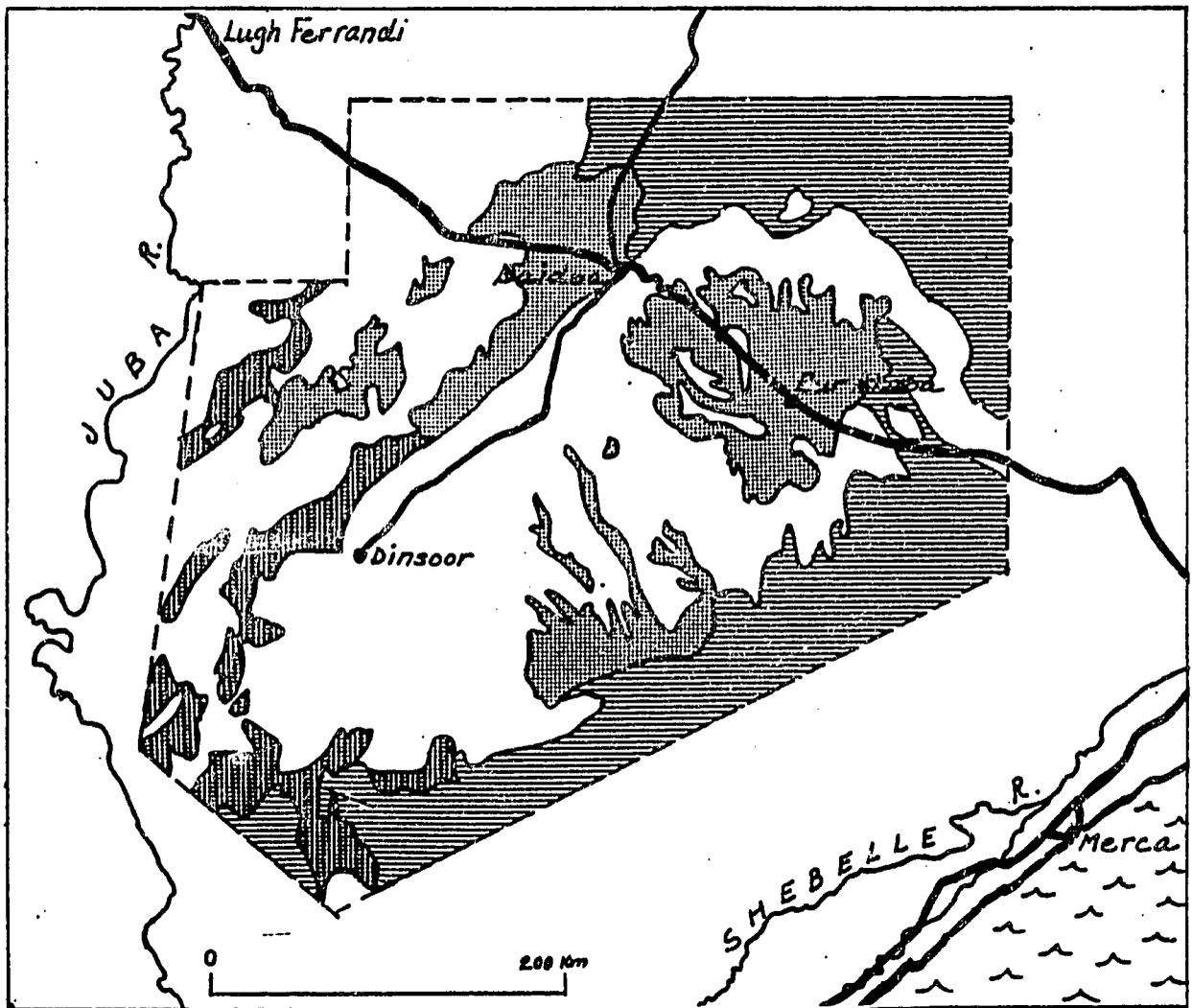
From: Lewis, Modern History of Somalia, p. 253.



MAP 4b: Major Patterns of Somali Transhumance

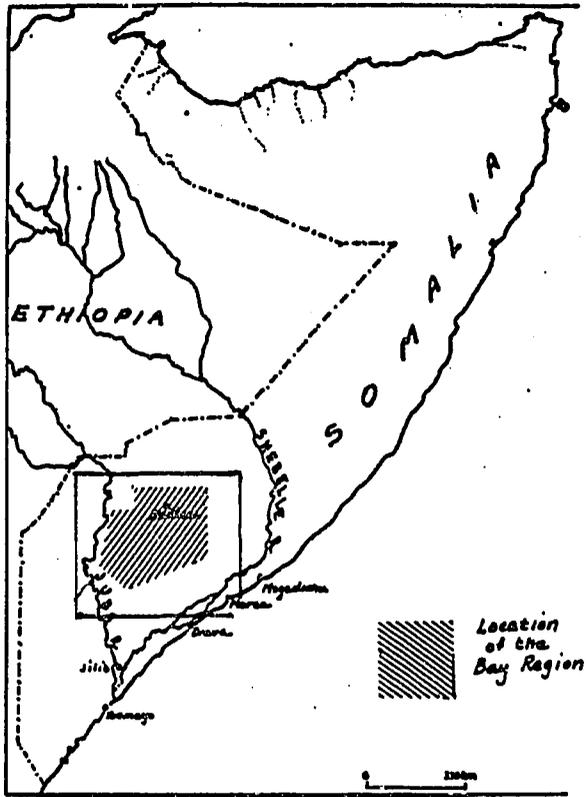
From: Cassanelli, Shaping of Somali Society, p. 45.

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KEY

- Boundary of Bay region (Surveyed by Huntings Technical Services, 1982)
- ~ Roads
- ~ Rivers
- Towns
- [Cross-hatched box] Major areas of cultivation
- [Vertical line hatched box] Major areas of cultivation - crop expansion possible
- [Horizontal line hatched box] Under utilized grazing
- [White box] grazing area



MAP 5: Distribution of Arable Land and Pasture in the Bay Region

Source: Hunting Technical Services, 1982.

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APPENDIX 1: THE SIP TEAM

The SIP team was composed of five members of the Boston University African Studies Center; Drs. Theodore Ahlers, Dan Aronson, John Harris, Allan Hoben, and Susan Hoben. In addition to reviewing scholarly social and economic research on Somalia and reports of donor agencies concerning its conditions for development, the team visited the country for five weeks during the summer of 1982. Team members used that time to meet with social scientists, government officials, local people, and those responsible for implementing development plans, as well as to review documents and research reports available only in-country.

Dr. Theodore Ahlers is research Associate Professor at the Boston University African Studies Center. He previously served as field director for a Tufts University applied research project on rural development in Cameroon and as a consultant in agricultural assessments and information systems with USDA, The World Bank and FAO. He received his Ph.D. from the Fletcher School of International Law and Diplomacy, with specialization in development and agricultural economics.

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APPENDIX 3: EDUCATION FOR DEVELOPMENT IN SOMALIA

Somalia currently faces a serious shortage of the technical and skilled manpower it needs to staff its government and development activities. To remedy the problem, it urgently needs to develop its educational resources which, for historical reasons, have lagged behind even those of similar third-world nations until very recently. The strategy it has been following to increase the pool of trained personnel is twofold: 1) it has been developing a practically oriented educational system that can provide training targeted to Somalia's immediate needs; and 2) it has attempted (without great success) to stanch the flow of educated and trained workers to Saudi Arabia.

This strategy is based on two fundamental assumptions about the role of education in Somalia's development. The first is that Somalia's internal needs for technical and skilled manpower are known and are not subject to radical change. The second is that the economic returns to be gained from keeping trained personnel in the country are higher than from letting them seek work abroad.

Chapters III, IV, and V of this report have pointed out that one of Somalia's strengths is the ability of its people to adapt to changing economic opportunities and labor markets under rapidly shifting circumstances. This suggests that vocational and technical training focused narrowly on today's manpower shortages may be less useful than a solid, more general form of training.

Chapter III has also indicated that Somalia's greatest opportunities for economic expansion lie in an outward-looking development strategy. The implications of such an economic strategy for educational development planning in Somalia are significant. Because of the pattern of labor migration from Somalia to the Gulf States, Somalia is currently in a position to profit directly from producing a trained and educated labor force for export. Better trained workers command better wages in the oil-producing countries, and remittances increase correspondingly. Jordan's experience in this respect is a case in point; Jordan is benefiting from having "over-produced" educated technicians and professionals who are now employed in the Gulf states. Their remittances constitute an important source of income for their homeland. For Somalia, at the moment, the "brain drain" to the Arab states is considered to be an internal problem because it siphons off professionals desperately needed at home. With a well-developed educational system, Jordan has transformed a parallel situation into a major economic asset.

USAID's strategy differs from that of other donors in its assessment of the importance of supporting education for economic development in Somalia. USAID has chosen to provide its support directly to economic activities--particularly in the agro-pastoral sectors. To the extent that it has provided assistance for education, the aid has come in the form of short-term participant training or skills training to equip Somali counterparts to undertake specific tasks in connection with particular projects.

The issue of whether, in general, support to education is an effective way to promote economic development has been examined in detail elsewhere (e.g., the World Bank's Education Sector Policy Review, 1980) and will not be discussed here. It is as difficult to calculate an economic rate of return on

investment in education as it is for other social inputs, such as health services, but the strong positive correlation between economic indicators and education indicators, such as literacy rates and general educational levels of achievement, suggests that education is an important factor in sustained economic growth. The World Bank report and the findings of AID's Studies Division's education sector review further suggest that targeted technical and skills training is not the key contributing factor; rather it seems that an up-to-date general academic curriculum provides the best foundation for an adaptable modern workforce that can easily be taught new technical skills as labor market needs shift.

A number of other donors, including The World Bank, various UN agencies, Italy, Saudi Arabia, the EEC, and the Federal Republic of Germany, have given substantial direct support to Somali education. The education aid Somalia receives from these sources covers a wide spectrum of activities, from establishment of a university, to expansion of the elementary and secondary systems, teacher training, adult and non-formal education, community and family health education centers, and women's education. However, these donors seem to have coordinated their efforts in part by agreeing to divide the different aspects of the educational system among themselves, a modus operandi which leads to some distortion of long-range planning and also to problems concerning unification and Somalization of the system.

Chapter II outlined the reasons for Somalia's lack of educational development at independence. At the time of independence Somalia inherited from its colonial administrations a western educational system with only eight secondary schools, a rudimentary and insufficient elementary system serving less than eight percent of the school-age population, no four-year college or university, and with the existing schools divided in language, organization, and curriculum into two incompatible systems. Throughout the years since 1960, unifying and expanding the educational system and adapting it to the Somali social and economic context have been the long-range goals of the Somali government, though the emphasis has shifted among them over time, and they have sometimes been partially eclipsed by other pressing needs. To understand Somalia's educational needs today it is useful to review the course of its policies and activities in the field of education since independence.

Education Policies and Educational Activity Since Independence

Although the major policy themes of unification, expansion, and reform of the Somali educational system have remained constant over the last 22 years, there have been shifts in educational priorities and in the shorter-term problems that educational policy has addressed. The first independent government recognized the need for curricular reform and reconciliation of the northern and southern school systems, particularly at the elementary level as a necessary first step to take before the system could be expanded. However the government's inability to resolve the politically divisive issue of choosing a writing system for the Somali language seriously impeded progress in these areas during the first decade of independence. As one consequence, government policy during that period emphasized expansion of education at the secondary level, using English as the language of instruction, to increase the pool of personnel educated sufficiently to staff the new government. During this time the organization of primary, intermediate, and secondary schools were standardized for the north and south, and the curriculum in all parts of the country was unified in subject matter, but enrollments increased only

marginally (see Fig. 1). By 1970 government elementary schools still drew only about a tenth of the school-age population.

An important contributing factor to the debate over choice of a Latin or Arabic script for Somali, and probably to the sluggishness of educational reform as well, was the continuing vitality of an unofficial "parallel" educational system in Somalia--the Quranic school system. These religious schools, set up under the auspices of local mosques, are staffed by semi-itinerant teacher-scholars, who often move with their nomadic communities. In principle, all boys have a religious obligation to attend, starting at about age four, and to continue until they have mastered the Arabic script, can read the entire Quran, and can write down dictated verse. (Although girls are not barred from attending, they do not frequently do so.)

Beyond the required level of training, the Quranic system offers further study of the Arabic language and other subjects to interested and able students. At higher levels it feeds into the famous Islamic universities of Egypt and the Middle East. Although Quranic schools may not reach every boy of school age in Somalia--statistics on enrollments are not readily available and, indeed, may never have been gathered--they do instruct a remarkably high proportion of them, including children of the nomadic population. In Somalia today young children generally attend Quranic school for approximately two years before they are eligible to enter government school. Those who do enroll in the government system generally continue their Quranic training in tandem with it until they have completed their study of the Quran.

The existence of this religious educational system has had an impact on the history of educational development in Somalia and may offer lessons for the future, as well. It trained a religiously conservative but sophisticated intelligensia, since it provided better educational opportunities than those offered promising students by the rudimentary European system. It was this traditional educated elite that strongly opposed a Latin script for Somali. The Quranic schools continue to provide the first school experience for the majority of Somali children. The British colonial school system, using Arabic as the language of instruction in the elementary grades, tacitly recognized the usefulness of building on the foundation of Quranic training. Finally, the Quranic system offers a time-tested model of a schooling system adapted to the problems of teaching the mobile population of Somalia. The literacy campaign of 1974-75 adopted features of this model in its organization.

The revolution of 1969 brought changes in emphasis in educational policy and paved the way for dramatic gains in educational development within the next five years. In 1972 the government, freed from the constraints of political debate, settled the question of a script for Somali by the adoption of a Latin-alphabet writing system. This made it possible to launch an intensive effort to achieve universal literacy in Somalia, to prepare a unified Somali-language curriculum for the elementary grades, and to begin rapid expansion of elementary education. As Figure 1 shows, between 1970 and 1975 enrollments in elementary education increased over five-fold.

Between 1972 and 1975 Somalia made a concerted and enthusiastic effort to bring literacy and basic education to all its citizens and was remarkably successful in doing so. The literacy campaign was mounted in two stages. In 1973 a campaign in urban areas, using school teachers as instructors, was followed by a nationwide Literacy and Rural Development campaign during the

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school year of 1974-75. For that year, all schools were closed and secondary school students from tenth grade and above were all sent out to the countryside to teach literacy, make a census of the population, and offer health and veterinary services. Training for these youthful instructors was hasty; generally they followed the pattern of Quranic teachers, living in the communities they served and teaching by rote and repetition. Nonetheless, the campaign was effective. In a single year the literacy rate in Somalia rose from around five percent to an estimated fifty to sixty percent. In the meantime, school teachers, released from their classrooms were set to work preparing a new Somali syllabus for the elementary grades and writing Somali texts.

Since a major constraint to the expansion of the educational system was a shortage of trained teachers, the revolutionary government placed high priority on building up teacher training institutions for both elementary and secondary school teachers as well as training a cohort of over 2,000 teachers in a one-year course in 1975. It also moved ahead rapidly with the creation of a practically-oriented university, comprising faculties of law, medicine, economics, education, agriculture, veterinary medicine, engineering, chemistry, and geology. Somali National University was established and opened in 1970, the first four-year post-secondary institution in Somalia. Before USAID assistance was phased out in the early 1970's, it provided some support to the teacher training institution at Afgoi, predecessor of the University's Faculty of Education.

The initial activities of the literacy campaign and the expansion of elementary education suffered because of the events of the second half of the decade. 1974 and 1975 brought intensifying drought to the Horn of Africa, and 1977 brought war between Somalia and Ethiopia, disruptions which halted the literacy campaign and channelled funds away from social services such as education. Following the Russians' withdrawal of support in 1977 and the war with Ethiopia in 1978, Somalia was forced by the IMF to take steps toward reducing recurrent fiscal deficits, which caused funds for education to be reduced in real terms. As Chapter III indicates, although the total educational budget in Somali shillings continued to rise from year to year, as can be seen in Figure 2, inflation has eroded the real budget and the percent of the national budget devoted to education has dropped steadily since 1978. At under nine percent of the national budget, the education budget is now low even in comparison with other countries with comparable per capita income or GNP, for whom the median is twelve to thirteen percent of the national budget.

Recent trends

After the hiatus due to drought and war and the shift in outside aid occasioned by the departure of the Russians, educational development in Somalia lost some of its early direction and momentum. Outside aid to education has indeed been forthcoming, from various donors, including the World Bank, the EEC, UNESCO and UNICEF, Italy, Saudi Arabia, and Germany. However, the thrifty pragmatism that characterized the campaign of 1975-75 seems to have been lost.

Instead, the current projects, visible, identifiable, and separate, tend to overlook some of the less concrete but essential steps that would build upon the accomplishments of the literacy campaign and strengthen and integrate the system as a whole. Thus, the Germans have undertaken to set up Nomad

Education Centers, building nine schools (six of which are so close to the Ethiopian border that they cannot be used at the moment), and supplying equipment and personnel for curriculum development. UNESCO is currently focusing its attention on population education, FAO on education for women. Italy has provided \$50,000,000.00, which the EEC and Saudi Arabia further supplement, for university buildings, salaries for visiting Italian professors, and scholarships in Italian universities. The World Bank aids a number of supporting institutions in the field of education, among them teacher training institutions, technical and health training institutions, the Somali Institute of Development Administration and Management (SIDAM), and the State Printing Agency.

While these contributions are obviously needed, they also have several unfortunate consequences. First of all, the donors' partition of the field of education into separate projects seems to have encouraged a balkanization of Somali government agencies concerned with education in its various aspects and to have contributed in this way to discontinuities in educational planning. A clear case is that of secondary and post-secondary education. In the early 1970s the Somali government opted for a system that introduced English as the language of higher education at the secondary level, in harmony with the practice of most of East Africa. However Italy has offered very substantial support for Somali National University--on condition that the language of education in that institution be Italian, so that Italian professors can be sent to staff it. Only the Faculty of Education continues to conduct its courses in English. To oversee the development of the University the Ministry of Higher Education has been established as an entity separate from the Ministry of Education. This has further contributed to a breakdown in coordination and planning between secondary and post-secondary education in Somalia. Thus at the moment students are being educated in English through secondary school and then those fortunate enough to continue are enrolled in an Italian-language university with no previous training in the language.

A similar, though less extreme situation exists with regard to adult and non-formal education and women's education. While the National Adult Education Center and the Women's Education Service remain administratively, although not physically, within the Ministry of Education, they too are becoming increasingly autonomous agencies.

Secondly, the emphasis on discrete and visible projects ignores some of the major bottlenecks to educational development in Somalia. Transportation and communication between educational planners in the capital and teachers in rural areas has been a recurrent problem in a number of projects--Community Education Centers, Nomad Education Centers, Women's Education Centers, and a pilot radio education project, for example. There is insufficient capacity to undertake evaluation studies, either as pre-feasibility studies to assist in project design or to provide benchmarks for project evaluation and to determine the success of various activities and projects. There are, for instance, no statistics on recidivism into illiteracy since the impressive gains in literacy in 1975, although undoubtedly there has been some lapse over the past eight years. Coordination between various ministries and government agencies whose cooperation is needed for projects such as rural education or nomad education initiatives is very difficult to achieve.

The World Bank has noted the need for studies to establish manpower needs in planning technical and skills training programs and is supporting several

such studies. The need for pre-feasibility studies in education projects, however, is more far-reaching. An advisor to the Nomad Education program has commented that the current curriculum being prepared for those centers fails to take account of traditional herding practices well adapted to Somali conditions and would benefit from revisions based on awareness of indigenous knowledge.

One project that demonstrated clearly both the need for pre-feasibility studies and for better planned communication with rural areas during its implementation was the UNICEF radio education project of 1979-80. The project prepared a series of radio education programs, set up 80 listening groups in rural areas, all within a day's drive of Mogadishu, and provided radios to the groups. However, the curriculum was formulated without a prior study to determine what aspects of it were not already known to the listeners or what types of information would have been useful to them. Thus it was impossible at the end of the pilot project to evaluate the effectiveness of teaching by radio. There also seems to have been no investigation into whether radios needed to be provided or whether it would have been as effective to assure a supply of batteries for radios already owned by inhabitants of the villages involved. Finally, no provisions were made for continued contact with group leaders, and when the broadcasts were unexpectedly interrupted for four weeks during the course of the project they received no information about the cancellation or resumption of the program - a lack of communication that severely curtailed the effectiveness of a pilot project designed to test an educational technique that in other respects holds considerable promise for reaching Somalia's monolingual but mobile rural population.

Finally, Somalization of the curriculum has been more linguistic and cosmetic than substantive, for lack of baseline information about the kinds of knowledge non-urban Somalis already possess about their environment, pastoral system, and agriculture and about the types of instruction that would help them to improve their way of life and economic activities. A very small Curriculum Development Center within the Ministry of Education has been responsible for developing texts for elementary grades over the past ten years, but it has had only a few Somalis - at times only one - on its staff. As it is currently set up, its capability is limited to translating texts written in other languages and making modest revisions in them, not to creating entirely new courses of study for nomads or traditional farmers based on a study of their existing knowledge and practices.

Conclusions and Recommendations

Several conclusions emerge from this brief review of educational development in Somalia.

1. Somalia is still on the low end of the scale even for the least developed nations in terms of its pool of educated manpower, particularly at secondary and university levels, due to its late start in building its educational system.
2. The issue whether technical and skills training at the secondary level is as useful for Somalia's manpower needs as a sound modern general academic secondary system deserves further investigation. It may be that a general academic program can produce a more adaptable workforce that can be "retooled" easily to respond to the changing labor market conditions

described in Chapter III. The difficulty the government is currently having in trying to channel more secondary-level students away from academic programs and into vocational programs may be symptomatic of a more basic problem.

3. Educational planning needs to be more tightly organized and coordinated to be effective. The tendency of ministries and government agencies responsible for various educational activities to become compartmentalized and to move in separate directions means that serious obstacles confront individuals moving through the educational system or between specialized programs and the educational mainstream. The language barrier between secondary school and the university is one, but not the only, example.

4. The need for pre-feasibility and evaluative studies in education has been overlooked. Educational planning and development needs to be based on careful assessment of country conditions, indigenous knowledge and educational experience, the local economy, participants' perceived needs, and evaluation of the effectiveness of on-going education efforts. Experts working in the capital have at best only a partial understanding of the constraints on economic and educational development faced by Somali nomads and farmers, and curricula prepared without taking cognizance of indigenous knowledge are likely to be poorly adapted to learners' needs.

Similarly, although the Ministry of Education has good records of the numbers of students within the system, including figures on student dropouts, it provides little data on students' retention of knowledge or on the effectiveness of instruction. Literacy figures, as one example, still reflect the accomplishments of the campaign eight years ago without revealing any recidivism occurring since.

The basic recommendation for AID is that the Agency reassess its strategy in the education sector in light of Somalia's particular education problems, strengths, and state of development. Specifically, the mission might investigate the following possibilities:

1. Supporting baseline studies to assess educational needs on a regional basis and providing assistance in educational evaluation;
2. Contributing assistance in the field of educational administration to help consolidate educational policy among the various ministries and to streamline educational planning.*
3. Contributing support for the teaching of English at the secondary and university levels;
4. Providing support for distribution of post-literacy reading materials in remote areas;
5. Supporting properly planned and designed radio education for distance teaching for primary education especially in conjunction with S&T/ED's radio education project.

*Such an effort should be coordinated with UNDP which is providing aid for a development planning institute in the field of education.

Figure 1: School Enrollments and Staffing - 1960 to 1980

	1960	1965	1970	1972-3	1973-4	1974-5	1975-6	1976-7	1977-8	1978-9	1979-80
Enrollments at elementary and intermediate levels	19,122	28,883	40,700	77,300	96,900	(1)	219,520	229,030	228,544	263,751	295,502
Teachers at elementary and intermediate levels	696	913	1298	(2)	1800	(1)	4029	(2)	(2)	(2)	140,082
Secondary level enrollments	782	1908	5244	(2)	(2)	(1)	(2)	(2)	(2)	(2)	24,373
Secondary level teachers	--	--	216	(2)	596	(1)	607	(2)	(2)	(2)	1,438

Data for 1960 - 1970 from Abdi Ibrahim Awaleh, "Population and Education in Somalia," in Population: Social and Economic Development in Somalia, Ministry of Education, 1981; data for 1970 - 1980 from World Bank.

(1) Schools were suspended for the year during the literacy campaign.

(2) No data available from sources consulted.

Figure 2: Educational Budget 1960 - 1980*

	1960	1965	1970	1972	1973	1974	1975	1976	1977	1978	1979	1980
Education Budget: (000 of Somali shilling)	12,644	13,178	23,664	26,337	38,674	51,706	78,329	97,942	119,162	144,273	155,133	169,384
Education Budget as percent of	--	--	--	6.6	7.6	7.6	10.6	11.1	11.3	10.6	8.4	8.7

*Derived from World Bank statistics

APPENDIX 4: PROFILES OF POVERTY IN SOMALIA

ESTIMATES OF POVERTY IN SOMALIA

In recent years, several attempts have been made to identify those groups of Somali residents most affected by extreme poverty. They reach conflicting conclusions about who are the poor and wildly varying estimates of the proportion of population so afflicted.

The first study was by ILO/JASPA, "Economic Transformation in a Socialist Framework: An Employment and Basic Needs Oriented Development Strategy for Somalia," Addis Ababa, 1977 and further refined in a paper by Michael Hopkins, "Somalia and Basic Needs -- Some Issues," ILO/WEP 3-32/WP.8, Geneva, 1978. These estimates, based on the Multipurpose Household Pilot Survey in Middle Shabelle Region, First Round, Nov. 1975, Second Round June-July 1976, conclude that 49 percent of nomads, 67 percent of settled rural dwellers, and 42 percent of urban residents had real incomes (both own production and cash purchases below an appropriate poverty line.

Norman Hicks at the World Bank in "Poverty and Basic Needs in Somalia," IRRD, 1978 (mimeo) recalculated the poverty line and made adjustments to the Middle Shabelle Survey and concluded that it would be "safe to say that 65 percent of the population live below the poverty line" (p. 3). His calculations suggest that some 70 percent of both nomads and farmers fell below the line while the figure for urban families was 42 percent. He suggested that the finding that farmers and nomads had similar average real incomes went against the accepted notion that nomads were generally the poorest.

A third, and more ambitious study of poverty in Somalia was undertaken by IFAD in 1979 (Special Programming Mission to Somalia, Rome 1979 Annex to Chapter 2). After examining the Middle Shabelle surveys on which the other reviews were based, the IFAD mission concluded that the surveys were of little use because 1) they defined income classes inappropriately, 2) were confined to cash expenditure and thereby ignored the greater part of rural consumption which is from own non-marketed production, and 3) contained major internal inconsistencies such as low meat productions and high offtake rates. IFAD imputed animal offtake rates and crop yields from newly available livestock and acreage figures. Valuing both subsistence and marketed production at uniform market prices, average animal per capita income of nomads was estimated to be SoSh 900 and that of settled farmers to be SoSh 190. With little discussion of this enormous difference, making nomads almost five times as well off as farmers, the report concludes only that "the settled rural population depending on crop cultivation is clearly worse off than the nomadic population depending on livestock . . ." (p. 23). There is clearly a problem with the valuation of subsistence livestock products, particularly milk for which there may be no market in pastoral areas, at the same relative prices as apply in urban markets where the prices for livestock products are high relative to those for grains.

The IFAD mission goes on to discuss inequality within groups and arbitrarily assumes the poverty line to be equivalent to 60-70 sheep per family for nomads and 2.0 hectares per capita, or 10 hectares per family for settled agriculturalists. Then, assuming that the distribution of assets is

quite equal among nomads, it concludes that "nearly all of the nomads may ... be expected to enjoy incomes above the poverty line" (p. 42). On the other hand, about 75 percent of farmers are found to be poor according to these estimates with the regional incidence of poverty ranging from 70 percent in Lower Shabelle to 85 percent in West Galbeed. Further analysis of pastoral incomes implied by the regional distribution of animal holdings would suggest that some 42 percent of nomads would also be poor, although this conclusion was not drawn by the IFAD mission. The report does not cover urban incomes.

Still another attempt to summarize the evidence on poverty, its level, incidence, and geographic distribution was made by Clark University (Eastern Africa Country Profiles: Somalia, Worcester, MA, Program for International Development, Nov. 1980). Relying on the IFAD study, the Middle Shabelle survey, IBRD and O/A country-level data, and informed by a classification suggested by Aronson (Draft copy, "The Social Impact of Agricultural Development" USAID) this study differentiates the population into four groups -- agents of the state, rural wage workers, the mobilized rural producers, and the residual masses -- and describes three kinds of poverty -- sporadic, endemic, and disguised.

Without attempting quantitative measures, the report identifies nomads as being subject to sporadic poverty; small agriculturists, fishermen and herdsmen in the northeast as subject to endemic poverty; and refugees and those on settlement schemes as subject to disguised poverty. It concludes, "In all, a conservative estimate derived from the IFAD analysis suggests that there may be between 2 1/2 to 4 million people today suffering from one or more of these poverty conditions. It is indeed a poor country when poverty already affecting much of the national scene becomes even more pronounced by the burden of 1 1/2 to 2 million refugees." (P.CP4-101). This implies that between 60 and 90 percent of the population lives in poverty with almost every group (with the obvious exception of urban dwellers) being mentioned as subject to some form of poverty. Maps showing distribution of incomes as estimated by IFAD by region are also drawn up and, as expected, the greatest incidence of poverty is shown for the crop production areas.

The picture that emerges from these various (not independent) attempts is that almost all Somalis are very poor with most settled farmers being desperately poor. In fact, the implied caloric intakes from these estimated incomes raise questions about how life can be sustained in these circumstances. This is not very helpful for programs that intend to "target" benefits to specially needy groups.

A startlingly different view of poverty in Somalia is provided by a more recent and better-founded study by Vali Jamal "Nomads, Farmers and Townsman: Incomes and Inequality in Somalia," Addis Ababa, ILC/JASPA Working Paper #29, Sept. 1981 which expands upon the report of the JASPA Technical Assistance Mission, "Wages and Incomes in Somalia (With Particular Reference to the Public Sector)" Addis Ababa, ILO/JASPA June 1981. Using newly-available National Accounts supplemented by a wide range of data from other sources, Jamal provides a conceptually rigorous and well-argued case.*

*Virtually all of my critique of the three earlier income distribution studies of ILO/JASPA, World Bank (Hicks), and IFAD is taken directly from Jamal, Appendix D, pp. 112-19.

He convincingly argues that it is meaningless to compare the consumption possibilities of nomads and of farmers by imputing income equivalents for subsistence production at prevailing urban relative prices. Jamal avoids inflating nomads' incomes by establishing a calorie-based poverty line for all groups. He uses 2200 calories per capita (which is 2700 per adult equivalent) as the poverty line and estimates what proportion of various groups are unable to obtain such a level of consumption by combinations of own production, barter, and cash purchases according to relevant diet patterns for each.

Jamal concludes that 1) 33 percent of nomads fall below his calorie-based poverty line, 2) 34 percent of farmers, and 3) 5 - 7 percent of urban dwellers.

The incidence of poverty is not evenly distributed geographically, however. Thirty-seven percent of southern nomads are "poor" while only 28 percent of northern are so. Jamal estimates that nearly two-thirds of northern farmers (virtually all of those without considerable livestock) are "poor" compared with 16 percent in the south. "Thus altogether we get a clear North-South pattern. In the North we have rich nomads but poor farmers; in the South rich farmers but poor nomads, but these nomads have the possibility of bartering some of their milk and meat for grain to make good their calorie deficit. In sum, poverty in terms of hunger is much more likely to be prevalent in the North than in the South, especially among farmers, but also among nomads owning small herds." (p. 30).

Summarizing his findings on the rural sector, Jamal states:

We have found that the situation in the rural sector is much healthier than hitherto believed. The country is practically self-sufficient in food, and the incidence of poverty - in terms of undernutrition - is within reasonable limits. We certainly do not find any evidence for the view that as much as two-fifths of the population - and by inference two-thirds of the nomads - fail to get even 1,500 calories per day, the intake necessary to prevent an inert body from losing weight. We also find much less hunger among the nomads than has hitherto been believed: only one-third fail to get their 2,200 calories and at the most 5-10 percent may fail to get the body-maintenance threshold.

"We also find that among the farmers too there is much less poverty than one is usually led to believe. Another finding with respect to the farm sector that goes against the conventional wisdom is that it is quite productive in terms of food production, producing a surplus big enough to feed twice as large a population." (p. 46)

With respect to the urban sector he concludes:

In the urban sector also we have shown that the situation is much healthier than sometimes believed. Here we have found it essential to distinguish between what happened in the urban economy and what happened in the urban sector and between what happened to certain urban incomes compared to what happened to urban families. The urban productive sectors - industry - are in ruins, but the

urban sector is showing all signs of a boom. The wage incomes have fallen drastically in real terms, yet the prosperity seems to be shared by all sections of the population. We have provided an explanation of these paradoxical trends in terms of the importance of the money repatriated by Somali workers abroad and in terms of the nature of the Somali economy and society." (p. 91).

Taking average rural incomes as base 1, Jamal finds average incomes of farmers to be 1.02, of nomads to be 0.99, and of urban dwellers to be 2.65 if based on GDP or 4.12 if repatriated money from workers abroad is included (assuming that all such remittances accrue to urban households)(p. 24). As such, these income differences are remarkably small.

CRUCIAL ASSUMPTIONS UNDERLYING THESE ESTIMATES

Each of these estimates rest upon fragmentary and shaky evidence. Any conclusions reached depend crucially upon assumptions both explicit and implicit. The great value of Jamal's paper is that he details his assumptions clearly and makes explicit the significance of each for his conclusions. As such, his paper is a model of how such exercises should be explained.

In this section we will review each of the major assumptions made in each of the studies, evaluate their importance, and summarize the evidence that exists to support or refute them. The studies are denoted JASPA/WB for the first JASPA studies and Hick's World Bank study, both of which are based on the Middle Shabelle surveys; IFAD for the IFAD study based on acreage and livestock estimates and restricted to the rural sectors; and Jamal for the recent JASPA study by Jamal based on National Accounts data. Since the Clark University effort did not attempt independent estimates, no further reference will be made to its summary.

Criteria for Identifying Poverty

1. JASPA/WB: JASPA/WB defines poverty in terms of cash income. Minimum income is that required to purchase 2,200 calories per day per adult equivalent and for non-food necessities valued at one-third of food costs. Having calculated required income to meet this criteria in urban areas, "cost of living" differences are applied to reduce such required income by 25 percent for farmers and by 50 percent for nomads. These poverty lines were applied to the Middle Shabelle surveys which recorded cash incomes only; no explicit attention is paid to subsistence production/consumption. Hicks takes account of additional income earners in households but applies the same general methodology applied.

This definition of poverty involves several implicit assumptions. Since there are no data on differing relative prices of commodities between urban, rural, and pastoral areas, the adjustments seem to imply that 25 percent of farmers' and 50 percent of nomads' real consumption consists of non-marketed items. All other goods are assumed to be marketed at the same prices for all three groups. Ability to obtain similar consumption through production cum trade yields similar levels of material well being. Although the survey figures show consumption expenditures by household, they do not distinguish sources of income. It seems to be assumed that all cash income of farmers come from sale of agricultural output and all income of nomads comes from sale of animal products.

2. IFAD: IFAD defines the poverty line in terms of herd size for pastoralists and farm size for agriculturalists. The minimums assumed necessary are 60-70 sheep equivalents for nomads and 2.0 hectares per capita, or approximately 10.0 hectares per family for farmers. Non-Somali estimates of herd offtake rates and crop yields are used to calculate market values of grain and animal production in Somalia. These values are, in turn used to compare relative incomes of nomads and farmers.

This procedure involves the following assumptions. Nomads are assumed to specialize entirely in animal production. Farmers are completely specialized in crop production. No wage earnings are received by either group. The only determinant of production is assumed to be number of animals or number of hectares. It is assumed that all animal and crop production can be traded readily at constant prices in all parts of the country. Subsistence production thus has the same value as traded production.

3. Jamal: Jamal's basic unit of comparison is the calorie and poverty is defined in terms of ability to produce calories for own consumption or to trade production in exchange for calories. Non-food consumption is implicitly defined in terms of calorie exchange value.

Jamal's approach involves the following assumptions. Nomads, farmers, and urban dwellers are assumed to consume calories in different forms depending on both production and exchange opportunities. Hence, nomad diet is more concentrated on animal products. National accounts data are taken as reasonable estimates of both subsistence and marketed outputs with some notable adjustments. Social-institutional features are taken into account in estimating production and exchange possibilities of different groups. Nomads are assumed to engage only in pastoral production and can barter some quantities of milk for grain with farmers and sell other amounts of animal products to urban markets for cash. Farmers are assumed to raise crops and also hold one third as many animals per family as do nomad families. Farmers barter some grain for milk and sell other farm products to urban areas for cash. Neither nomads nor farmers are assumed to engage in wage labor either in urban areas or abroad. Urban residents are assumed to be completely specialized in the cash economy and obtain income from formal-sector wage employment, from informal-sector wage employment and trade, and from remittances from emigrants to the Gulf States. All urban families are assumed to pool incomes from all three sources in a way that equalizes all urban family incomes.

4. This Study: The adoption of criteria for identifying poverty is not a matter of evidence but rather a philosophical decision concerning the meaning of poverty. It must be based on some implicit notions of what constitutes economic well being and what levels of well being are considered minimally acceptable. All of the studies explicitly or implicitly take nutritional adequacy in terms of potential command over calories as a criterion and use some form of FAO/WHO minimum standards as the yardstick. In all cases some measure of money income plus subsistence production required to allow retention or purchase of calories is taken as the index of well being. Actual consumption of calories, the quality of calories, efficiency of use of calorie-containing foods by household, intra-family distribution of food, and significance of non-food consumption are ignored. There is a huge and controversial literature on the subject which will not be reviewed here because it is not specific to Somalia. Suffice it to say that the criteria

used are probably the most reasonable operational definition of poverty that can be used with the kinds of data available.

No studies of production and consumption activities of Somali families in nomadic, farming, or urban sectors exist. The cash expenditure evidence from the Middle Shabelle surveys are totally inadequate for the purposes for which they have been used. First, cash expenditures contribute only part of household consumption, and it is logically and empirically unjustified to omit subsistence production/consumption. Since no data exist on the actual distribution of subsistence and cash-generated consumption the JASPA/WB implicit guesses are wild, and informed observation in other arid and semi-arid economies suggest that subsistence is far higher than implied. Furthermore, the surveys are so riddled with internal contradictions that they should be regarded as conveying no more information than would tables of random numbers!

IFAD assumes that per animal and per hectare productivities are similar in Somalia and in other desert economies of semi-arid Africa. Since there are no detailed Somali data, it has to be assumed that productivities are uniform within the entire country. The fragmentary estimates of the national herd size and offtake rates vary so wildly as to make conclusions about the actual levels hazardous indeed. The agricultural yield data are similarly questionable. Therefore, assuming some similarity with better documented countries of similar ecology is not unwarranted in absence of anything better to go on. The census data to which the yields are applied is more problematic. Attempts to compare the resulting estimates of crop and livestock production in terms of market prices is wrong, however, because subsistence milk production in particular, produced in small quantities in scattered and remote locations is not readily tradeable at constant prices for other goods. The scant ethnographic material and careful studies elsewhere (particularly Dahl and Hjort, Having Herds) substantiates this point.

Jamal's procedures are conceptually correct in terms of defining calorie as the "unit of account," given the non-tradeable nature of much milk production (milk is the largest caloric source of nomads' subsistence consumption). His use of national accounts figures is reasonable to the extent that they are reliable. One cannot rest too easy on that account, but there have been efforts to make them as reliable as possible under the conditions of statistical reporting in the country. Jamal corrects these figures for two glaring deficiencies - subsistence milk production and remittances from overseas workers. Of course, such aggregate figures tell nothing about distribution among families. Regional variations reported in censuses of livestock and population are used to estimate regional differences in poverty.

Nomadic Income

1. Assumptions: All three studies assume that nomads are entirely specialized in livestock production. JASPA/WB and IFAD assume all livestock are owned by nomads -- Jamal assumes that in each district, each nomad family owns three times as many animals as each farm family. Applying these ratios to the population estimates for each district, the proportion of animals owned by nomads is applied to the livestock census for the district to yield the number of animals owned by nomads. This procedure yields a national estimate that some 90 percent of animals are owned by nomads although the proportion varies by district. He too assumes that nomads only engage in livestock production.

IFAD assumes uniform productivity of herds in terms of milk and meat and does not distinguish between production for subsistence and for sale. No specific assumptions about the composition of trade by nomads are made.

While Jamal takes the National Accounts estimates as the basis of meat production, including subsistence and sale, he finds the implied estimate of milk production for subsistence far too low -- yielding only 0.36 liters per capita per day. Using milk yields from Dahl and Hjort (surveying yields in other African countries) and applying them to the herd composition from Somalia, an estimate of 2.5 liters of milk per capita per day emerges, which both seems reasonable and increases the per capita caloric yield of subsistence milk from 250 to 1,900 for the nomads!

A second crucial assumption Jamal makes is that nomads barter an average of 1 liter of milk per family per day for grain at an exchange rate of 1 liter for 2.25 kg. of grain. This is the urban relative price of grain and milk. This amounts to exchange of 775 milk calories for 5,200 grain calories and is sufficient to raise nomadic calorie availability above minimum requirements.

After total herd offtake assumptions are made and urban plus export sales of animals accounted for, it is residually estimated that 35 percent of cattle, 56 percent of sheep and goat, and 48 percent of camel offtake is retained in rural areas for subsistence consumption. However, this still yields an estimate that approximately three fourths of subsistence animal calories in the nomadic sector comes from milk.

2. Evidence: Jamal is very explicit about his sources and assumptions in Appendices A (National Accounts of Somalia), B (Food Situation in Somalia) and C (Poverty Line for the Nomads). The crucial assumptions he has to make without direct quantitative evidence are on the specialization of nomads and the quantities and exchange rates of bartered milk and grain. The subsistence milk production estimates taken from elsewhere yield plausible (and important) results for nomadic dietary adequacy. The proportion of animal offtake retained for subsistence is estimated residually and without comment. No basis for testing its plausibility is available. Casual, but unquantified, observations and discussions with Somalis suggest that migration to the Gulf and to the cities for wage labor is a significant source of nomadic families' real income. It is entirely ignored in all of these studies. Finally, there are scattered impressionistic references to the fact that nomads also engage in some amount of crop production, ranging from opportunistic seeding to regular planting by some members of families.

Farm Income

1. Assumptions: JASPA/WB and IFAD assume that farmers are completely specialized in crop production. Jamal assumes that each farm family owns one third as much livestock as each nomadic family in the same district. Overall this suggests that 10 percent of the national herd is owned by farmers. Farmer owned and nomad owned livestock are assumed to have similar productivity in terms of both milk and meat. Farmers are assumed to trade some grain for milk with nomads at the rate of 1.5 kg. of grain for 1 liter of milk. Total crop production is taken from the National Accounts. All three studies assume that farm families receive no income from wage labor of family members either in urban areas or working abroad.

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2. Evidence: Jamal is explicit about his estimates and assumptions in Appendix B (Food Situation in Somalia). Casual observation and discussion with Somalis suggest that many farm families do own livestock. Absolutely no quantitative evidence exists on which to base an estimate of the size or the distribution of such holdings among farmers. Again, interviews suggest that family members also engage in wage labor in rural areas both on small farms and on plantations as a supplement to their own farming. Again, it is clear that many urban workers and migrants to the Gulf are part of rural families and it is claimed that their remittances are an important contribution to family real incomes.

Urban Incomes

1. Assumptions: JASPA/WB uses the Middle Shabelle surveys which include an urban sample and apply the poverty line as described earlier. The assumptions are that the survey households were randomly selected, that all incomes of the household were enumerated, and that the calculation of a poverty-level income was appropriate. As such, the estimate is that 42 percent of the urban population was below the poverty line. Jamal, setting aside these surveys as unreliable (with good reason), attempts to estimate urban incomes from the national accounts aggregates applied to an income distribution derived from a 1977 Mogadishu Family Budget Survey.

Jamal assumes that all GDP not accounted for by agricultural output is urban and that the total of that income is paid to households, excepting retained earnings of parastatal enterprises. Such income must by definition be distributed either in the form of wages and salaries to workers in both public and private sectors, as profits to shareholders of private firms (negligible in Somalia), to earnings in informal-sector wage activities and self employment, in rentals of property, interest payments, and earnings of private firms (principally traders).

The total household income reported in the 1977 survey accounts for only one third of the urban income estimated from the national accounts with no allowance being made for foreign remittances. Applying the poverty line to that distribution yields the result that 43 percent of the families are, in fact, in poverty. Jamal assumes that the relative distribution of incomes from the survey were correct and increases the incomes of each household class threefold in order to account for the total urban incomes. This assumes that the sample was indeed random and that all households underreported their incomes proportionally. Under that assumption, the proportion in poverty is reduced to 21 percent. This, however, still ignores the impact of migrant remittances. Jamal assumes that for 1977 100,000 workers were abroad earning an average of Rial 14,000 per year and remitting one third of their earnings. This increases urban incomes by almost 50 percent and only 12 percent remain below the poverty line. Assuming that all urban families increased their incomes proportionately to the increase in urban income between 1977 and 1980, the proportion designated poor drops to 5-7 percent (pp. 72-74).

Since formal sector wages accounted for only 18 percent of urban GDP in 1977 and 10 percent in 1980, assumptions about the distribution of non-wage incomes are crucial. Noting that urban real-wage incomes fell by more than half between 1978 and 1980 while non-wage real income increased by 9.9 percent in that period, Jamal argues "These figures imply a massive redistribution of income in favor of non-wage urban income; we cannot say non-wage groups

because of the nature of the Somali society and economy. With the trading group so dominant and wage employment so limited, a wage earner is as likely to belong to a trading household as not, especially when the concept of household is taken to mean the extended family, as one should in the Somali context. Thus one cannot speak of a wage-earner class in Somalia; if there were one, such a massive redistribution of income could not have happened, for the trends since 1978 would imply the immersion of a majority of such a class into poverty. What has happened is that while the incomes of some members of the extended family have fallen drastically, those of others have increased so that the income of the family as a whole has also increased" (pp. 63-64).

Later, in discussing the distribution of estimated repatriated earnings, Jamal argues "we have assumed that income distribution remained constant between these dates, i.e. repatriated money increased household income in equal proportions. This is one extreme assumption about the distribution of repatriated money. Quite likely the repatriated money has gone equally to all households - this being the other extreme assumption - since all sections of the Somali society have succeeded in sending their relatives abroad, the skill-mix of the emigrants being wide enough not to be the preserve of any special groups" (p. 74).

To reinforce the importance of the assumptions about repatriated earnings, Jamal estimates an average urban annual income of SoSh 12,861 without remittances and SoSh 20,000 with -- thus remittances would account for 36 percent of urban income.

In another estimate for 1980, he estimates repatriated earnings as SoSh 5,358 million (remitted at the franco valuta rate) while the domestic wage bill was only SoSh 844 million. Remittances are thus 6.3 times as important as the domestic wage bill.

2. Evidence: The data on the formal-sector wage bill is reasonably accurate as it is primarily government employment. The size of the "urban" non-wage income is as good as the national accounts on which it is based. In other words, there is uncertainty. However, since informal earnings and production are not estimated, nor the import of goods underdeclared to customs or smuggled, the national accounts account for consumption of total goods so estimated (there is virtually zero private savings in the estimates). Therefore, it is likely that the total real income in the non-wage non-agricultural sector is underestimated.

The 1977 Mogadishu household expenditure survey is questionable for use in estimating the distribution of income, since 30 percent of the households accounting for 47 percent of the income are in an open-ended upper class yielding no information about the distribution of those higher incomes. Given that the survey accounts only for one third of the total urban income, one has less faith that even its relative distribution is accurate.

No survey exists to show the degree to which urban wage earners and traders are, in fact, members of rural extended households, but discussions suggest that it is an important phenomenon and assumptions of a separate permanent urban class may well be wrong. If so, rural incomes would be higher and urban ones lower than estimated here.

Of greatest importance, the estimates of numbers of workers abroad, their earnings, levels of income repatriated, and the distribution of such remittances are little more than guesses. Jamal assumes 100,000 were away in

1977 and 150-175,000 in 1980. There is no systematic basis for evaluating these estimates. He assumes that on average Somali workers earn Rial 20,400 p.a. or \$6,500. He further assumes one third of earnings are repatriated. While these are not implausible figures, they are at best rough guesswork and could easily be off by a factor of 2 in either direction. We have been told by Somalis that between 75,000 and 300,000 workers are abroad. Estimates of earnings are hard to come by but all agree that the skill mix is wide. Although most agree that recruitment has been disproportionate from the North, some reports from the Bay region suggest a considerable absence of males while other observers are not aware of emigration. Recent studies in two villages (Jan Haakonsen, personal communication) in the Lower Shabelle report about 25 percent of males absent in the Gulf while another informal survey in three similar villages in Brava reports equal sex ratios implying no outmigration since movement to the Gulf is predominantly male.

One should note that if 150,000 workers were in the Gulf in 1981 earning \$5,000 per annum, converting at the exchange rate of SoSh 12.5-\$1, total earnings of Somalis abroad would be SoSh 9,375 million which would be 55 percent of Gross Domestic Product, 3.8 times recorded exports, or 2.3 times the recorded trade deficit.

Since it is clear that no data exist on these crucial magnitudes, it would be best to stop speculation at this point and make clear that further pyramiding of assumptions in absence of data is not likely to be fruitful.

SIGNIFICANCE FOR POLICY

While it is interesting to know who are the poor, and some donors are concerned with targeting assistance to specific needy groups, it is also important for understanding the ways in which sectors are interconnected and may be important for predicting responses to policy changes. (The latter point is detailed in Chapter III.) This examination of attempts to identify a profile of poverty in Somalia reveals the fragility of information about the institutions of Somalia's economy. We can summarize the main gaps shown to be essential for the analysis of poverty to be:

1. Lack of information about the production strategies and activities of rural households - the degree to which nomads raise crops and farmers hold livestock, the extent of trade within rural areas.
2. Lack of information about the degree to which wage earning is part of rural families' income-generating strategies.
3. Lack of information about the extent, composition, and consequences of large-scale emigration to the Gulf States.
4. Lack of information about the distribution of incomes through extended family structures in both urban and rural areas.
5. Very little information available to describe differentiation within groups and districts.

APPENDIX 5: RECOMMENDED STUDIES

The following studies have been recommended by the SIP team to provide relevant data on which to base development policy, program planning, and decisions about project design and implementation. Each is designed to take 18 months or less and to cost under \$100,000.

The policy simulation model and the two labor migration studies described below are designed to provide macro-economic information that will enable policy makers to anticipate more accurately than heretofore the consequences of changes in economic policies. The internal labor market and the livestock and commodity marketing studies represent attempts to gather and analyze existing information on wages, prices, and market volume as indices of economic trends and responses to change.

The three pastoral studies and the household microstudies, particularly the one for dryland farming, bear more directly on project planning and monitoring. They provide information that will help to predict the impact and effectiveness of specific project interventions. It may be practical to undertake studies of this type locally in potential or actual project areas, to inform project design and to monitor implementation.

The institutional effectiveness study is designed to help AID or other donors to identify strengths and weaknesses of local agencies and institutions so that they can choose ones best suited to carrying out a specific development project.

1. A POLICY-SIMULATION MODEL OF THE SOMALI ECONOMY

Although the World Bank has a "standard model" that is fitted to most countries for projection purposes, one has not been developed for Somalia because of the data requirements and the fact that the general structure is not particularly applicable to the Somali case. Yet, the very lack of data makes construction of a coherent model of the Somali economy more necessary. When only fragments of information exist, some means of fitting them together in a plausible way that allows inferences to be drawn is required. It is somewhat surprising that the IMF does so little in this respect but that is its mode of operation in almost all countries. Therefore it would be desirable for USAID to sponsor a qualified team to develop a policy-simulation model for Somalia. The purpose of building such a model would be to force explicit attention on the key relationships that determine response to policy actions. Best guesses of response parameters would be employed with analysis of sensitivity of results to parameter changes being explored systematically. What is particularly useful about such an approach is that a sense of the importance of different assumptions and estimates can be obtained, which then guides information collection and sectoral research to those issues that are most important for the particular policy issues that seem most pressing.

The first step would be to develop a stylized view of the main features of the Somali economy, suggest the driving forces in each sector, and posit interrelationships. As a first step, one would probably disaggregate the economy into four production sectors - livestock, food, import substitutes, and government. Total production in each would depend on labor, intermediate goods, and capital inputs: the allocation of inputs would respond to prices subject to quantitative restrictions; and distribution of output between subsistence, internal sales, and foreign sales would depend upon prices and incomes after taxes. Government would collect taxes and provide services financing deficits by changing money supplies. The foreign sector affords demand for exports and supplies imports at constant prices, and foreign assistance adds to the supply of imports. Central to the model would be the labor sector which allocates labor between productive sectors and employment overseas, and overseas earnings supply some foreign exchange.

Particular policy instruments would have to be specified. They certainly would involve tax and expenditure levels of government, exchange rates, foreign assistance levels, import rationing procedures, restrictions on emigration, sectoral price policies and investment allocation, and policies for holding foreign exchange (particularly for remittances).

These key relationships, about which assumptions based on fragmentary evidence must be made initially in order to construct a model, can be better specified in more accurate detail as information about them is developed. As such they provide an agenda for ongoing policy-oriented research of high priority. They include:

1. Identifying the specific productive capacities that remain underutilized for lack of spare parts, intermediate goods, raw materials and other imported items.
2. Budgetary effects of counterpart funds made available from sale of commodities on concessional terms. This requires particular understanding of what categories of expenditure will be undertaken in absence of such funds and which will generate new activities. This is required to understand the allocative and inflationary consequences of these programs.
3. Reasonable estimates are needed of the short- and long-run responses of producers to changing prices for their outputs and inputs. These estimates are particularly important (and non-existent) for the livestock sector and in other foreign-exchange generating sectors. Potential for non-traditional exports such as citrus and manufactured goods needs to be identified and requirements in addition to favorable price relationships needed to activate such production must be recognized.
4. Production responses in import substituting sectors in response to prices and input availability need to be understood. These include most of the grain producing activities as well as manufacturing.
5. Production responses in both the formal and informal non-tradeable good- and service-producing sectors need to be studied. These include construction, transport, trade, finance, and government services plus water and power. Each of these sectors must produce their output for consumption in the country, but they also have high intermediate requirements of imports.

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6. Demand responses to changing incentives and opportunities must also be understood. There clearly is considerable scope for substitution between consumption of goods produced for own use and goods purchased in markets. The relation between these decisions and production response both for marketed and retained output needs to be explored. There clearly is considerable substitution possible between exportable, importable, and non-traded goods in consumption - e.g. substitution between meat, grains, and housing expenditures in response to changing relative prices and incomes.
7. Substitution between consumption and savings in both private and public sectors is not well understood. For example, the franco valuta system was frequently criticized for encouraging excessive consumption, yet we have found evidence that a large amount of investment in transport, construction, water tanks, and other productive activities was facilitated by this system. The question remains whether there are problems in specific availabilities of investment goods and in the incentives for investment in particular activities. Furthermore, the relation between taxation levels and forms and investment incentives, particularly for small-scale producers, is not well understood. Within government, the relationships between current obligation, debt service requirements, requirements for recurrent-cost financing for existing projects and the nature of the development budget need to be investigated in detail.

While the above list could be expanded further, the point is that policies are now being advocated for "getting prices right," devaluing the exchange rate, removing government regulations on marketing, or providing increased credit to the private sector on the assumptions that these policies, through changing incentives, will change production and consumption behavior in ways that will make the economy more viable and sustainable. Yet, while there is some presumption that each of these policies is likely to move the economy in an appropriate directions, there is very little information that will provide a basis for design of specific policies that are likely to be successful. Each of the relationships mentioned above have crucial implications for the design of macro policy. In each area, policy makers are being asked to move ahead with very little basis for informed judgment as to how they should in fact move. A high priority should be attached to generating this information and making it available to policy makers in a form that can be used for policy design and evaluation.

The results of such modelling should not be taken seriously with respect to precise magnitudes. But it is a powerful device to organize thinking, making assumptions explicit and testing their consistency, and giving an educated prediction of directions and relative magnitudes of response. If constructed appropriately, it also provides a systematic framework within which new information and better data can be evaluated.

A useable initial version of the model could be developed over the course of a year, requiring approximately ten months of graduate student time and four months of a faculty supervisor's time. Most of the work would have to be carried out in a U.S. institution with access to large computer facilities. This work should be supplemented by short-term field research in Somalia to collect data and confer extensively with policy makers whom the model is designed to serve

Such a model is not a one-shot effort; neither is it a strictly academic exercise. Ideally, the group that develops it would remain in contact with Somali officials and donors over time so that interplay between modelling, policy analysis, and information collection would be constant. Given the emerging state of technology, an operational version could be developed that would run on a micro computer (e.g. Apple II or TRS 80-II) and could be easily used in the country by a number of different agencies for testing alternative policies or assumptions.

2. LABOR MIGRATION TO THE GULF

It is essential that better estimates be made of the numbers of Somalis in the Gulf, their earnings, remittances, and skills. Determinants of remittance levels, channels through which they flow, and destinations and uses of remittances should be identified and estimated quantitatively. The selectivity of migrants from the Somali population, the sectors from which they withdraw labor, and the economic and social relationships that are maintained with their family groups should be identified. The eventual use of such research is to identify policies affecting migration levels and remittances that will yield maximum benefit to the Somali national economy.

Such a study, which could be undertaken as a Ph.D. dissertation project with some field supervision, should proceed in three phases:

1. Obtain what information is available in Somalia about numbers of emigrants. Some information may be obtained through passport-office records, shipping and airline records. Some analysis of the levels and structure of imports during the franco valuta period may be of use and some limited information be obtained from banks. Some limited initial interviewing should be done in this phase in Somalia; for instance, individuals waiting for Saudi Arabian Airlines tickets can be interviewed to learn where they are from, what skills they have, whether they have been abroad previously, how they intend to find jobs, etc. Some limited interviews with knowledgeable individuals, traders, returned migrants, etc. may also provide insights. (About two months)

2. Go to Saudi Arabia and other states of substantial immigration to obtain information about numbers of Somalis (work permits or visas may be documented) and identify the ways in which Somalis are recruited into employment. Obtain at least a rough idea of the kinds of jobs they hold and the areas in which they live. Develop a sampling strategy for interviewing Somali workers in the Gulf to obtain information about what they had been doing in Somalia, where they are from; how they found work in the Gulf; what are their skills, occupations, and earnings; what do they remit, how much, how often, in what form; plans for return to Somalia. (About four months)

3. Having obtained a reasonable profile of migrants and their origins, the study would shift back to Somalia to begin structured interviewing of households from which migrants are absent and of returned migrants. It may be possible to undertake tracer studies based on information supplied by migrants in the Gulf; otherwise, sampling of household types found to be frequent sources of migrants will be undertaken. The effects of labor withdrawal on families' production/employment activities in Somalia can be identified, corroboration or reestimate of remittance levels can be made, and indications of uses of remittances can be estimated. (About four months)

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Such a study could be carried out at reasonable cost by one person with some supervision and field assistants and would give a reasonable qualitative understanding of the process and very rough quantitative estimates. In order to obtain refined estimates of numbers and remittance levels, it would be necessary to embed such a study within a national household sample which may be useful, but at a much later date.

3. INTERNAL LABOR MARKETS IN SOMALIA

A third priority study would examine internal labor markets in Somalia. It should consist of three main parts:

1. Formal sector employment, wages, recruitment, career paths etc. Some data are available here from government and previous work by the ILO. Some individual interviewing would be required. One must look at such employment in provincial towns as well as in Mogadishu and Hargesia.

2. Urban informal-sector labor markets. Interviews must be done with a sample of urban households to identify kinds of employment, earnings, career paths, methods of recruitment, links with rural areas etc.

3. Rural wage markets. Some limited studies should be done on rural off-farm employment. Reports have been made of widespread use of casual wage labor, particularly in the riverine areas and in the banana plantation areas.

On the basis of these studies, plus information from employers, a partial series of wages over time and with seasonal adjustments (e.g. in agriculture and construction) can be constructed. Labor markets will be analyzed in terms of how they work, what kinds of labor allocations are facilitated, what institutions bound the free functioning of such markets, and implications for income generation and distribution can be dealt with, at least in part. At all points, interviews should probe connections between wage labor and the income strategies pursued by rural-based extended families.

With this information, one can develop rough estimates of the intersectoral consequences of investments, price policies, or other interventions that impact initially on a single sector. Interventions with respect to wages and taxes can be evaluated, and public-sector employment issues can be analyzed. The basic methodology for this study is being developed under a contract between USAID and Boston University Institute for Employment Policy for a study of the effects of socio-economic institutions on labor market functioning in Indonesia, Kenya and Jamaica. These studies of migration to the Gulf and internal labor markets should be coordinated and supervised by a team with experience in economics, social anthropology, and design of low-cost surveys in Africa.

4. MICROSTUDIES OF SOMALI EXTENDED FAMILY INCOME STRATEGIES

An effort should be mounted addressed to the income-generating strategies of Somali extended families. The critical necessity for understanding the decision making in relation to resource control of such units has been stressed throughout the analyses of the Somali macroeconomy and of the agricultural and pastoral systems.

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In absence of such information, it is almost impossible to understand and predict responses to changing incentives. The degree to which subsistence and marketed outputs are readily shiftable, whether incentives to produce grain will divert resources from animal production within household economies, the impact of export incentives on migration to the Gulf and similar questions can only be analyzed if household strategies are understood. The usual assumptions that a particular project affects only nomads, farmers, or urban workers, depending on where it is located, may well be wrong if household units are in fact simultaneously engaged in all three sectors. Moreover, it is only in context of such information can meaningful identification can be made of specially-deprived groups to be "targeted" for assistance.

In the longer run, such information should be collected periodically through on-going research studies on a panel of households so as to provide information that is comparable over time. The Kenya Integrated Household Survey program is the most advanced in Africa; the Indian Rural Household Samples are the major international example; Botswana is initiating a Continuous Household Sampling Program; and several other efforts are getting underway in other countries. Such a sophisticated collection program will eventually be desirable for Somalia, but in the foreseeable future, a much less complex and inexpensive information-collecting exercise is warranted.

It would make most sense to begin in-depth observation of production and exchange relationships within household and extended household units in a few sites that have a good chance of being typical of larger areas. Such observation should become institutionalized on-going activities that can be coordinated with specific projects. For example, it should be possible to obtain some of this information by attaching researchers to the Northern and Central Rangelands projects and to the Bay Region project, which would provide some sense of household strategies in two major nomadic areas and a major agricultural region. By concentrating on household strategies and the degree to which extended family members span productive and geographic sectors, information of immediate importance can be gleaned and hypotheses will be developed and understanding of specific features of Somali households will be obtained that is absolutely necessary for framing questions and designing sample frames in order to insure that scale surveys will provide interpretable and useful information.

Initially, there should be a team three field researchers combining in various ways expertise in social anthropology, microeconomics, and technical aspects of livestock and agriculture, working for approximately one year under continuing supervision of an interdisciplinary senior team that can visit periodically to provide intellectual and conceptual coherence and continuity to the effort. It would be desirable to maintain this enterprise as a single team, even though funding might come through various specific projects, since the range of expertise required is wide and there are advantages in rotating the three field researchers among the projects and combining their efforts at certain times on certain problems.

5. AGRICULTURAL MARKETS STUDY

There is an urgent need to understand the functioning of agricultural markets in Somalia. In conjunction with studies of extended family income strategies, studies are required to estimate the response of livestock offtake

rates and exports to price changes; the supply response of grains and other commodities; the effect of current import release prices; and the feasibility and costs of potential ADC stabilization efforts. Since crucial assumptions about the functioning of these markets are presently being made on the basis of little systematic information, a significant improvement can be made by collecting and analyzing data available from municipal records and other sources, including selected interviews with traders and producers.

Results of the study will contribute to the development of price policies and a food aid strategy and will help to establish priorities between investments in infrastructure, institution building (e.g. agricultural credit), and targeted production projects.

This study could be undertaken by two graduate students, one focusing on livestock markets and the other on grain commodities, each carrying out field research over the course of a year, under the supervision of a faculty advisor.

6. STUDIES OF THE SOCIAL AND ECONOMIC CONTEXT OF PASTORALISM

Objectives

The three proposed studies here are intended to:

1. Link the aerial inventorying to on-site intervention by researching the human response to and management of the physical environment. Since, through hard-won human ingenuity, 400,000 people now support themselves in the Central Rangelands, knowledge of their production systems and constraints is a first principle in designing technical packages for them.
2. Establish rapport between pastoralists and government services. Somali pastoralists interact with the services only cautiously. Demonstrating respect for their livelihoods and problems can only come by understanding them, and is the only way to gain their confidence.
3. Identify constraints to production increases, which may be linked to grazing management strategies, or may come from veterinary factors, husbandry practices, labor constraints, economic incentives, political instability, or other factors. In the long term, the CRDP and its successors cannot assume that one factor, grassland management, is the only key to higher productivity and incomes. Such a strategy, especially since there is some directly contrary evidence, is at best highly risky.
4. Yield a range of advice on strategies to be followed in further Central Rangelands Development.

The studies could be mounted as a coordinated package or separately, depending on USAID's information needs of the moment and on the resources available.

6A. Pastoral Production Study

Purpose: To record and analyze current livestock production systems in the project area, including: herd composition and history, animal management units as deployed, husbandry practices (including growth rates, pregnancy/neo-natal

care, breeding), mortality/morbidity rates, grazing schedules (including pasture and specific forage preferences, watering and trekking frequencies and grazing efficiencies), and management strategies in culling, labor deployment, conflict management, and enterprise modification. The study would provide crucial information to the range managers to judge the likelihood that the systems of grazing management that they devise have minimum relevance to existing parameters of livestock production.

Method: One full year of intensive field work following a small number (at most 608) enterprises on a daily basis throughout their range (or that part in Somalia). Methods and schedules of the PPS study in Mali, of the NRL herd dynamics study in Niger and of comparable East African Studies should be reviewed and adapted. Representative herds should be chosen for the Obbia Plains system, the cattle area in the southwest of the zone, and the dominant variations in the major production zone inland.

Staff: A livestock economist with sound knowledge of animal production, willing to live and work full-time in the project area for a full year, with two Somalia research assistants and basic record-keeping by participating pastoralists themselves.

6B. Anthropology of Central Somali Pastoral Production

Purpose: To describe and analyze the social aspects of pastoral production in the Central Rangelands. This study would start by ground-truthing and expanding upon the Watson Range Resource Inventory, with information on the macro-structure of the Zone (settlements and social divisions of the hinterland, social units of linked pastoral producers in the rangelands, general zones of transhumance, administrative structures and services); it would follow up by monitoring the transhumance patterns of selected groups throughout the year; it should intensively study two linked sets or networks of herders (minimal lineage extended family), observing the division of labor, task allocation, decision-making, non-pastoral production and consumption data, household income from all sources, utilization of government services, stock-owning and lending patterns, market involvement, risk aversion and social insurance strategies, and access to and preservation of resources, responses to changing production factors and markets; including aspects of range competition and conflict resolution. The anthropologist should collaborate with the production systems researcher in assessing management strategies in the livestock enterprises being studied, and also help develop knowledge of indigenous methods of range use and animal production.

Method: One full year of intensive field work on each of the two small sets of producers chosen. The methods of the J. Lewis study of transhumance in Mali, of J. Swift's household economic survey methods from Mali and Niger, and of the ILCA Monitoring Unit and the Kenya Turkana Project should be reviewed for guidance and adaptation.

Staff: One Somali ethnographer to help undertake community surveys. A second anthropologist, trained in the analysis of pastoral systems, should be added so that the two can work together. Two full-time assistants/interpreters would be needed.

6C. Study of Commercialization in the CRDP

Purpose: To analyze the commercial activity in the zone for livestock from the "farm-gate" or point of first sale by the producer through to export from the zone, and for "imports" from the suppliers to the final consumer markets. The study would identify market hierarchies marketing chains and personnel, price levels and trends, infrastructure, credit and trust arrangement, and market competitiveness. Livestock bulking and holding, "trade herd" management, fodder supply arrangements and transport and communication mechanisms should be studied.

Method: This study can employ standard methods of market surveys in African markets where record-keeping is non-existent. Studies by A. Cohen in Ibadan, P. Hill in Ghana, the CRED Livestock Project in the Entente States, the "Red Meat studies" by CRED, and by M. Makinen in Niger should be consulted, as well as comparable work in north-east Africa.

Staff: One short-term consultant in livestock or agricultural marketing economics, and with research experience in African markets, with a research assistant/interpreter. Fieldwork would take six months, broken into two periods: two months during the low marketing season, between August and November; and four months during the intense marketing season of late Jilaa and early Gu (February - May).

7. BAY REGION INCOME STRATEGIES

The principal objective of this study is to obtain a clearer picture of the strategies by which households and extended families in the Bay Region obtain income, avoid risks due to uncertain rainfall, save, and invest, especially as these activities relate to the components of the Bay Region Agricultural Development Project. It should be a component of, or closely coordinated with, Study 4 above.

More specifically, the study should clarify: 1) the organization and composition of households and extended families - their relationship to one another and to other forms of community organization; 2) the rules and processes by which households and extended families gain access to arable land, water, and pasture, and the way these are being transformed by project activities; the commercialization of land, labor, and commodity markets; and changing government policies, such as the registration of land, land taxation, and price policies; 3) the organization and economics of each type of income-producing activity, including cultivation, livestock raising, off-farm labor migration and commerce; and 4) the strategies by which households and extended families of differing size, composition, and resource endowments allocate their resources between alternative income-generating activities, save, and invest.

The study should be designed and supervised by an interdisciplinary team experienced in development oriented micro-research and with the proven ability to communicate their findings to managers and planners. This team should include the skills of development economics, development anthropology, cultural ecology or geography, and cropping science. The study should be based on a carefully planned and coordinated combination of in-depth, panel, and survey techniques of data collection and should be iterative in design and analysis, rather than primarily a one-time survey.

The study should be coordinated with the Bay Region Project Management Unit and with farming systems studies being carried out through its component units. There are a number of ways to do this. Periodic interchanges of ideas and findings can take place through more or less informal seminars with the members of the project staff. Project staff can also be actively involved in the study through the use of the Sondeo technique described by Hildebrand (1979). In this approach a homogeneous cropping system among many farmers in an area is first identified. The research director then takes a team of agricultural scientists and social scientists to the area for a brief period. The team works in pairs, one agricultural scientist and one social scientist. They go out each day and learn what they can from farmers and others, returning in the evening to share experiences, take stock, and decide on further priorities. Each day the pairs change, so that each agricultural scientist works for one day with each social scientist, and vice versa. It may also be feasible to incorporate members of the extension service into the study at times and to train members of the indigenous farming population to serve as "barefoot enumerators," as has been done by ILCA in Ethiopia and the USAID-funded Niger Range and Livestock Project in West Africa.

The results of the study should be immediately useful to project management and, in the longer run, will contribute to the monitoring and evaluation activities of the project, of the newly created monitoring and evaluation unit in the Ministry of Plan, and, if possible, to the larger effort in Studies 2 and 3.

8. INSTITUTIONAL EFFECTIVENESS STUDY.

Development assistance is transformed into concrete rural and agricultural development activities through a variety of public and private organizations. The efficiency and effectiveness of these organizations varies according to the nature of the activity, their internal rewards systems, accountability, potential for corruption, and fit with indigenous social and cultural institutions. Somalia has experimented with a very wide range of organizations in recent years. To date no systematic assessment of their individual strengths and weaknesses has been made. Public sector organizations include:

- 1) Line ministries such as Agriculture; Livestock, Forestry and Range; Public Works; and Minerals and Water Resources;
- 2) Semi-autonomous agencies and parastatals, such as the National Tractor Hiring Agency (ONAT), the Agricultural Development Corporation, the Water Development Agency, the Livestock Development Agency, and Juba Sugar Corporation;
- 3) Government-sponsored cooperatives for production, marketing and the delivery of social services, ranging from agriculture to incense collection and from taxis and charcoal collection to pharmacies;
- 4) Crash programs, such as that which has been charged with settling unemployed youths on state farms in previously unused lands and the settlement agency that settled nomadic drought refugees in coastal fishing cooperatives and on irrigated farms;
- 5) State farms such as Kurtunwaare, Sablale, and Dujuma; and

6) Government-sponsored "self help" campaigns, such as the literacy campaign, voluntary labor for schools, sand dune stabilization and the crash teacher training program.

Non-governmental organizations include private corporations, private voluntary organizations (all of which appear to be foreign), and religious cooperatives, of which the settlement at El Bedali and the communities of Shrik Banaan are outstanding examples.

To date no systematic assessment has been made of these organizations' strengths and weaknesses in the Somali context. The proposed study could be carried out by an organization such as SRUERT/ with limited technical and financial assistance. Data would be gathered from existing organizational records and interviews with key personnel. The results would be helpful to donors in matching project initiatives to the organizations best able to implement them under Somali conditions.