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A CASE STUDY OF DIGO SOCIETY IN KENYA.

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A TEST OF THE CONCEPT OF BACKWARDNESS:  
A CASE STUDY OF DIGO SOCIETY IN KENYA

A Thesis

Presented to the Faculty of the Graduate School  
of Cornell University  
in Partial Fulfillment for the Degree of  
Doctor of Philosophy

by

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## BIOGRAPHICAL SKETCH

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## CHAPTER I

### INTRODUCTION

Peasant agriculture is still the foundation of a majority of the world's national economies. Produce wrested from the earth with nothing but a few simple tools, without benefit of modern machinery, chemicals or financial institutions currently feeds millions upon millions of people. But as the millions turn to billions there is increasing pressure to transplant or create technological advances and multiply the quantity of goods available to our burgeoning world population. Peasant systems of production, once the solid underwriters of feudalism and empires, are now viewed as outmoded anachronisms persisting on the strength of parochial traditionalism in the face of mass communications, urbanization and industrialized modernity.

The desire of most governments is to penetrate their rural hinterlands, disseminating education, health services, potable water supplies and transportation networks. The underwriter of such development programs is a money economy rooted in international rules and conventions; a money economy which demands that the rural areas be inexorably linked to the urban areas which, in turn, are enmeshed in problems of foreign exchange and international competition for buying and selling commodities.

Modernization, whether or not it should be considered progressive, is predicated upon monetization. Modernization can be seen as a long list of inputs and even the smallest item represents a commodity that most often has already been assigned a monetary value. The metal knife,

the flashlight batteries, the refined sugar, the paper used by students in the most remote self-help school--to say nothing of the resources represented by buses and trucks, water pumps, and even poorly equipped health centers--all have a price tag. In return for channelling these inputs into the rural areas, peasant populations must produce more goods which can enter into monetized markets. They too must obtain money if they expect to obtain the resources of modernization. And as rural communities do enter the money economy, even traditional goods and services become monetized and cannot be had for other types of goods.

The transformation of peasant farming is going on in ever greater areas. The transportation links are being laboriously laid out through deserts, canopy forests, and savannah; personnel trained in agricultural extension are being posted to remote villages; and the symbols or substance of modernization are being sold in small, local shops. The transformation is taking place, but the process itself is still poorly understood. Since peasant systems of production are so widespread, any significant level of transformation must be achieved across an immense range of environmental and cultural diversity.

It is this diversity that threatens to make a shambles of national planning schemes based on general models. It is not enough to create new plant varieties and recommend the application of certain fertilizers--the whole set of technical recommendations must be field tested under local conditions of weather, disease vectors, and soil types. It is not enough to say that "traditional" farmers resist change--it is the nature of those traditions and the real reasons for resistance which must be understood. In other words, there is a great deal of specific

knowledge which is needed, for local diversity demands that general models or broad-front programs be tailored and adapted to local needs and conditions.

Endless collection of specific knowledge is, of course, not enough either. The data must be organized into theories and models which either confirm or reject commonplace understandings. Stereotyped images must be replaced with more realistic, perhaps more complex, perceptions of peasants and their farming systems. Without this knowledge, planning can as often hinder development as foster it and the mistakes are costly.

#### A. Choice of Field Site and Research Questions.

The Digo people were initially described to me quite simply as a group of backward farmers living on the south coast of Kenya, and it was the idea of "backwardness" that first interested me in doing fieldwork among them. An added incentive was the reported recent influx of Kamba settlers who were described as "progressive" farmers moving into the south coast region to buy farm land. This combination of elements offered potentially interesting questions for research. With the intrusion of Kamba settlers, two culturally distinct groups were now farming within a single ecozone and one group was regarded as more backward than the other. It seemed an appropriate setting for investigating the relative influence of technological/cultural vs. economic/ecological factors on farm management decisions within subsistence agriculture. Even if the Wadigo were backward, they might still have achieved a highly adaptive farming system that was "rational" given existing local conditions. If this were the case, Kamba farmers might

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be expected to adopt a similar system, making economic/ecological factors more important than cultural differences. Among other possible alternatives, the Wakamba, as progressive farmers, could be introducing a more rational farming system into the area based on technological and/or socio-cultural elements not shared with the Wadigo. If this were the case, cultural factors would be more important and it would then be of interest to ask whether Digo farmers subsequently adopted the more rational, progressive system or rejected it; and if they rejected it, why they did so. More specifically, would being "backward" lead Digo farmers into making less rational farm management decisions than those made by "progressive" Kamba farmers?

Another element also attracted me to the Kikoneni area--the region was included in one of six Special Rural Development Programs (SRDP) being conducted in various parts of Kenya and was therefore subject to intensive modernization efforts. The existence of this program suggested that there should be a relatively clear interface between national and local systems. Moreover, I was interested in the effects of planned, introduced change as a separate question for research-- but a question also related to the image of the Digo as a backward people.

While my research does deal with the questions concerning farm management, adaptation and the introduction of planned change, the primary focus of this dissertation centers on the idea of backwardness since I gradually became most interested in discovering four things:

1. why are the Wadigo considered backward--i.e., what are the conceptual components of Digo backwardness?
2. what is the relevance of the idea of backwardness for theories of development or modernization?
3. what is the relevance of backwardness for future development or modernization among the Wadigo?
4. what is the utility of the concept of backwardness as a tool for the social sciences?

I became interested in the problem of backwardness because I believed it to be a very basic conceptualization of less developed peoples and I wanted to examine both the descriptive and theoretical implications of the term. Although there are numerous synonyms for backwardness, I felt this term should be addressed explicitly because it openly expresses many value judgments and theoretical assumptions that are somewhat masked by other terms. The terms "traditional," "underdeveloped," "less developed," "have-nots," "Third World," "tribal," "peasant," "kinship-based societies" and "subsistence agriculture" all contain some elements or connotations of backwardness but they tend to be euphemistic. Since at least some of these terms are also specific types or designations for a limited set of systems or levels of development, backwardness offers the added advantage of being a general term that can be applied to a substantial range of social phenomena including ethnic communities, economies, social structures, institutions, cultural systems and political entities.

The notion of backwardness seemed significant because it appeared to be a powerful and pervasive concept. Although it may be masked

under euphemisms, the idea of backwardness is often employed in formulating policy decisions, in allocating funds, and in shaping certain forms of social interaction. Being categorized as backward clearly had important implications for the Wadigo. One government official in Kenya assured me that a study of small-scale, backward farmers would be of little interest since development depended upon progressive farmers and large-scale agriculture. For him, Digo backwardness justified ignoring them. For others, backwardness was the principal reason for initiating a special development program in the Digo area. Such polar attitudes can be found throughout the wide spectrum of individuals involved in modernization efforts, from local extension agents to consultants employed by major international agencies. Since those concerned with development must conceptualize the problem and ultimately make choices, much of their thinking focuses on the idea of backwardness or concepts related to it. Attitudes are translated into policy or shape the implementation of policies that become development strategies. Therefore, the idea of backwardness is more than just a theoretical concept--it has practical significance in its influence on policy choices, development strategies and the flow of resources. Without the idea of backwardness, there would be little justification for a modernization effort that has become an international crusade as well as a multi-billion dollar business.

#### B. Methodology.

The initial conception of my research design contained multiple objectives, but providing quantitative data on the economy was always a central concern and consumed the greatest proportion of time and

effort in the field. Emphasis was given to production rather than marketing because it was felt that the former was less well understood and had received less attention in the literature on peasant farming systems and subsistence agriculture. Nonetheless, questions of production were never viewed as factors which could be isolated from questions of marketing, consumption, or socio-cultural values and structural organization. The assumption that the economy is, at least potentially, related to virtually all other aspects of Digo culture generates a holistic approach typical of anthropological research, but the thoroughness with which various aspects were investigated was limited both by time and by my own skills.

When I arrived in Kikoneni, my first task was to hire a research assistant who could also act as interpreter while I conducted an initial survey. My knowledge of Kiswahili was adequate for setting up house-keeping but not for conducting lengthy interviews on detailed subjects. One of the sub-chiefs suggested two young men who had a working knowledge of English and I hired one of them. For the next month and a half, we interviewed a total of forty-three farmers. Selection of those included in this survey was not systematic; we normally started out on a path leading away from my house in the morning and interviewed anyone who was at home. On other days, I took a local bus to my assistant's village (Mrima) and we interviewed farmers in that area. My goal was to interview one hundred heads of household and to have a substantial sub-sample of both Digo and Kamba farmers, but after the first month it became obvious that too much time would be lost if we continued the initial survey and I began planning methods for organi-



zing a case study approach:

The initial survey was conducted in order to establish a frame of reference for selecting case study households. It also provided a way of meeting individuals and time to become at least minimally acquainted with the area. On the other hand, a great deal of time was spent just walking and since there was no way of knowing whether or not anyone would be at home, whole mornings or afternoons sometimes went by without interviewing anyone.

At the conclusion of the initial survey I had gathered interview data from twenty-eight Digo, thirteen Kamba, one Ngoni and one Kikuyu household. (One of the Digo surveys had to be discarded leaving twenty-seven Digo interviews.) The sample of Kamba farms was small partly because they tended to be farther away from my house and therefore more difficult for me to reach. Since I intended weekly visits to each case study farm selected, distance was an important limiting factor.

The selection of case study farms eventually came down to the availability of someone in the family who could write and therefore record the daily information I wanted. Thus, the sample is clearly biased toward families with at least one formally educated member.

The first form used for daily farm records included a section for the recorder to write down all the day's activities for each working member of the household. This proved much too difficult and time-consuming and was quickly changed to cover only farm activities. Since this change represented a significant loss of data, I decided to have my assistant write down all daily activities for two households in his

village, each of which consisted of only one husband and one wife who were working members. Although his skills and his understanding of the purposes of the study were greater than other recorders, even he found the task too burdensome and we reduced collection of this particular data to every fourth day.

The final form for daily farm records included information on health, farm activities of family members as well as any hired laborers, cash income and cash expenditures. Recorders were also supposed to include non-cash gifts, either given or received, but these data were never accurately recorded.

Four of the twelve households that initially started recording daily information in November, 1974, had to be dropped during December, 1974. By January 15, 1975, I had been able to recruit only two households as replacements giving me a final sample of ten families (seven Digo and three Kamba households).

Despite the smallness of this sample, I soon found myself inundated with paper work. Both my assistant and I spent many hours tabulating and calculating farm data. For the first three months, I also typed the three hundred odd forms needed each month by my recorders. Not only was this boring, it was also time-consuming, and eventually I was able to locate a mimeograph in Mombasa that I was kindly permitted to use.

In addition to dealing with this avalanche of paper, I was trying to visit each case study farm once every week. This was particularly important at the beginning when recorders had frequent questions. Although I was able to schedule my own time to include ten farm visits,

finding recorders or other family members at home continued to be a problem. By the end of December, I decided to purchase a small motorcycle<sup>1</sup> that could be driven on footpaths. Once purchased, it seemed indispensable. I was able to drive out to a family's kibanda (shelter) on their farm if they were not at home, or I could return later in the day when they expected a particular person to be there, and it no longer required a full morning or afternoon to make a single farm visit.

By the end of January, 1975, farm data collection was finally beginning to seem more organized and was demanding less of my time. Also, by this time I was acquainted with more people and could gather information on a wider range of topics, including kinship, marriage, witchcraft, land tenure, and local history.

Between February and August, 1975, my regular routine of farm visits, data processing, and informal conversations was periodically interrupted by other projects such as gathering specific data on the Special Rural Development Program or measuring maize output. Measuring each plot on the case study farms took up a considerable amount of time, as did writing a preliminary report for the University of Nairobi. Since I would not admit that the equipment for measuring energy expenditures really would not work despite my efforts to repair it, time was also spent trying to use this equipment and collecting dietary data in the hope of being able to analyze energy flow.

With the exception of economic data, which tended to be highly structured, information was mostly gathered through informal conver-

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1. My research grant included funds for a motorcycle from the outset, but I had been reluctant to purchase one since I felt this would increase the social distance between me and my informants.

sations or participant observation, although formal interviews were also used for some topics.

In some respects, my assistant served as a key informant as well as my interpreter, for he often clarified things I had not fully understood or corrected my misinterpretations of particular events. Without his help, I would certainly have understood much less about Digo culture and society.

"...the phenomenon of backwardness itself is still poorly understood" (Eric Wolf 1966: viii).

## CHAPTER II

### § THE PROBLEM OF BACKWARDNESS

At first glance backwardness appears to be a simple, straightforward concept. It is a common, as opposed to a technical, term. Few people feel puzzled upon hearing it and most assume that they know what it means or would be able to recognize it in concrete situations. It is a "common sense" word, but there is little precision in the term. Under careful scrutiny, backwardness fragments into an impossible array of different factors, qualities, dimensions or aspects--many of which do not lend themselves to scientific determination or measurement.

It may be useful to divide the problem, viewing backwardness first as an idea and second as a condition. As an idea, it has a particular history within Western thought as well as particular relationships with other Western ideas. Exploring the history of these related concepts adds a contextual dimension that can expose many of the connotations associated with backwardness. Also, as an idea, backwardness poses a conceptual and definitional problem involving the identification of its specific characteristics.

As a condition, backwardness becomes a developmental and planning problem. From this perspective, it is first a question of identifying its possible causes followed by the generation of theoretical models

and specific strategies designed to overcome the condition.

The problem of backwardness, both as an idea and as a condition, will be explored in the first two sections of this chapter. In the final section, some critical assessments will be made regarding the significance of tradition and backwardness for future development.

#### A. Backwardness as an Idea.

According to its definition (Webster's Collegiate Dictionary, 5th edition, s.v. "backward"), "backwardness" is a noun denoting a retrograde condition or a condition which is "not advancing or progressing normally." Since backwardness is inherently a relative condition, the term itself connotes two very fundamental notions: evolutionary change and ranking. Backwardness has meaning only if something which is not backward also exists and therefore some differentiating change must already have occurred in which the other entity represents the antonomous condition of being progressive. The notion of backwardness is thus tied to the notion of progress and implies the potential for change from one condition to the other. It is tied to progressive evolutionary change when it is accepted that something defined as progress has already taken place. When this is so, the potential for change is commonly taken to mean change away from a backward toward a more progressive condition. The contrast between backward and progressive need not be limited to a simple dichotomy; it can also be seen as a continuum differentiated by degrees of progress. In denoting the least progressive segment of such a continuum, backwardness bestows the pejorative connotation of low status in a ranking system that assigns positive value to progress

--to be backward is to be inferior, less developed, primitive. It is a condition associated with stagnation and resistance to change.

The idea of "normal" contained within the dictionary definition quoted above can be taken to imply an additional notion expressed by the term backwardness: namely, that progress is normal or natural. If advancing, progressing, growing and/or developing are accepted as part of some natural order, then backwardness denotes a failure, a breakdown of the natural order or of normal processes. With this added dimension of meaning, to be backward is not simply to be in an inferior, less developed condition but also to be in an abnormal, possibly pathological condition. It implies that the state of stagnation or lack of progress is due to some form of impairment or debilitating constraint.

1. Historical Roots. As a concept that is inherently associated with the ideas of progress, social change and ranking, backwardness shares in a long history and is deeply rooted in Western philosophy. Much of the connotative meaning flows from this history and there are important continuities between the current definition and past conceptions of backwardness, progress and change.

In Greek philosophy, progress was often considered a process of becoming and part of the recurrent cycles of growth and decay believed to characterize human civilization. To Saint Augustine social change and progress was the unfolding of the Christian epic, again a sequence of growth and decay. Over time, progress became associated with the idea of historical necessity and with the belief that conflict served as the basic force which initiated change. By the eighteenth century,

the idea of progress was

"held to be the natural and normal trend of mankind but which, for its free and uninterrupted flow, requires from time to time the obliteration of obstructing institutions and beliefs. The conviction of progress as the normal tendency of man was united with the belief in the existence of a natural order and also in the existence of a 'natural history' that all things follow until they are arrested or diverted by artificial circumstances" (Nisbet 1969: 117).

The assumptions of the eighteenth century continued to provide the basic elements of nineteenth century theories of socio-cultural evolution. The comparative method of Spencer, Tylor and Morgan was simply a new means of discovering natural history. Ethnographic evidence was used to reconstruct the stages of human development, moving from savagery to barbarism to civilization. The theory of change was still based on the following assumptions:

"the notion of change was a process natural to each and every living entity, social as well as biological.... Second, social change--that is, natural change--was regarded as immanent, as proceeding from forces or provisions within the entity. Third, change, under this view, is continuous, which is to say that change may be conceived as manifesting itself in sequential stages which have genetic relation to one another; they are cumulative. Fourth, change is directional; it can be seen as a single process moving cumulatively from a given point in time to another point. Fifth, change is necessary; it is necessary because it is natural, because it is as much an attribute of a living thing as is form or substance. Sixth, change in society corresponds to differentiation; its characteristic pattern is from the homogeneous to the heterogeneous. Seventh, the change that is natural to an entity is the result of uniform processes; processes which inhere in the very structure of the institution of culture, and which may be assumed to have been the same yesterday as they are today" (Nisbet 1969: 212; emphasis in the original).

In tracing the necessary, cumulative and directional evolution of social institutions, nineteenth century writers placed Western Europe at the apex of development. Just as primitive societies provided evidence for the nature of earlier stages, so European societies



provided evidence for "mature" or "developed" stages. Since the processes of change were uniform and directional as well as necessary, it followed that non-Western societies would eventually reach the Western stage of development. The White Man's Burden was simply to assist less developed peoples along the road to modernity.

Nineteenth century science was dedicated to discovering what was "natural" in society, in economics, in organic and inorganic forms, and was dedicated to discovering uniform mechanisms that could account for change. Because these mechanisms were thought to be immanent to natural phenomena, the mechanisms themselves were taken as natural and therefore constituted the natural laws of science. Anything that inhibited such natural mechanisms was artificial and an obstruction to development. Thus, science itself was charged with identifying the necessary and directional course of change so that artificial imperfections could be eliminated from the path of progress.

In responding to the problem of change, social theorists not only attempted to identify natural mechanisms, but also those essential features which distinguished various stages of socio-cultural evolution. Since the problem was often viewed as a need to isolate the peculiar qualities and organizational structures which differentiated modern (i.e., European) from premodern society, theoretical formulations tended to be expressed as typological dichotomies. Some of the better known formulae include Maine's status-contract, Tonnies' Gemeinschaft-Gesellschaft, Durkheim's mechanical-organic solidarity, Weber's traditional-charismatic-legal/rational, and Redfield's little tradition-great tradition distinctions. In each of these typologies,

the existence of polar types represented the contrast between backward and progressive or traditional and modern. None seriously challenged or altered the basic assumptions underlying the theory of social change. Explicitly or implicitly, each contrast implied directional change from less progressive types toward more progressive types, and Western societies consistently remained at the apex of every evolutionary sequence.

During the twentieth century, social theory began to focus on a new problem--modernization as planned, induced development. Although the problem itself was new, it absorbed many theories, assumptions, concepts and models that were firmly rooted in the past.

"Although the concern with 'modernization' or 'development' in the narrow sense of the words seems to have emerged only after World War II, the nature of modern society and of social change and development is found at the very roots of modern social science. Indeed, many of the specific problems preoccupying students of modernization and development of 'the Third World' --the developing or 'new' nations--are very closely related to some of the initial basic Problemstellungen of ... sociology and their subsequent theoretical development" (Eisenstadt 1973: 4).

Thus, the problem of modernization did little more than provide a new context for exploring many of the same theoretical issues, including the idea of backwardness. In giving new impetus for studying old issues, the new context actually engendered a certain level of historical continuity.

This continuity can be found in current expressions of the idea of backwardness. Dichotomies and stages of development still receive acceptance and extensive theoretical attention. The world is regularly divided into such polar categories as traditional and modern, rural

and urban, or underdeveloped and developed. It is quite common to identify such sequential stages as bands-tribes-chiefdoms-states or hunting/gathering-pastoralism-horticulture-agriculture-industrialism. These dichotomies and stages are rooted in evolutionary models based on the idea of progress and the assumptions associated with earlier theories of social change.

2. Substantive Features of Backwardness. The specific characteristics of backwardness are currently expressed most explicitly in contrasts between traditional and modern orders. In the following discussion, characteristics associated with tradition can be understood as those which are also characteristic of backwardness. These features are presented in different formats by different analysts: some concentrate on quantifiable measures of modernity; others emphasize attitudinal and qualitative aspects; still others focus on structural features.

a. Quantifiable Indices. For those who require quantifiable indices, definitions of modernity tend to consist of such items as GNP, proportion of the labor force employed in industry, levels of education, number of doctors, proportion of population living in urban areas, or number of refrigerators or automobiles. At a village level, quantifiable measures are likely to include the ownership of radios, watches or bicycles; the ability to read and/or the frequency of reading newspapers or magazines; et cetera. Traditional systems are simply characterized by the lack of such indices.

b. Attitudinal Features. For those who perceive modernity as

a set of attitudes rather than the distribution of products or skills, the mere presence of watches or bicycles or the ability to read will appear quite inadequate as an indication of modernity. Inkeles, for example, offers the following traits as identifying the modern individual:

- i. readiness for new experience and openness to innovation and change;
- ii. disposition to form or hold opinions over a large number of problems and issues that arise not only in his immediate environment but also outside of it;
- iii. a more democratic orientation in the realm of opinion;
- iv. orientation to the present or the future rather than the past;
- v. punctuality, regularity and orderliness;
- vi. greater involvement in planning;
- vii. belief in the individual's ability to dominate the environment to a substantial degree;
- viii. belief that the world is calculable and lawful and not subject simply to fate--that is, greater faith in science and technology;
- ix. more respect for others, especially in attitudes toward women and children;
- x. belief in distributive justice--that is, rewards should be related to a person's contribution more than a person's ascribed status (Inkeles 1966: 138-150).

As a polar opposite, the traditional individual is, by implication, resistant to change, conservative, autocratic, parochial and past-oriented. He is not punctual or regular and does not plan. He accepts fate, places more faith in magico-religious beliefs than science and technology, and accepts an ascribed social status.

In identifying social obstacles to development, Grigg (1970) includes the following tradition-based attitudes: apathetic acceptance; low levels of aspiration; a short-term view of life which precludes capital formation; a target mentality which precludes sustained work; a tendency to avert risk; hostility to outsiders (closed communities); and adherence to religious beliefs which inhibit the adoption of new technology.

c. Qualitative Features. The qualitative aspects of society associated with modernity are entirely compatible with the attitudinal characteristics cited above. Modern societies, according to Eisenstadt, continuously extend the scope of liberty, exhibit an ability to absorb progressive change while maintaining "some degree of institutional stability or continuity" (Eisenstadt 1973: 5), and extend the scope of social rationality at the expense of constraining conventions or traditional religious orientations. The idea of continuous, open-ended growth underlay the qualities of freedom, progress and rationality attributed to modernity. Traditionality, on the other hand, constrained the individual, inhibited change and restricted the scope of rationality. The hallmark of tradition was constriction to the point of being closed. Not only were traditional societies limited, they were also continuously limiting by virtue of

their traditional qualities (which therefore had to be destroyed if modernity were to be achieved).

d. Systemic Features. Qualitative elements were eventually translated into a systemic model which posited greater control over the environment as the critical factor differentiating modern from premodern society. Control included more mastery over the physical environment as well as greater capacity for coping with an increasingly complex socio-cultural environment.

"In this framework, traditional societies were perceived as basically very restrictive and limited in the problems they could cope with or the environment they could master, whereas modern societies were seen as much more expansive, as coping with a continuously wider range of internal and external environments..." (Eisenstadt 1973: 14).

e. Structural Features. Both the qualitative and systemic approaches were closely related to structural analyses depicting the organizational forms that constrained traditional society but permitted progressive growth in modern society. Modern structural arrangements were secular and characterized by greater internal differentiation and specialization. Functions became more specific and more highly organized. Traditional structures, being less differentiated, had diffuse, highly interrelated functions which inhibited specialization and secularization. Recruitment within modern social structures was based on achievement which facilitated the greater role of formal organizations in meeting social needs. This was contrasted with recruitment according to ascriptive criteria and the overwhelming importance of familistic or kinship-based organizations found in traditional society.

3. The Tradition-Modernity Dichotomy. Continuous change and continuous progress are themes running through all the substantive definitions of modernity be they quantifiable indices, attitudes, qualitative aspects, systemic potentials or structural features. As an opposite of modernity, backwardness and tradition lack continuous change and progress. Backward systems are thought to be fixed, closed and limited rather than changing, open and expanding.

The dichotomy between tradition and modernity has created polar images centered around the presumed existence or absence of change. Using a slightly different vocabulary, Levine offers a very similar analysis of this dichotomy:

"Just as the themes of innovation and diversity recur in virtually all discussions of the nature of modernity, so the idea of sameness informs most efforts to specify the most general characteristics of traditional culture. The content of a traditional culture is thought to be similar throughout a population, or uniform; it is held to be similar over time, or persistent. Internally, the parts of a traditional culture are thought to be similar, the culture as a whole integrated.... the images of uniformity, persistence and consistency dominate our perception of traditional cultures..." (Levine 1968: 131).

Levine goes on to say that the doctrine of persistence produces an image of traditional culture as being "essentially changeless" (ibid., p. 134) or "rigid and petrified" (ibid., 135) while the doctrine of consistency implies that traditional societies are "resistant to change" (ibid., p. 138).

As an idea, backwardness has been closely related to Western concepts of progress and evolutionary change. The historical development of these ideas generated an accumulated set of theoretical perspectives and assumptions which were eventually focused on dif-

ferences between modern and premodern society. When the problem of planned development and modernization became a major issue in the twentieth century, much of the earlier body of social theory was applied without serious modification and the current dichotomy between tradition and modernity continues to be based on eighteenth and nineteenth century notions of progress and change. Within this dichotomy, the Western idea of backwardness is firmly embedded in the Western conception of traditional society as being rigid and resistant to change. Tradition is thus viewed both as a condition of backwardness and as an obstacle to progressive development.

#### B. Backwardness as a Condition.

As a condition, backwardness can connote a failure or breakdown of normal, progressive change producing a state of stagnation; or it can be nothing more than a simple statement of inferiority, identifying the referent as being traditional rather than modern. In either case, the condition of backwardness demands some form of developmental change if modernization is the goal.

A theory of backwardness as a condition is principally concerned with isolating the causes of the condition, but it is also related to developmental strategies since these will presumably be derivatives of the theoretically established sources of backwardness.

Potential causes of backwardness are too numerous to deal with each one separately. To simplify the problem, the following discussion will focus on three general theoretical orientations and specific models will be grouped within this framework. Developmental



strategies derived from these models will also be included. In this section, both theoretical models and developmental strategies are presented as a review rather than a critique. The purpose is not to give my own views but to identify the wide range of potential sources of backwardness postulated by others and to show what developmental strategies are logically derived from them. After completing this review, a critique will be given in Part C.

1. Tradition as an Obstacle. Before turning to the theoretical models, there is one important and pervasive assumption that flows directly from the idea of backwardness itself. We have already seen that the dictionary definition of backwardness contains the idea that progress is normal or natural. Viewing progress as normal gives legitimacy only to change. Unchanging traditional practices are at best stigmatized as illegitimate; at worst they are viewed as pathological. In the twentieth century, as in the nineteenth, traditional socio-economic and socio-cultural systems have been regarded as obstacles to progressive development. If it is accepted that traditional practices are both illegitimate and obstacles to development, then it follows that such practices must be destroyed and replaced by more progressive features:

"Many of the problematics specific to the development of liberty, rationality, and justice.../are/ seen as inherent in the decline or breakdown of tradition..." (Eisenstadt 1973: 9).

"The basic concrete model that emerged assumed that the conditions for development of a viable, growth-sustaining, modern society were tantamount...to total destruction of all traditional elements" (ibid., p. 15).

A more moderate position regards traditional practices as factors

which may inhibit change or act as constraints on development, but they are not necessarily illegitimate.

"A number of writers argue that existing institutional relationships and attitudes are inadequate in most tropical i.e., less developed/ countries. Certainly, conventions and taboos of a number of kinds may restrict economic opportunity in many ways, including the use of resources" (Hodder 1968: 49).

While successful development demands change, a moderate approach has greater tolerance for the continuity of tradition. When modifications are adequate, destroying or breaking down tradition is unnecessary and the latter does not become a goal in its own right.

2. Theoretical Models and the Causes of Backwardness. Questions concerning progress, change and modernization have generated a considerable number of theoretical models that explicitly or implicitly identify specific causes of backwardness. A great many of these theories can be usefully grouped under three headings: history, natural laws, and tradition. Each heading represents a general theoretical orientation which places greatest emphasis on the role of history or natural laws or tradition in identifying sources of backwardness.<sup>1</sup>

An historical orientation focuses attention on unique events that are assumed to be influenced by conditions peculiar to a particular time and place. In contrast, theories emphasizing the role of natural laws share an underlying idea of regular, lawful and pre-

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1. Since some models include more than one orientation, a judgment of the relative weight given to different orientations has been made in classifying each in one or another grouping.

dictable change which is assumed to be directional and to occur as a function of natural, regular forces. The essential characteristic of a traditional orientation is the tendency to locate sources of backwardness within the traditional system itself.

a. History. Theories which emphasize the role of history include diffusion models, structured underdevelopment models, leadership models, and external event models. Each of these accords a central place to unique, temporal events in causing conditions of backwardness.

i. Diffusion-Acculturation Models. In the case of diffusion-acculturation models (see Barnett, et al. 1953, Herskovits 1938, Kroeber 1940, Willéy 1953), modernization is assumed to have been an historical event which first occurred in Europe and then spread to other locations as a result of contact with modernized systems. Some diffusion models assume that the pattern of modernization experienced in the West must be imitated by developing societies; this is particularly true if modernity is defined solely on the basis of the Western pattern and if progressive change is seen as unilinear (see Natural Laws below).

The sources of backwardness within diffusion models include isolation or lack of contact and inadequate or only partial transfer of modern features. The latter may be due to rejection of, or to an inability to absorb, modern features on the part of traditional societies (see Tradition below).

Diffusion models lead naturally to development strategies involving direct or modified transfers of technology, social structures,

educational institutions, market systems, and so on. Diffusion theory is quite compatible with strategies designed to destroy tradition since modernization is seen essentially as the replacement of older forms with modern, Western ones.

Transfer strategies generated a debate regarding the best or most effective transfer sequence after Lerner (1958) proposed "urbanization, literacy, extension of mass media, wider economic participation (per capita income), and political participation (voting) as the natural order of political modernization" (Eisenstadt 1973: 16). Even though the content or arrangement of the sequence does not alter the general relationship between transfer strategies and diffusion models, when diffusion is combined with unilineal models (see Natural Laws below) that accept the European pattern as natural or normal, sequences are more likely to adhere very strictly to historical, Western experience.

Some writers have rejected the idea of sequence in favor of a "package." The package approach assumes that there are functional relationships among various elements which would create discontinuities and dysfunctions if they were introduced individually and sequentially. The objective is to introduce related factors as a unit, because the benefits are greatest when all factors are operating together. For example, improved varieties of maize may require the use of fertilizer and insecticides to be more productive than local varieties, which would also require that the farmer be adequately instructed in their proper application. To introduce the seeds alone could actually reduce production. As with the sequential approach,

the question of content becomes a problem when designing packages. Is a package including seeds, fertilizers, insecticides and extension services enough to achieve higher maize production or must it also include a literacy program, credit facilities, improved marketing opportunities, and/or title deeds to land? If a package is not all-inclusive, or if there are a number of different packages, then sequencing can again become a problem--the sequence is simply perceived as being composed of packages rather than individual elements.

ii. Structured Underdevelopment Models. The essence of structured underdevelopment is presumed to rest in complex sequences of historical events that result in particular patterns of intergroup relations which are structured on the basis of dominance and subordination (see Baran 1957, Fanon 1965, Frank 1969, Furtado 1970). Applied to recent history, one variant of this theory sees the industrial revolution and the emergence of a market system in Europe as historical events which ushered in an era of mercantilism and colonial domination. The resulting structure of international relations is thought to have subjugated non-European societies to colonial rule and to systematic exploitation, leaving them relatively underdeveloped.

According to this model, backwardness is due to the structure of intergroup relations. More specifically, Western political and economic domination is still believed to be an important source of backwardness. By maintaining an imbalance of power, through the use of force or the establishment of multinational corporations, the

West is seen as controlling resources under a system of neo-colonialism which is thought to improve Western standards of living at the expense of less developed countries.

The theory of structured underdevelopment requires a revolutionary development strategy aimed at destroying not the traditional sphere but the structure of external domination. At an international level, formation of commodity cartels and nationalization of foreign economic interests are examples of steps which might be taken to gain greater control over resources or to improve a nation's bargaining power.

iii. Leadership Models. In these models, modernization is seen as being dependent upon the political process. The goals and policies chosen by elite leadership groups are thought to influence profoundly whether or not a society will move toward modernity.

From this perspective, backwardness is caused by the failure to choose modernity as a goal or to choose the appropriate means of achieving that goal. If appropriate choices are made, it is assumed that a process of societal mobilization will be initiated.

Leadership models are compatible with a wide range of developmental strategies, depending on what goals and means are chosen. These models actually imply a minimum prerequisite rather than any specific strategy; the prerequisite being the emergence of purposeful, elite leaders capable of making and implementing decisions. Leadership theory often implies the need to destroy tradition, either because the strategy chosen accepts tradition as an obstacle or because the legitimacy of elite leadership is in direct conflict with

traditional leadership and power structures. Sinai (1972), for example, develops the leadership model into an argument supporting authoritarianism predicated on eradicating tradition-based obstacles:

"Instead of patching, grafting, clipping and altering this or that branch of the national society, and thereby only creating new discrepancies and discordances, the new purposeful elites will seek to transform the whole in one sweep, break with the familiar past and develop a more or less consistent set of new habits. They will, therefore, organise an authoritarian (if not totalitarian) state and will be quite ready to sweep away the last vestiges of the traditional order, to jolt the people out of their ruts, and to attack their most ancient beliefs and practices. The rights of the individual will be overruled, traditional safe-guards will be rejected, and no class or interest will be permitted to stand in the way of modernisation. This group will be as hard as nails, organised for governing, and they will be the inflexible servants of an idea. It will be moulded by the slogans of an oversimplified ideology, and sprung out of the most energetic and virile sections of the 'intelligensia' and the 'people.' In spite of its many ugly features, it will have the necessary strength of character and self-confidence to destroy most of the traditional obstacles to modernisation" (Sinai 1972: 148-149).

iv. External Event Models. In external event models, history is given its strongest role in influencing change. According to these models, all societies are subject to unpredictable, unique events or the "accidents of history." An extreme variant of this theory rejects the idea that small, internal events are cumulative and can account for major social changes; only intrusive, external events can produce significant change (see Nisbet 1969).

In these models, the source of backwardness lies in having no intrusion or external event to precipitate change. As with diffusion models, backwardness can be due to isolation.

External event theory reduces developmental strategies to finding appropriate ways of dealing with unpredicted, and unpredictable,

events and of absorbing changes initiated by those events. While such changes inherently imply alterations of traditional patterns, Nisbet, at least, rejects the necessity of total destruction and assumes that the new order will be some combination of traditional and non-traditional elements:

"The crisis, with all its social and psychological accompaniments of conflict and tension, which have been occasioned by the shattering of old ways, continues until some new form of adaptation is reached; one in which elements of the old-- usually a good many of these--are fused with new elements drawn in part from the precipitating intrusion" (Nisbet 1969: 282).

Although Nisbet is quite clear about the need for an intruding crisis, what happens afterward is left rather vague. If finding "some new form of adaptation" is susceptible to planning, then a strategy is called for; if, on the other hand, the process occurs "naturally" or in some creative fashion, strategies are largely irrelevant. If contact with the West qualifies as an intrusive, external event for non-Western nations, then Nisbet's model only brings us up to the problem without suggesting any avenues toward solution.

b. Natural Laws. Theories emphasizing the operation of natural laws include internal growth models, evolutionary models and ecological models. These models share the view that backwardness is an outcome of regular, lawful forces.

i. Internal Growth Models. An extreme variant of internal growth models reiterates the Greek idea of growth. From this perspective, societies are thought to have their own life cycles and to contain the seeds of change within themselves. Change itself is viewed as the natural unfolding or maturation of immanent, internal



qualities. Less extreme variants reject the biological analogy, but consider cultural configurations as influential in directing change toward some patterns and away from others. Societies have something analogous to personality structures and internal growth is the playing out or maturation of particular themes (see Kroeber 1944). Even less extreme variants simply assume that small, internal changes are inherent parts of the natural order and occur in all societies. Since small changes are thought to be cumulative, they can eventually result in major social change (see Levine 1968).

Potential causes of backwardness depend on the variant being considered. Following the biological analogy, backwardness can be due to cultural "immaturity," meaning only that the culture is still young and inexperienced; or immaturity can result from some pathological condition which retards the natural growth process. A culture might also be considered backward if it had reached a stage of senescence and decay. A parallel set of sources can apply, slightly modified, to models involving cultural configurations, but it is difficult to apply to small, internal change models which tend to be highly relativistic. Why small, internal changes occur in different ways and at different rates in particular societies remains an unresolved question, and the source of backwardness is therefore also unknown.

If backwardness is due to simple cultural immaturity, time is presumably the only remedy, but if it is due to some pathological blockage of growth processes, then development strategies will depend first on identifying the blockage and second on available

means of removing it. This is likely to entail destroying some particular feature or features of the traditional system. If, on the other hand, a society is experiencing a period of senescence, it may be possible to initiate a rejuvenation process which is the essence of Wallace's (1961) work on revitalization movements.

ii. Evolutionary Models. Evolutionary models can be either unilinear or multilinear, general or specific (see Sahlins and Service 1960, Steward 1955, Wolf 1964). Since unilinear and general models are concerned with establishing broad stages for cultural evolution as a whole, they provide little more than a ready-made ranking system for locating specific societies on a continuum of progressive cultural development. These models are not concerned with the particular historical development of any single society, and therefore cannot explain how or why a given society came to occupy its location on the continuum.

Nonetheless, when combined with other theories of development, evolutionary models normally contribute a series of assumptions rooted in the social theory of the eighteenth and nineteenth centuries. In combination with a diffusion model, the theory of convergence proposed by Clark Kerr, et al. (1960) provides a good example of the assumptions contributed by evolutionary models. This theory of convergence

"suggests that the technology and organizational culture of industrialization is diffusible to many parts of the world and to many cultures. As it diffuses it transforms social structures and cultural values in a similar fashion. A new and common social system, industrialism, is thus coming into being throughout the world today as it accepts Western technology and industrial organization" (Gusfield 1968: 4).

The important force in Kerr's theory of convergence is not individual actors nor leaders nor even history taken as unique, temporal events; the important force is industrialism itself. There is something inevitable about the transformation both in process and in content. The directionality; the natural, regular forces; the uniformity; and the immanence are all typical qualities of evolutionary models. And from the uniformity flows another assumption often associated with this orientation; namely, the existence of universal prerequisites. Rostow (1960) described these prerequisites in a chapter titled "The Preconditions for Take-Off." While other authors have added to, or modified, the list, the idea is the same: universal prerequisites are simply a logical extension of uniform, directional change.

Multilinear and specific models offer no ranking order but concern themselves with particular historical and environmental influences in an attempt to explain how and why any given society came to be what it is. When not associated with a ranking order or with some other theoretical model, multilinear and specific evolution are largely irrelevant to the question of backwardness. Since specific societies are adapting to specific conditions, the form of one may be totally inappropriate for another. Furthermore, since it is widely assumed that traditional societies are highly adapted to their environments within the limits of their technology (see Tradition below), few have suggested ranking different evolutionary lines according to relative adaptiveness without benefit of a general evolutionary set of stages. Who is to say that pastoral

groups occupying marginal, semi-arid territories are not as adapted to their environment as horticulturalists living in more hospitable areas? If societies are compared on the basis of the amount of energy they actually control, as suggested by Leslie White (1959), a rank order does emerge, but we are back to a unilinear continuum and have abandoned the essence of the multilinear approach.

The difficulties of categorizing a group as backward do not disappear when dealing with socio-cultural phenomena rather than ecological or technological features. In tracing the history of the Shambaa Kingdom in East Africa, Feierman (1974) describes the eventual victory of the Bondei who rejected centralized kingship in favor of rule by village elders. In analyzing this event, he makes the following observations:

"That victory should provide an instructive example, for it supports the inadequately accepted contention that just as African societies often progress from statelessness to kingship, they also may progress, under other circumstances, from kingship to statelessness, or from centralization to decentralization. In other words, centralization and decentralization are merely two adaptive processes. Large-scale polities are neither higher nor more evolved forms than those small in scale" (Feierman 1974: 167).

Sources of backwardness are difficult to establish for multilinear and specific evolution, but for unilinear and general models they are essentially located in the scale of ranked stages, which invariably place European societies at the apex. The scale itself distributes all other societies beneath this apex according to varying degrees of backwardness in relation to the West.

In some respects, evolutionary models offer the least latitude for developmental strategies. By locating the dynamics of change in

natural phenomena or abstract social forms, and by making those dynamics operate according to their own principles (directionality, immanence, etc.), the role of individual actors is greatly minimized if not irrelevant. There is a kind of fatalism or at least a gradualism that suggests individuals are at the mercy of the great forces of nature over which they exercise little or no control.

Evolutionary models can, however, absorb history as the engine of change. Describing stages of evolution does not constitute a theory of change, which is why earlier theorists were concerned with finding uniform mechanisms that could explain the emergence of new stages. If conflict is such a mechanism, as Adam Smith, Kant, Hegel and Marx believed (see Nisbet 1969: 185-187), their strategies for development should increase conflict and competition while channeling it to prevent anarchy. This could include the creation of institutions which encourage channelled competition such as political parties, a market economy, and secular educational systems, which, in the evolutionary scheme of things, are believed to generate the qualitative aspects of modernity: namely, liberty, egalitarianism and broad-based participation. In order to bring the masses into these systems, it is believed that they must therefore be broken down.

If conflict arises out of a human desire to truck and barter or to accumulate wealth and property, and if this conflict produces progressive change, then development strategies should raise expectations by exposing people to a wider range of consumer goods. Land and labor, as well as capital, should be brought into the market system and laws should protect an individual's right to accumulate

wealth and property.

To the extent that evolutionary models are premised on universal prerequisites, strategies should alter existing traditional forms at least enough to permit what Rostow (1960) has termed "take-off." Once again it is assumed that tradition must be replaced with more progressive elements.

Finally, evolutionary models that focus on some specific factor imply more specific strategies. Leslie White's emphasis on energy control, for instance, is most compatible with strategies dealing with technological change, both in industrialization and in modernizing agriculture. This particular model is also compatible with capital-intensive strategies since these are likely to increase the amount of controlled energy more rapidly than labor-intensive strategies.

iii. Ecological Models. The principal ecological models that are directly related to questions of development include those dealing with natural resources, population density, and competition among ethnic groups.

While most theories of geographic determinism have been refuted, some theorists continue to believe that a lack of natural resources or the effects generated by the physical distribution of resources can inhibit development, but others believe that a lack of resources can be overcome by substituting such factors as trade or labor skills (see Hodder 1968).

The role of population density has been most forcefully argued by Boserup (1965) who views population pressure as a uniform mechan-

ism of evolutionary change. The basic premise of the Boserup model is that population pressure serves as an independent variable and determines the level of agricultural development.

In a model developed by Allan (1965), both natural resources and population density are seen as interacting with levels of technology. This model assumes that if a "critical density of population" is exceeded without changing the technology or the available resources, a spiral of ecological decline results, reducing productivity within the system at a time when population demands are high. In effect, Allan's model is a systems feedback alternative to Boserup's evolutionary, uniform mechanism of change approach.

In recent years, ecological theory has become a popular idiom for explaining relations among ethnic groups (see Silverman 1976). In these models both ethnicity itself and socio-cultural features are seen as adaptive mechanisms to be employed in competition for resources with other groups. Sahlins (1961), for example, suggests that the segmentary lineage system of the Nuer is especially well adapted for predatory territorial expansion and affords a competitive advantage over groups having different forms of social organization.

Potential sources of backwardness within ecological models focus primarily on lack of natural resources or population pressure. In the Allan model, societies having small populations and simple technologies can be viewed as backward on an evolutionary scale even though they are in ecological equilibrium, but if the critical

density of population is exceeded, even advanced societies may become backward as a result of the ensuing spiral of decline. In ethnicity models, the source of backwardness lies in having some sort of competitive disadvantage and therefore being dominated or exploited by others.

Theories which suggest that poverty in natural resources hinders development would support a strategy of spending money on intensive exploration, but they also place a premium on strategies which can circumvent the lack of natural resources such as developing trade or labor skills.

The type of strategy most compatible with the Boserup model is one which induces population increase. Allan's model, on the other hand, requires a strategy that can control both technology and population in order to maintain the critical balance between under-exploiting resources (which retards progress) and over-exploiting resources (which causes decline). The Boserup and Allan models also have implications for technological strategies directed at agriculture. If agricultural production systems are determined by population density as Boserup suggests, then it should prove impossible to introduce more intensive methods in areas where population density does not warrant it. And if there is a homeostatic relationship among technology, resource base, and population as Allan suggests, then changes in technology that are inappropriate to the resource base can initiate an ecological decline, as can excessive population growth.



By locating the source of backwardness in ethnic or socio-cultural features, ethnicity models may require strategies that change the traditional system to remove some competitive disadvantage (and could therefore be included under Tradition below), but they are also compatible with strategies which alter the balance of power among or between groups such as those associated with structured underdevelopment models.

c. Tradition. Theories included in this section share in placing emphasis on the role of tradition or the systemic interaction of traditional elements. In all these theories tradition is consistently viewed as an obstacle to development and therefore as something which must be removed or broken down. Since the dichotomy between tradition and modernity has already been discussed in an earlier section, attention will be given to other models which tend to focus on particular configurations of factors or on some particular aspect of tradition.

i. Socialization-Enculturation Models. A number of theoretical models have stressed the importance of socialization and enculturation as sources of backwardness. Lewis' (1966) work on the "culture of poverty" and Banfield's (1958) analysis of "amoral familism" are both examples of this approach. In these models, certain patterns of behavior are adopted in response to objective conditions of poverty. In Lewis' work these patterns included spending based on present-time orientation, having consensual unions rather than marriages, and reducing frustration by keeping aspirations low. In Banfield's study, loyalty is given so exclusively to

the family that people are unable to relate effectively to individuals outside the family. The personality characteristics which develop from these patterns become institutionalized in child-rearing practices and are reflected in other social institutions. The culture of poverty generates matrifocal households, authoritarian parental attitudes, and a failure to participate in a wide range of formal organizations (for example, trade unions, political parties, banks, hospitals, etc.). Similarly, amoral familism accounts for the people's inability to organize themselves for either political or economic purposes, the weakness of legal and governmental regulation (despite the desire for strong government), and the corruption of politics based on pursuit of personal rather than community or organizational goals.

In both cases there emerges a functionally integrated system that continuously renews itself through the socialization or enculturation of each succeeding generation. Child-rearing patterns produce a particular type of personality structure which produces parallel types of social institutions which reinforce the attitudes and values learned as a child so that parents teach their children these same attitudes and values; thus, the model moves in a closed circle back to child-rearing practices. Although the origins of the system lie in the objective conditions of poverty, it becomes a self-perpetuating cycle that is no longer obviously connected to environmental or economic conditions. Should new economic opportunities arise or other environmental changes occur, individuals are unlikely to respond appropriately. On the one hand, their culturally-shaped

personalities inhibit their capacity to respond, and on the other hand, their social institutions would not support or encourage new responses.

Two related theories are McClelland's (1961) notion that tradition oriented persons lack achievement motivation due to culturally determined socialization patterns and Foster's (1965) proposition that peasants learn to regard desirable things as being available only in finite, limited quantities (the "image of limited good"). These theories also emphasize socialization or enculturation and, at least implicitly, suggest that personality development becomes a function of tradition and its internal dynamics even though these may be dissociated from objective environmental conditions.

In the Lewis and Banfield models the source of backwardness, once the real conditions of poverty, becomes instead a self-maintaining, integrated system of values, attitudes and institutions in which traditions are perpetuated by their own internal dynamics. Since neither McClelland nor Foster try to establish whether or not the origins of the patterns they describe are rooted in actual poverty, their theories focus only on maintenance through socialization, but the causes of backwardness are consistent with the Lewis and Banfield models.

Socialization-enculturation models see development as reliant upon strategies aimed at some form of re-education. This can sometimes include removing children from the home for substantial periods in order to break the enculturation cycle and to inculcate a different set of attitudes and values. But efficacy is often attributed

to less extreme strategies including exposure to new experiences such as adult literacy classes and extension demonstrations of improved farming techniques.

ii. Adapted-Integrated Models. Cultural ecology, structural-functionalism and systems theory are a cluster of approaches which together produce a model combining the ideas of adaptation and integration. The assumption is that traditional society has achieved a high level of adaptation through a gradual, long-term process and that over the same time span a tightly integrated socio-cultural system rooted in its own specialized adaptive strategies has emerged. The important implication is that partial changes in any sphere (technological, economic, political, religious) run the risk of weakening the entire structure and reducing the system's adaptive capacity. If socio-cultural patterns act as homeostatic mechanisms that maintain an ecological equilibrium, and if a wide range of institutional arrangements are functionally interrelated, then a seemingly small, isolated change can affect many institutions, disrupting their homeostatic function and thereby destroy the ecological balance. Sharp's (1952) analysis of the effects produced by introducing steel axes to the Yir Yoront in Australia is a classic case that demonstrates functional relationships among institutions. Rappaport's (1968) more recent work in New Guinea offers convincing evidence for viewing ritual and warfare as homeostatic control mechanisms.

In building a model of multilinear evolution, Steward (1955) described subsistence-related institutions as forming a "cultural core" which was specifically adapted to the environment. Other in-

stitutions were thought to be less closely related to environmental adaptation, but were nonetheless related to the cultural core. Following Steward's lead, Cohen (1968) argues that resistance to change is concentrated in institutions that are not part of the cultural core:

"...although people may welcome technological innovations that provide them with increasing mastery over their habitat, they tend to resist the necessary accompanying changes in their organization of social relations. It is in the social sphere that people tend to exhibit their greatest conservatism, and this is one of the reasons that cultural evolution seems to have been a slow process" (Cohen 1968: 45).

In adapted-integrated models the sources of backwardness appear to be in the very adaptation and integration which have made social systems viable. Cohen does not seem to believe that technological practices are, in themselves, resistant to change, but they require social changes which are not easily accepted and this retards adoption of more efficient, more productive technologies. For Cohen, it is tradition, at its most "superorganic" level, that is the major source of backwardness.

These models provide little scope for development strategies since even small changes can disrupt the system. If they are compatible with any strategies for change it is probably with "packages" or finely tuned sequences which may be able to avoid excessive disruption by quickly providing functional substitutes for traditional practices.

iii. Specific Institutions. There are a number of theories which focus more narrowly on the constraints imposed by particular structural or institutional arrangements. My discussion will be

confined to two examples to illustrate this type of approach.

The extended family, with its multiplicity of social obligations, is often viewed as an obstacle to progressive development.

Grigg (1970) summarizes the argument as follows:

"The extended family is often said to be a barrier to economic progress. The individual who is enterprising and gets on is expected to share his good fortune with all the members of his family; this reduces the incentive to personal initiative. Conversely, the failure knows that the family will support him, so that the stimulus of fear and hunger is absent. In many traditional societies land and cattle are operated by the kinship group rather than by the individual; thus decisions to change farming practices cannot be made by an enterprising individual. They have to be made by the group, or more commonly the head of the group. Extended families are generally authoritarian, and the head of the family is likely to be old, traditional and opposed to change per se" (Grigg 1970: 146).

Within the context of subsistence agriculture, there are additional reasons that the extended family might be viewed as an obstacle to development. As members of the family, underemployed laborers cannot be eliminated. This raises the possibility of disguised unemployment or a backward bending supply curve of labor. Even if a father cannot use an adult son's labor productively, he must still provide the son's consumption needs as well as the daughter-in-law's and the grandchildren's if his son happens to be married and has children. Since the calculus of economic decisions involves subsistence requirements, farming cannot be treated only as a business. The demands of the family can lead to decisions that are irrational from the point of view of a profit-maximizing farm business. The need to meet subsistence requirements inhibits specialization, for example, even if the land resource is best suited to producing coffee or

cotton or some other cash crop.

Traditional economic systems can be viewed as an obstacle to development from a number of different perspectives. First, there are thought to be a variety of rigidities which prevent the efficient allocation of resources. Such rigidities include certain patterns of dividing labor; spheres of exchange; ascriptive, caste-like social units; and restrictive attitudes toward work. A man may refuse to perform certain tasks because he considers them women's work, because he considers them beneath his social status, or because he considers them unclean or defiling. The existence of spheres of exchange may concentrate economic efforts on the accumulation of locally valued items, such as brass rods, which cannot be invested in agriculture and do not stimulate increased production. In all these cases, resources could, at least theoretically, be more efficiently allocated.

Second, there are a variety of mechanisms which are thought to prevent capital accumulation and therefore limit savings and investment. These mechanisms include kinship obligations, ritual obligations, sponsoring of feasts for purposes of enhancing prestige, payments made by "big-men" for purposes of gaining political power, and inheritance patterns that distribute accumulated wealth among a large number of heirs. Such mechanisms are seen as reflecting the great importance of reciprocity and redistribution in traditional economies. Under these systems of exchange, wealth is invested in social or political benefits and is dispersed rather than accumulated.

Third, it is believed that many traditional attitudes inhibit economic growth. Limited aspirations, said to be characteristic of societies having simple technologies and a narrow range of consumer goods, can lead to a target mentality when opportunities for wage labor become available. In this case, a person will work only until enough income is obtained to pay for a particular want. Conspicuous consumption or known accumulations of wealth can inspire jealousy and envy, possibly due to an image of limited good, and can lead to social ostracism or even accusations of witchcraft. Low levels of control over the environment combined with a limited capacity to absorb economic losses are thought to create a general tendency to avoid risk and to select economic strategies that spread risk over a larger number of factors, thus reducing the effect of losses due to any one factor.

In this group of theories, the sources of backwardness lie in the structure and character of specific institutions, and this leads to development strategies aimed, once again, at replacing traditional institutions with more modern ones.

The numerous, though not exhaustive, array of theoretical models that have been presented are based on a wide range of different assumptions and orientations. Yet despite this variety, a majority of these theories take a remarkably similar approach to tradition. Tradition is seen as an obstacle to development and thus a source of backwardness. Rather than critique each theory separately, it is this underlying obstacle approach to tradition that will be



addressed in the following section.

### C. Some Critical Assessments.

As the foregoing sections of this chapter have shown, there is a widespread tendency to view tradition as a rigid, monolithic factor that is resistant to change and an obstacle to development. Levine (1968) believes that there are three fundamental ideas that have supported this view which he identifies as 1) the doctrine of uniformity, 2) the doctrine of persistence, and 3) the doctrine of consistency. Together, these three doctrines generate an image of changeless homogeneity based on a common consciousness of shared values embedded in a related and integrated set of social institutions. Such a conception leaves little room for change unless it is initiated externally and deliberately breaks down the constraining hold of tradition.

There is ample evidence that traditional societies are not changeless, nor homogeneous with respect to values and attitudes, nor so highly integrated as to eliminate internal stresses and conflicts. On the contrary, traditional societies are frequently very flexible and often display considerable intracultural variability. It is a fallacy to depict such societies as inherently and consistently resistant to change. Tradition does not ipso facto indicate an obstacle to change; in many cases traditional structures or practices are highly supportive of modernization. In Ghana, for example, the extended family system contributed directly to "capitalist" development of the cocoa industry by providing units of finance and land

ownership (see Hill 1963). Even Indian castes, reputedly ascriptive, rigid structures, are currently "acting as pressure groups and reservoirs of power and support which can maneuver to secure for their members political privileges, or monopolistic control over certain sections of industry..." (Southall 1973: 9). The caste is serving as an avenue for participation in broader political and economic arenas and can contribute directly to the development of political parties and industrial firms. Similarly, Little (1973) has argued that regional associations in Africa serve paradoxical functions: they urbanize rural migrants and help to generate class consciousness while at the same time maintain tribal and ethnic identities. It is no longer possible simply to assume that traditional features are inherently in conflict with modernity.

The over-simplified stereotypic view of tradition is unable to deal with the problem of diversity and may, in fact, be a means of circumventing this problem. Levine sees the issue as follows:

"Conventional wisdom analyzes the great cultural ferment in Africa and Asia in terms of a stark confrontation between 'traditional' and 'Western' patterns. This commonplace model has been employed by generations of students of the institutions of 'nonWestern' countries. The currency and tenacity of the model bespeak its utility. It has helped us cope with the diversity of world cultures, substituting an image of commonality for one of bewildering variety, and prodding us to ask again and yet, again in what ways the modern Western world is different from all other worlds. But the model's utility is not boundless. As understanding of nonWestern societies has deepened and ideas have refined, the ideal type of polarity between traditionality and Westernism has degenerated into a stereotype, and social scientists have rightly been roused to battle against it" (Levine 1968: 129).

It is the very simplicity of encompassing all cultural differences within a single dichotomy that makes it so utilitarian because

tradition is then consistently in conflict with modernization and can be treated as an obstacle. Once tradition is viewed as non-uniform, imperfectly integrated and conflictful, the simplicity is lost. If, under certain circumstances, traditional features are actually supportive of modernization, then the location and identity of obstacles to change become much more problematic. The greater complexity of the potential role of tradition permits the possibility that wholesale attempts to break it down may actually hinder the modernization process. Allowing for greater flexibility and diversity within tradition also opens the door to more specific historical influences requiring a higher level of empirical information for any given society.

The recognition of historical influences is critical and has ramifying implications. The dichotomous approach not only simplifies the concept of tradition but also simplifies the concept of modernity and depicts change as a move from one set of features to an opposing set. Unique, historical events are minimized in this paradigm. By reintroducing history, modernization itself becomes more complex. For one thing, the experience of the West no longer serves as a model to be imitated such that 'modernization' is the equivalent of 'Westernization.' Western modernization was subject to historical influences which no longer pertain and the process cannot be precisely reenacted in the same way under changing historical circumstances. If societies can reach a state of modernity along different historical paths, then total convergence is much less likely to occur and it becomes necessary to consider the possibility that

modernity is not a single, unitary phenomenon but a multivariate condition. Not all modern societies can be expected to look alike.

Once diversity is introduced to both sides of the dichotomy, distinctions become blurred and it is possible to interpret particular traits as both modern and traditional. This type of confusion has arisen in analyses of the Japanese experience, for example. Familism in Japan can be seen as a survival of feudalism which obstructs total modernization or as an organizational form which persists because it continues to provide functional adaptations even within the context of an industrialized society (see Bennett 1968). Similarly, the earlier mentioned example of India's caste structures can be interpreted as traditional forms which have taken on modern functions.

What is emerging is a multilineal model of modernization that cannot be contained within the constrictive confines of the old dichotomy, and the emergent model has seriously undermined many earlier assumptions. The idea of convergence is clearly weakened which directs attention away from similarities and toward differences. Bennett (1968) describes this process and its implications for unilineal models with respect to Japan:

"In the mid-1950's the inclination of social scientists to perceive similarity began to shift toward an awareness of differences. This was in part due...to a greater concern for institutions that were less influenced by Western perspectives, but it was also the result of a growing process of reaffirmation in certain spheres of Japanese society and culture. Japan, in a mood of national reinvigoration, began consciously reviving earlier forms--while her general macrosociety began showing the consequences of a hyperdeveloped consumer economy and mass culture. The apparent duality of the image became very

sharp to theorists of modernization who assume unidirectional change along Western lines" (Bennett 1968: 36).

This suggests that it is possible to choose deliberately to preserve certain traditional elements without threatening the state or condition of modernity.

In a similar vein, there has been a growing awareness of persisting traditional features in Western societies--what Eisenstadt (1973: 101) terms a "rediscovery." By implication, the assumptions surrounding Western modernization may be suffering from the fallacies of an "invented history" which needs reexamination.

A multilinear model is also related to the erosion of systemic or functional assumptions which have emphasized the integration of social systems. Empirical evidence does not support Sumner's old dictum of a "strain toward consistency." Different institutional spheres are capable of changing at different rates or of remaining the same while only certain spheres change. Theorists have begun to stress

"the relative autonomy of different institutional spheres, the great variety of conditions that might facilitate or impede the development of specific institutional structures in different historical and social settings, and the very great importance of international forces and reference groups in the crystallization of similar institutional complexes in different settings" (Eisenstadt 1973: 108-109).

The possibility of differential institutional changes brings into question such ideas as "universal prerequisites" and "package deals" which fit neatly within a dichotomy between tradition and modernity but are inconsistent with a more complex model.

In attempting to find a theoretical explanation for differential

institutional changes, Bennett employs a macro-micro distinction:

"What many of the liberal Japanese critics may forget is that processes in the macrosociety may not necessarily be related to phenomena in the microsocial level. That is, one can take the view that Japan is moving steadily in the direction of an open society while retaining many of her microsocial forms, simply because these forms either have no bearing on macrosocial processes, or in fact make them more palatable. The attack on communalism by liberal analysts often ignores the very real accomodation these social forms make possible to a mass society" (Bennett 1968: 40).

Thus, Bennett suggests that there need not be a high degree of consistency or integration among processes or structures existing at different levels. He further introduces a paradoxical observation about communalism:

"While many Japanese liberal critics condemn communalism, their American analogs are coming to approve it, in their search for identification and solidarity. The difference is simply that in Japan, communalism is conceived as 'traditional,' hence often identified with conservative ideology. Yet the processes of change may be identical, despite the ideological differences: communalism helps to counteract the disorienting effects of massness in both Japan and the West"(ibid., p. 40).

This is convergence with a new twist--the West adopting patterns which have been traditional in Japan. Yet here again there is confusion over what should be considered traditional and whether or not it therefore obstructs modernity. If familism is opposed simply because it is associated with tradition and a conservative political position, the advantages of maintaining such a feature will be lost for no better reason than stereotyped images which prevent us from seeing the current significance of what could be considered modern forms. The origin of particular elements in the traditional past should not blind us to their potentially modern functions.

The dichotomy between tradition and modernity, so deeply engrained in Western social science, is unsatisfactory on both empirical and theoretical grounds. It is a patent over-simplification and consequently obscures the significant questions surrounding progress and modernization. Unless more complex models are adopted, we cannot hope to understand correctly either the nature of tradition or the direction of change.

The concept of backwardness does not clarify the problem; rather this concept is itself highly problematic and also tends to obscure the significant issues surrounding development. As a condition, backwardness is always relative to a definition of progress, making it highly susceptible to ethnocentric judgments. Since there is no universally accepted definition of progress, there is no definitive set of characteristics that universally identifies conditions of backwardness. The danger lies in thinking that such a universal set either already exists or can be established, for this leads almost inevitably to ethnocentric and stereotypic images of backwardness. Furthermore, a fixed notion of backwardness limits our tolerance for different conceptions of progress and thus reduces the likelihood of arriving at truly innovative solutions for social problems.

As an idea, backwardness is too often associated with resistance to change and with an image of tradition characterized by homogeneity, consistency and continuity. In the case of Digo society I shall attempt to show that this image is a serious distortion of reality and that the image of backwardness serves only to obscure our understanding of these people.

## CHAPTER III

### THE SETTING AND THE PEOPLE

#### A. The Environment.

The south coast of Kenya is a relatively narrow region to the south of Mombasa. It is bordered on the east by the Indian Ocean and on the west by the dry, semi-desert area that rises gradually into the plateau of the interior. The entire region lies between  $4^{\circ}$  and  $4^{\circ}40'$  south latitude with elevations that are generally below 500 feet (152 meters) above sea level except for the Shimba Hills near Kwale and a few intrusive volcanic cones. Rainfall is sufficient to support sections of rainforest vegetation and crops can be grown without irrigation for some distance inland from the coast.

1. Climate. The combination of proximity to the equator, low elevation and adequate rainfall places the south coast in the humid tropics or "A" climate of Koppen's (1936) classification. Variation in rainfall on an east-west gradient would require altering the classification of some portions of the area if such factors as "moisture index" and "thermal efficiency" were taken into account as in the Thornthwaite (1948) scheme, or the possibility of agriculture without irrigation as in Gourou's (1966) definition of "humid tropics." Unfortunately, meteorological data are generally scarce, making it difficult to apply many of the schemes devised



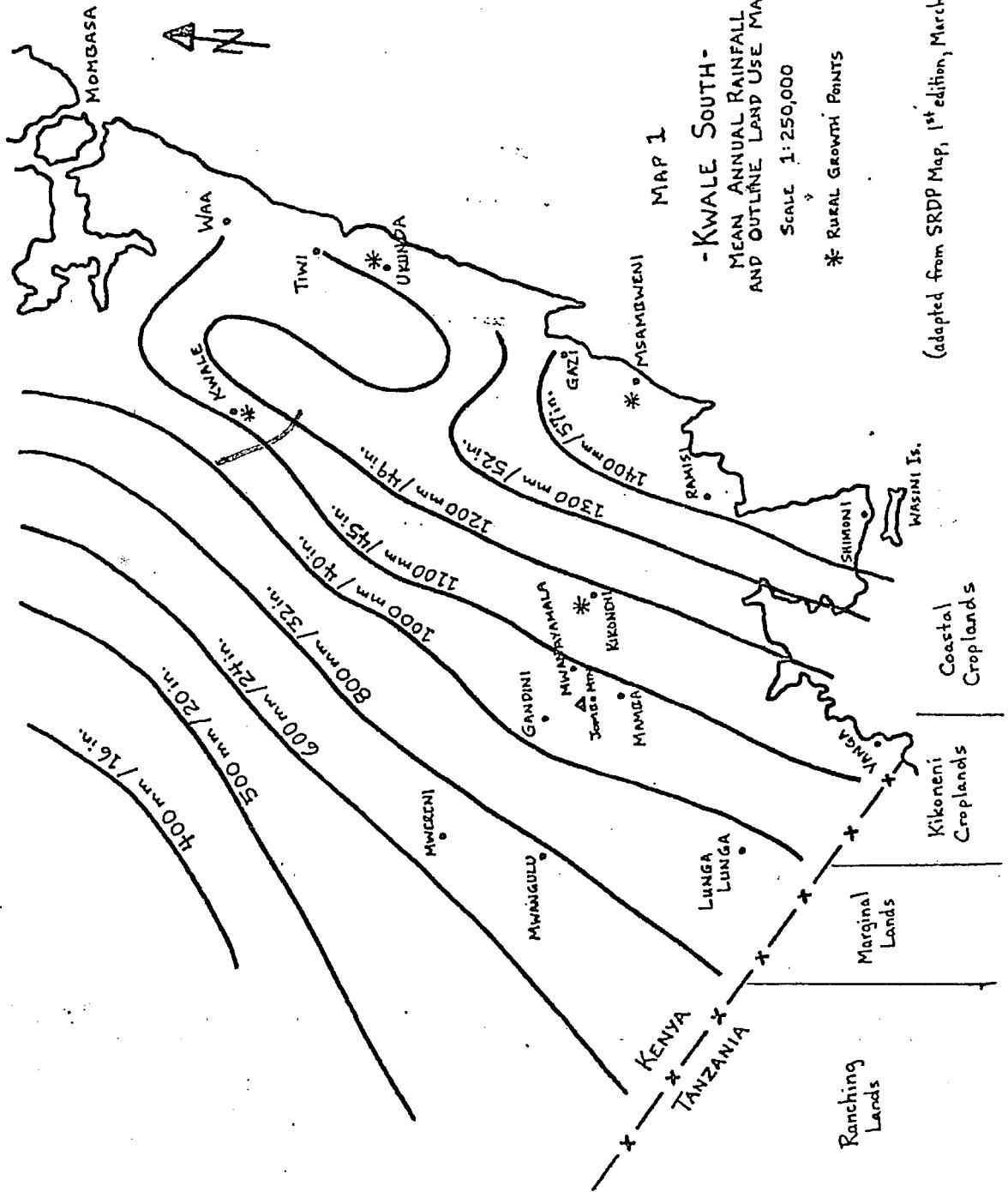
for identifying climatic differences. There has been an attempt to classify East African climates according to Thornthwaite's system, but all the data used for the coast region come from "stations...immediately on the beach, and thus give little indication of the details of climatic variation within the coastal belt" (Moomaw 1965: 11). The isohyets shown in Map 1 are probably the most reliable index of significant climatic differences presently available. For the most part, the south coast can be considered as humid tropics, and certainly the Kikoneni-Mrima area falls within this category.

Seasonal changes are dominated by monsoon winds which blow out of the south-east from April through October, picking up moisture from the ocean and thus bringing rain. Beginning in November or December and continuing through March, the monsoons blow out of the north-east bringing the dry, hot season of the year. The "long rains," when rainfall is heaviest, begin in April and continue through May. From June through September monthly mean rainfall figures (see Table 1) show a gradual decline until the "short rains" which begin in October and continue into December.

With the exception of rainfall, recorded climatic conditions in the Kikoneni area<sup>1</sup> consistently fell within a range favorable

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1. In addition to rainfall, I collected daily data on maximum and minimum temperatures, barometric pressure, relative humidity, wind speed and wind direction from September 15, 1974 through August 28, 1975. Monthly averages for these data are given in Appendix A.



(adapted from SRDP Map, 1st edition, March, 1972)

TABLE 1  
 RAINFALL IN KIKONENI, 1971-1974  
 (inches)

	MEANS*	1971	1972	1973	1974
JAN	0.87	0.74	5.90	0.43	0.78
FEB	0.61	0	0.87	0	0
MAR	2.25	2.57	0.87	0.26	0.62
APR	9.41	1.90	2.76	9.58	5.85
MAY	8.42	6.75	24.09	14.52	4.86
JUN	4.15	8.69	0.21	6.83	7.67
JUL	4.38	2.63	5.68	2.18	5.98
AUG	3.35	1.61	0.82	3.51	2.15
SEP	2.50	1.71	7.80	8.61	2.53
OCT	2.92	0.41	10.79	2.43	0.77
NOV	4.59	0.28	10.29	3.48	3.58
DEC	3.66	8.02	2.63	1.21	1.20
ANNUAL	47.11	35.31	72.71	53.04	35.99

\* Based on nine years of data ending in 1965.

(Means taken from Makin 1968;  
 1971-1974 taken from records  
 kept by extension personnel.)

for a diversified agriculture. On the average, rainfall is also adequate for farming. Mean annual rainfall for Kikoneni, based on nine years of data ending in 1965, is 47.11 inches (Makin 1968). Nonetheless, annual and seasonal variations in rainfall distribution create difficulties for farmers. Table 1 compares the monthly means based on Makin's data with annual records kept by extension personnel from 1971 through 1974. The latter four years showed the following annual and seasonal variability:

TABLE 2

## RAINFALL VARIABILITY IN KIKONENI, 1971-1974

Year	Relation to Annual Mean	Long Rains (April; May)	Short Rains (Oct.; Nov.; Dec.)
1971	25% below average	late--rain poor in April & did not peak until June	late--drought conditions in Oct. & Nov. while Dec. had more than double its average amount
1972	54% above average	late & poor distribution--rain poor in April, very heavy in May & drought conditions in June	early & exceptionally heavy
1973	13% above average	on time and above average	early--exceptionally heavy in Sept. but below average in Nov. & Dec.
1974	25% below average	on time but below average	late & below average

Variability in rainfall also occurs on a microclimatic level. Table 3 compares rainfall figures I collected at my house with those collected by extension personnel at a site located approximately three kilometers (1.86 miles) from my house. Although the difference in totals for the recorded period is only 1.19 inches, the extension site received a full 2.1 inches more rainfall during the critical month of April. During October and November, rainfall at my house exceeded the extension site's by 1.64 inches but the short rains difference was narrowed in December when they received nearly half an inch more.

The unpredictability of rainfall distribution makes it difficult for farmers to know when to plant and how much to plant during any given season. Late rains sometimes result in loss of an entire newly planted crop, forcing farmers to find additional seed and to plant a second time. Early rains may reduce production because farmers are then "late" in planting.

Although Digo farmers complain about unreliable rainfall and bemoan their losses when the rains are poor, true drought conditions are rare. Relative to many other areas of Africa, the Kikoneni climate is exceptionally good and offers high agricultural potential.

2. Soils. From an analytical point of view, soil variability is even more complex than variations in rainfall distribution. In addition to accounting for spatial and temporal variation, soil analyses require identification of a whole series of internal

TABLE 3  
 RAINFALL AT TWO SITES IN KIKONENI\*  
 MICROCLIMATIC VARIABILITY  
 (inches)

	My Data	Extension	Absolute Difference
Oct	1.72	0.77	.95
Nov	4.27	3.58	.69
Dec	0.71	1.20	.49
Jan	0.91	1.49	.58
Feb	0	0	0
Mar	0.81	0.47	.34
Apr	6.28	8.38	2.10
TOTAL	14.70	15.89	1.19

\* Distance between sites approximately 3 kilometers  
 or 1.86 miles; data for October 1974 to April 1975.

characteristics which, in turn, must be related to the specific needs of different crops. Rainfall, however unpredictable with respect to time and place, is rather like a universal donor, while soils must be carefully typed and matched.

The most comprehensive soil analysis presently available for the Kikoneni area is Makin's 1968 report. The region covered in this report includes the Shimba Hills Settlement Scheme as well as Kikoneni, and many evaluations are phrased as comparisons between these two locations. Kikoneni soils generally compare favorably to those of the Shimba Hills and appear to offer greater potential for agriculture.

Of the various soil types analyzed by Makin, only ten are described as occurring within the Kikoneni sector of his project area.<sup>1</sup> Following Makin's numeration, his identification and evaluation of the agricultural potential of each of these ten soils is given in Table 4.

Of the ten Kikoneni soils, only three (#2, 13, and 14c) are extremely poor or unsuitable for agriculture. The occurrence of these three soils is very limited and they do not occur on any of the farms included in my case studies. The suitability of Soil #12 for cassava minimizes its negative qualities since cassava is a major food staple of the Digo people. The very poorly drained soils, #81 and #83, can be planted in rice and therefore used for

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1. A compilation of Makin's analysis of Kikoneni soils is given in Appendix B.

TABLE 4

## AGRICULTURAL POTENTIAL OF MAKIN'S SOIL TYPES

Soil #	Soil Type	Agricultural Potential
2 & 13	steep slopes	unsuitable for agriculture
14c	sandy	poor; some potential for coconuts & cashews
1	sandy loams	moderately suitable for agriculture but defi- cient in nutrients
12	loams with gravel substratum	moderately suitable for most crops but especially good for cassava
6, 10, & 51	loams; clay loams; sandy loams	high potential for both arable and tree crops
81 & 83	very poorly drained loams or clay loams	moderate to high potential for rice



the production of food. Soil #1 is somewhat inferior but still adequate for agricultural use. The remaining three soils (#6, 10, and 51) are all given excellent ratings; the dominant soil type (#10) being suitable for a wide variety of food and cash crops. Overall, the Kikoneni area presents a very positive picture with respect to soil potential.

The utility of technical soil analyses rests principally in identifying specific deficiencies as a precondition for the correct application of fertilizers. Technology based on the use of fertilizers necessitates a more exact knowledge of a soil's nutrient status than local farmers possess, but less exact observations are sufficiently powerful to differentiate major soil types. The five broad categories used by the Wadigo to describe their soils correlate well with Makin's soil types:

TABLE 5

## COMPARISON OF MAKIN'S AND DIGO SOIL CATEGORIES

Digo Category	Digo Identification	Makin's Soils
<u>kundu</u>	soil that does not crack when dry; becomes mud when wet; holds a hoe (loam type)	1 & 10
<u>galaa</u>	soil that cracks when dry; holds a hoe when wet (clay type)	6
<u>mwamba</u>	rocky soil with small, not large, stones	12
<u>shanga</u>	sandy soil	14c
<u>bunho</u>	very poorly drained soil	81 & 83

Three of Makin's soil types are not included in Table 5. Soil #51 would be identified by the Wadigo as kundu or galaa depending on the relative proportions of sand and clay; soils #2 and #13, which simply refer to soils found on steep slopes, do not fit into Digo categories but are readily recognized by local farmers. Thus, Digo farmers categorize soils in a manner that produces a typology very similar to Makin's, and the traditional typology is quite adequate as a guide for cropping combinations under Digo technology.

The Kikoneni environment generally enjoys adequate amounts of rainfall and sufficiently fertile soils to support a productive and diversified agriculture, but there are limits to its potential. A much more thorough analysis would be necessary to estimate its carrying capacity or to evaluate the fragility of its ecological balance, but noticeable changes are already taking place. Ever greater areas are being cleared for agriculture as the human population increases and the sugar estate expands its operations. In the very recent past, lions, elephants, leopards and crocodiles were amongst the great variety of animal species populating the area, but they have now been driven out or killed. With the loss of large, carnivorous predators, the number of baboons, monkeys and wild pigs may be increasing despite farmers' periodic efforts to hunt them down.

Future changes are also discernible. Tractors are beginning to be used for plowing, digging deeper into the soil. Extension

agents are encouraging the use of chemical fertilizers as a substitute for fallowing and single cropping in place of interplanted crops. As the changes increase and accumulate, the risk of exceeding critical limits may also be increasing. On the other hand, new farming techniques may significantly expand the carrying capacity for human populations. To reduce the risk of committing ecological errors, more technical information is needed but also a better understanding of the traditional farming system. The traditional system may include important adaptive features that could be incorporated into planned technological changes. Changes that may have a tremendous impact on the environment are typically planned on the basis of published materials and research station data, both of which are likely to misrepresent conditions in any given project area or provide very limited information. Farmers could easily supplement the planner's store of data. Furthermore, it is foolhardy to assume, a priori, that Digo agricultural practices are simply backward and therefore irrelevant to a more "modern" system of production.

#### B. The Wadigo.

1. Historical Background. The Digo people are one of nine Miji Kenda (also called Nyika) tribes living in the Kenya coastal region. According to oral tradition, all of the Miji Kenda are descendents of the same ancestors and originally lived in an area called Shungwaya. When Galla pastoralists began moving southward

toward Shungwaya, the Miji Kenda dispersed and each of the nine groups established themselves in different territories. Both the Wadigo and the Waduruma moved into the area south of Mombasa where the Wadigo claimed the better-watered region immediately along the coast and the Waduruma settled in the drier interior to the west. The other Miji Kenda--the Giriama, Rabai, Ribe, Chonyi, Kauma, Kambe and Jibana--all settled in more northern locations along the coast and its hinterlands.

The Miji Kenda are Bantu tribes. Prior to their settlement in Shungwaya, it is likely that the ancestral group or groups came from the Congo as part of the general patterns of Bantu migration. Bantu-speaking peoples are believed to have originated in the vicinity of the Nigeria-Cameroon border and then to have moved south into the Congo where the population expanded. This growth in population was followed by a series of migrations so that Bantu groups can now be found all along the eastern side of the continent.

It is difficult to establish exactly when the Bantu began moving into Kenya:

"From the fourth century until the tenth there is a complete dearth of direct evidence either documentary or archaeological. Almost certainly, however, this was the period which saw the most critical development in East Africa's whole history--the occupation of at least the coastal belt by the Negro Bantu" (Oliver and Fage 1962: 96-97).

Hollis claims that "the Wadigo...were already settled in the country when the first of the Sultans of Vumba Kuu was chosen" (Hollis 1900: 276) which was in 1204 A.D. According to tradition,

the area was previously occupied by the Wamvioni who were forced to move south "into what is now called Bonde and the Wamvioni, in consequence, became known as the Wabondaei or the people of the valleys" (Baker 1949: 27).

After arriving in the area south of Mombasa, no major migrations of the Wadigo have been recorded. They are basically an agricultural people who managed to settle in a relatively fertile and productive region which enjoyed more reliable rainfall than the territories of their neighbors. They were able to settle in semi-permanent villages and did not lead the nomadic life of the pastoral and hunting peoples. The need for mobility was limited to the requirements of shifting cultivation.

Like the other Miji Kenda tribes, Digo society was centered around a kaya which was a fortified village located on top of the highest hill found in the tribal area. The Digo kaya was built on Dzombo (Jombo) Mountain. Warner (1915: 341) believed that kaya were peculiar to the Miji Kenda and were not found among other tribes living in this part of Africa. Krapf (1860: 144) described kaya as being the chief resting places of the koma ("spirits of the dead") and claimed that they became an important burial ground because the souls of the dead were believed to be able to rest in peace there.

The Wadigo were one of the few Miji Kenda groups to develop a centralized political system which they seem to have done even before leaving Shungwaya. Prins (1952) describes their political

system in Shungwaya as being headed by a paramount chief or king who

"was assisted by a council (marau) of headmen (madzumbe), of whom it is not known whether they governed any districts of their own. The king-in-council enforced his decisions apparently through the warrior class (mabawabu). The lineages (maryango) were the (most effective?) governmental units, ruled by elders (atumiya). Each miyango used to have one mtumiya only. The occupation of Digoland took place under their leadership...." (Prins 1952: 79).

Prins does not mention the existence of a paramount chief or king during more recent times, but according to village elders in Kikoneni, the Wadigo of that district had been ruled by a Kubo until the British colonial administration altered the traditional pattern. Hollis also used the term Kubo, claiming that he was told the history of the Vumba by a number of important men including "Kalamu Mwacholozzi, the Kubo or Chief of the Wadigo" (Hollis 1900: 276). In another passage, Hollis makes reference to the Kubo who was ruling at the time the new Diwan of Wasini Island was chosen in 1825: "Wadigo...which tribe, under the warlike chief Kubo Mwakikonga, was now in the zenith of its power" (ibid., p. 291).

It seems likely that the office of Kubo was developed on the basis of magico-religious powers, particularly the ability to bring rain, which appear to have been at least as important as secular political power in defining the functions and role of the office holder. Rainmaker-chief would probably be a more accurate translation of Kubo than paramount chief or king. The importance of rainmakers among the Miji Kenda (Wanika) was described by Krapf:

"Among the Wanika there are certain families which lay claim to a power of causing it to rain, and maintain that this great secret can be transmitted from father to son. This hereditary dignity of rain-making gives them great importance among the people....Observing carefully the state of the weather, and knowing from long experience about the time when the earliest rain is to fall, they forthwith call upon the chiefs to offer up a sacrifice. These again command the people to make a Zansi, i.e., to contribute to the purchase of a cow or a sheep for the rain-sacrifice" (Krapf 1860: 138-139).

According to Kikoneni elders, Kubo Chorozi (Hollis' Mwacholozizi?), who ruled during World War I and led the Wadigo in fighting that took place at Gazi, was the last man to be addressed as Kubo. Those who followed Chorozi were known merely as "chief" and were recognized as being part of the British colonial administration. Mohamed Masemo was chosen by the people to act as chief after Chorozi, but he was accused of embezzling tax monies and was imprisoned by the British. His son, Omari Masemo (the informant) refused to take office under the British and Halfani Mwakitsui was then selected to act as chief. Mwakitsui's son was not offered the chieftainship when his father died; instead, Hamis Shee was elected chief. Ali Hassan Muhaso succeeded Shee, but he was not popular and was removed from office after only one day. Omari Mnyeto was subsequently installed as chief and he held office until January, 1975, when the Kenya government forced him to retire. No one had yet been selected to replace him when I left the village in August, 1975.

2. Political Organization. The current political structure consists of a chief (temporarily vacant) who has authority over

Kikoneni Location and two sub-chiefs assigned to separate Sub-Locations. The chief's staff also includes a clerk, two policemen, and a messenger. The principal duties of the chief and sub-chiefs are the collection of taxes, collection of fees for using water project outlets, hearing complaints, law enforcement, and direction or organization of special committees such as the school committee and the tax assessment committee. There is also a general-purpose Location Committee composed of seven men chosen at a location-wide meeting and two Sub-Location Committees which can be called together to deal with special issues. Since there are few activities involving the entire Location, or even the Sub-Locations, the responsibilities of these committees tend to be minimal and they serve mainly as adjuncts to the chief's office.

The foregoing system of political organization represents the local level of Kenya's national government, which, as evidenced by the duties performed, is essentially administrative and concerned with the interests of the central government. Although the chief's office may be used to lodge certain complaints, the majority of local interests or conflicts find expression within the kinship system and are settled by the elders of the kinship units involved.

3. Settlement Pattern. Bujra and Brokensha (1971: 6) have stated that "the settlement pattern of Digo society is very strongly oriented towards larger sized villages as opposed to scattered settlements." Although this seems to be true for the Msambweni



area, it is not true in Kikoneni Location where the settlement pattern is dominated by scattered compounds and a few, widely separated villages where there are stores, mosques and schools. Compounds in the Kikoneni area normally range from five to ten houses although some fall below this range while others reach as many as twenty houses.

4. Social Organization. The Wadigo now practice virilocal residence so that compounds are made up of an older generation of brothers, their sons and their grandsons. Each compound has one elder who is recognized as the controlling authority and who will settle disputes concerning affairs internal to the compound itself.

Although residence is virilocal, descent is matrilineal and matrilineal descent groups (ukoo) continue to dominate ritual activity and serve as an important social referent, giving individuals much of their social identity as well as their strongest obligations and responsibilities. In times of difficulty or at various stages of a person's life cycle, including weddings and funerals, matrikin provide the principle source of support.

Previously, matrilineal descent groups also controlled rights over land, but under the influence of Islam the Wadigo have since adopted principles of patrilineal inheritance. Access to land is now governed by a combination of matrilineal and patrilineal principles which Gerlach (1965: 251) believes has produced "an ambilineal system in which rights to land use and other rights and

duties are not clearly delineated and often conflict." While the system does introduce a degree of conflict, my own data suggest that with respect to rights over land accommodations have been made for the interests of both patrilineal heirs and the matrilineage, and that current inheritance rules can provide secure rights in many cases (see Chapter V). The new possibility of selling land, which was not possible under traditional rules of tenure, is probably generating as much, if not more, conflict than inconsistencies or overlapping rights produced by inheritance. Certainly, land sales pose an entirely different set of problems; namely, permanent alienation of land and inter- as well as intra-tribal conflicts.

5. The Economy. In the Kikoneni area, the Wadigo have a mixed economy of subsistence and cash cropping frequently combined with petty trading or some other non-farm occupation. Farming is a diversified horticulture, the principal tools being a short-handled hoe (jembe)<sup>1</sup> and a long-bladed knife (panga; known as a machete in Latin America). Maize is the staple food crop supplemented by cassava and a variety of pulses including cowpeas and pigeon peas. Families with access to appropriate soils normally also plant rice as a subsistence food crop. Cashewnuts, citrus, sesame, chillies and sugarcane are the principal cash crops.

Land is still relatively abundant, but shortages are likely to occur in the very near future, at least within some of the

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1. A long-handled jembe is being adopted by some of the Wadigo.

larger kinship units since land will have to be divided among a sizeable number of heirs.

The basic labor unit is increasingly restricted to individual households, and shortage of labor plus low rates of investment and capitalization appear to be the major restraints on increasing production. Traditional patterns of labor exchange (the wiri and kukubana) are no longer operative, and households seeking additional labor are now expected to hire day laborers, although it is sometimes possible to enlist the help of a few kinsmen for limited periods.

With a few exceptions, the sexual division of labor appears to be quite flexible. There is some indication that divisions on the basis of crops were more distinct and perhaps more rigid in the past. While these patterns can still be discerned in current labor inputs (see Appendix D), the distinctions are not sharp except for a few crops.

The major economic restrictions affecting women are the prohibition against their buying or selling in the market-place and the almost exclusive control men exercise over cash incomes. The former may be due to Islamic influence. Although Digo women feel free to travel, they are expected to wear a black gown (buibui) which covers their clothing and can be drawn across the face when they do travel. The buibui contributes to a woman's anonymity when she is in public places and among strangers and this circum-

spect behavior would be inconsistent with selling or buying in the market. Trading would also provide women with independent incomes and thus reduce male control over cash.

The relatively high degree of commercialization of the Digo economy has largely been due to the proximity of markets. Mombasa is only fifty miles from the village of Kikoneni or two days' walk. Vanga can be reached on foot in a single day. In the past, enterprising Digo traders organized groups of porters to head-load goods to and from Mombasa and Vanga or other smaller market towns. Markets became somewhat more accessible with the introduction of bicycles, but the greatest changes came with motor vehicles.


Until recently, road conditions in the Kikoneni area were extremely poor. Heavy rains frequently made roads impassable for extended periods of time, but a Ministry of Works construction program has improved conditions and motor transport has subsequently increased immensely. Buses now stop fourteen times a day in Kikoneni and provide the major means of transporting produce to various markets. A few privately owned vehicles are also used to transport produce and bring goods from Mombasa to stock local shops. Since there are licensed wholesale buyers in the area, middlemen involved in collecting produce from numerous farmers often sell to local buyers who then transport the goods to Mombasa.

Although the Wadigo identify themselves as an agricultural people and consistently claim that their greatest interests lie in farming, my data show investment to be strongly oriented toward

non-farm businesses. Digo economic strategies, which always include a highly diversified horticulture, tend to include and even emphasize non-farm opportunities, and the most successful among them have also diversified their business interests.

## CHAPTER IV

### THE ROLE OF HISTORY



Theories of change which emphasize the role of history give attention to culture contact, diffusion and external events as factors stimulating progressive change. In this chapter, a brief history of the East African coast, and particularly Kenya's south coast, will be given in order to explore the significance of historical events and to examine some of the factors which might account for Digo "backwardness." Since there has been ample contact with foreign influences, it is evident that contact alone is not sufficient to guarantee progressive change. The quality and structure of interaction are equally important and have contributed to the current image of Digo society. It is largely in the quality and structure of political and economic interactions that explanations will be sought for the image of Digo backwardness from an historical perspective.

#### A. Early Development of the Indian Ocean Trade.

The history of foreign influences along the East African coast is predominantly the history of trade networks that ringed the Indian Ocean. The growth of this trade began prior to the tenth century, drawing ships from Persia, Arabia, India and South-east Asia, but initially the traders were few, the links weak and tenuous. Eventually, traders became more numerous and some groups

chose to settle permanently in East Africa. By the middle of the thirteenth century coastal towns had proliferated and were prospering in an era of expanding commercial development.

The economic growth of the thirteenth century was accompanied by the spread of Islam until the entire Indian Ocean trading system was dominated by Muslim traders who also introduced cultural changes:

"In East Africa it is from this time onwards that religious monuments such as mosques and tombs are found all along the coast. It is probably from this period, too, that the 'Swahili' language and culture began to take shape among the Islamicized Bantu people of the coastal plain" (Oliver and Fage 1962: 99).

It was during this era that Shirazi immigrants from Persia, known locally as the Wavumba, became established in Vumba Kuu where they built a town. The Wavumba brought with them the art of stone architecture and were probably the earliest Islamic group to have sustained contact with the Wadigo and later with the Wasegeju, both of whom eventually adopted Islam.

By 1498, when Vasco da Gama made his historic voyage, the coastal towns had become well established. Archaeological evidence shows that they were enjoying "such luxury goods as the stoneware of Siam and the porcelain of late Sung and early Ming China" (ibid., p. 98) giving testimony to the extensiveness of the trading network. Until da Gama's voyage, Europeans had been unaware of the wealth that had developed along the East African coast. The Portuguese were much impressed with what they found and gave glowing accounts of Kilwa, Zanzibar, Mombasa and Malindi (see Davidson 1969: 99-

100). During the sixteenth century, they strove to gain control of the Indian Ocean trade, but their tactics were so ruthless and destructive that they threw the whole system into a period of decline. They looted and burned any coastal town that did not submit to their demands for tribute. In 1505, when the king of Mombasa returned to his ravaged city, he wrote that there was "no living thing there, neither man nor woman, young or old, nor child however small: all who had failed to escape had been killed and burned" (ibid., p. 108). Kilwa was also burned and looted, but its real decline came from the diversion of the gold trade toward Europe. Zanzibar agreed to pay tribute and was spared, while the king of Malindi allied himself with the Portuguese because of his rivalry with Mombasa.

The Portuguese earned for themselves the animosity of nearly all the coastal peoples. In 1585, with promises of aid from a Turk named Ali Bey, Mombasa and the northern cities (except Malindi) rose in revolt. In 1588, Ali Bey returned with five ships which were enough to defeat many of the Portuguese garrisons, but the arrival of a fleet of some twenty Portuguese ships reversed the balance of power. In reprisal, the rebellious towns were ravaged once again, and in 1592 the Portuguese began construction of Fort Jesus in Mombasa to serve as a base of control.

Although the Portuguese were able to maintain a position of dominance during the sixteenth century, the seventeenth century



proved to be a period of decline within Portugal itself and this weakened its colonial power at a time when other European countries were entering the competition. In Southeast Asia, Portugal was being pushed out by the Dutch and in India by the British. Only by repulsing Dutch attacks against their fort at Mozambique were the Portuguese able to restrict Dutch interests to South Africa; and only British preoccupation with India prevented the English from displacing them along the African coast.

Meanwhile, the Omani Arabs were beginning to take advantage of Portugal's weakened and over-extended military position. By 1650 they succeeded in driving the Portuguese from the fort at Sohar as well as the port city of Muscat. The Omanis soon developed a fleet of ships and began raiding the African coast, usually in alliance with at least some of the Swahili towns. Although the Portuguese briefly reoccupied Mombasa in 1728, the Swahili-Omani alliance had broken their power in all the northern coastal towns (including Mombasa) by 1700.

The disruptive period of Portuguese exploitation left virtually no enduring cultural influence:

"All they /did/ was to settle in their garrisons and trading stations like a blanket of misfortune, ruining much of a civilization that had been the product of a rich heritage of Muslim culture. How little they gave to the civilization of the Coast and Islands may be seen in the Swahili language, which even after centuries of Portuguese was to absorb no more than about sixty Portuguese words....Even the architecture of the Portuguese--confined as it was to a few hated castles--had no influence upon the building styles of the Coast and Islands" (Davidson 1969: 123).

What the Portuguese did contribute that was of lasting value to the indigenous peoples was a variety of crops from South America including maize, cassava, sweet potatoes, pineapples, pawpaws, and cashew-nuts. Some of these crops most certainly helped to increase the food supply and quickly became dietary staples across a wide range of ecological zones and ethnic boundaries.

#### B. The Rise of Zanzibar.

With the Portuguese out of the way, a new era of Muslim hegemony was able to reestablish some of the earlier prosperity and cultural identity, but not without political and economic rivalries. Omani Arabs had provided the necessary power to defeat the Portuguese; now they used that power to support their own position of overlordship. Although the Swahili towns resented the Omani presence, they were unable to unite among themselves or to obtain any European ally who would help drive them out. The most they could do was play one Omani ruler against another when rival factions emerged. In 1741, a former governor of Sohar became ruler of Oman, establishing a new line called the Busaidi. Omani Arabs of the Mazrui lineage had helped expel the Portuguese and were now ruling in Mombasa. The Busaidis began to challenge the Mazrui position in East Africa and the rivalry for power between these two groups became a struggle that persisted through the eighteenth century and continued into the nineteenth century when the British became involved.

The Mazruis were able to maintain their control over Mombasa and during the early years of the nineteenth century extended their sphere of power to include the island of Pemba and the city-state of Pate. This extension of power posed a threat to Busaidi interests and their ruler, Seyyid Said, ordered successful attacks against Pate in 1817 and against Pemba in 1822, declaring the Mazruis to be disloyal subjects of Oman. It was more than ten years before Said was able to finally gain control of Mombasa, but he did in 1837 when "every leading member of the Mazrui family was arrested and deported. Every one of them died in prison" (Davidson 1969: 154). This would have ended the factional rivalries of the Arabs if it had not been for Said's decision to grant

"two Mazrui families the liwaliships of Takaungu and Gazi, the two /towns/ being roughly equidistant from Mombasa, to the north and south, respectively. In and around these two centres the two branches of the family began to build for themselves considerable economic and political powers, relying on slave labour for the first and on the vestiges of their past influence and Zanzibar's...wide toleration of local authority for the other" (Salim 1973: 26-27).

After the defeat of the Mazruis in Mombasa, Seyyid Said himself moved from Muscat to Zanzibar in 1840, where he could exert greater control over coastal trade. By 1845, American, British and French consuls had taken up residence in Zanzibar and the beginning of a new era of trade was under way. With the consolidation of Omani power in Zanzibar, Said was able to extend his effective sphere of influence and initiate a period of commercial expansion:

"...on the island itself he started a plantation industry in cloves, introduced all the way from the Moluccas, with such success that by the end of his reign Zanzibar was producing three-quarters of the world's supply. Under Said's influence Zanzibar soon became the commercial entrepot for the whole of the East African coast, the rendezvous for all foreign shipping, the export market for the slaves and ivory of the mainland, and the import market for cloth and beads, guns, ammunition, and hardware from India, Europe, and America. ...A class of wealthy Arabs settled round him as plantation-owners on Zanzibar and Pemba, while others with their fortunes still to make were encouraged by him to begin the direct commercial exploitation of the interior, using the credit of Indian merchant financiers to stock up trading caravans with which they would disappear up-country for years at a time" (Oliver and Fage 1962: 171-172).

The Zanzibari sphere of influence established under Seyyid Said included virtually all of the Kenya coast which in varying degrees in different places shared in the economic prosperity of what was an incipient empire. Since Said and his successors were interested in trade rather than political subjugation, the Sultans never attempted to establish political rule in the interior. They were content to control the coastal towns and villages which served as the entrepots of the caravan trade. Yet, even in the coastal towns direct control was limited to small garrisons and a few officials (always including a customs collector) acting on behalf of the Sultan. Essentially, Zanzibar offered the protection of its overlordship in exchange for the right to collect a substantial proportion of the customs dues charged on trade goods. Those who were willing to cooperate were able to maintain almost complete local autonomy, although the Sultans reserved the right to approve the selection of new successors to positions of leadership.

Thus, the era of Omani rule did not displace other Arab influences on the Kenya coast. Mazrui Arabs remained in the areas given to them by Saïd after their final defeat at Mombasa in 1837, and the Swahili culture which had developed from intermarriages between Arab colonists and local African populations continued to flourish. Most of the economic opportunities which had been created by these earlier influences were simply afforded a more reliable outlet for trade during the period of Zanzibari expansion.

By the nineteenth century, at least some parts of the Kenya coast had begun to enjoy a florescent period in agricultural production. Sesame, millet and maize became major export crops and were shipped to Arabia and even South Africa. Malindi, north of Mombasa, was particularly important in the production and export of grain crops. To a large extent, coastal agriculture owed its expansion and prosperity to the slave trade, for it gradually became dependent upon slave labor (see Salim 1973: 26, 37, 47).

The need for slave labor arose from the dense and persistent growth of weeds which normally prevented extensive land development and limited production levels below those required to support an export trade. The growth of an external market for slaves and the entrepreneurial efforts devoted to supplying that demand also meant that local buyers were assured a reliable supply of slaves as well as connections with traders who sold their agricultural produce to foreign markets. Thus, it became both possible and profitable to

clear large farming areas and expand production by employing slave labor.

The economic prosperity of the Kenya coast did not survive the changes of the nineteenth century, however. A series of complex events combined to alter the pattern of commercial relationships ending in a general decline of the coast economy and the eclipse of Arab political influence.

The major components of nineteenth century changes were the rise and fall of the slave trade and the dynamics of Arab politics, including the activities and political policies followed by the Sultan of Zanzibar. Environmental stresses also set in motion important intertribal conflicts resulting in internal power shifts. All of these elements contributed to redefining the status of the Kenya coast, and by the end of the nineteenth century a new component had been added: all of East Africa became embroiled in Europe's scramble for African territories. This led to an entirely different kind of political and economic subjugation.

### C. The Slave Trade.

Early European observers, including the British historian Coupland, saw the nineteenth century slave trade as "something which grew out of a massive pre-existing system of indigenous African slavery" (Alpers 1967: 13). The evidence suggests that this was not a valid interpretation. Although it is known that slaves could be obtained from East Africa at least since 120 A.D.,

when they were mentioned in the Periplus of the Erythraen Sea, it was not until the eighteenth century that the volume of trade in slaves became significant:

"From an estimated 10,000 in 1811, one contemporary observer believed that there was a rise to perhaps 40,000 or 45,000 slaves being sold on the Zanzibar market in 1839" (Alpers 1967: 11).

The reasons for this unprecedented growth in slaving were the demands created by colonial expansion. The French were beginning to establish sugar plantations on Mauritius and its neighboring islands in the latter half of the eighteenth century. They needed slaves to operate these plantations and in 1776 made a treaty with Kilwa to supply them with 1000 slaves a year (see Nicholls 1971: 198). This trade proved to be so profitable that "their trade with Kilwa grew ...to between three and ten thousand slaves a year" (Marsh and Kingsnorth 1972: 64). The demand for slaves in the Western hemisphere had normally been met by the supply from West Africa, but after 1807 the British ended their own slaving expeditions while their warships patrolled the Atlantic Ocean to prevent other nations from continuing the trade. To circumvent this blockade, the Portuguese began to use their East African ports as a source of slaves since the British did not yet have warships in this area. "Between 1800 and 1850 they were exporting people from Mozambique to Brazil at the rate of about 25,000 captives a year" (Davidson 1969: 147).

It was also during the first half of the nineteenth century that Seyyid Said consolidated a trading empire on Zanzibar. Said

brought with him a number of Arab colonists whom he pressured to establish clove plantations: "when a coconut palm died, or was cut down, three clove trees had to be planted in its place. Disobedience resulted in the confiscation of land" (Marsh and Kingsnorth 1972: 70). The change from small-holder agriculture to a plantation system created a large demand for slave labor on Zanzibar and Pemba. "Throughout the nineteenth century well over half the population of the two islands (which was probably several hundred thousand people) were slaves" (Alpers 1967: 11).

This growing demand for slaves among the French, Portuguese and Omani Arabs was augmented by an increased volume of slaves being exported to the Persian Gulf region and eventually by local African demands as well. "The Nyika, for example, began to acquire slaves in the 1840s to cultivate their land" (Nicholls 1971: 204).

The growth of the slave trade attracted British attention and was an important element in their rise to power in East Africa. In 1822 the British had already entered a treaty with Seyyid Said at Oman in an effort "to persuade Said to abolish the oversea slave trade from the ports of Oman, and from those ports of East Africa, notably Zanzibar, where Said was in control" (Davidson 1969: 152). This was known as the Moresby Treaty which forbid the sale of slaves to India and Mauritius (which the British had taken over from the French) or any other Christian state. "The treaty also stipulated that Omani Arab ships were liable to seizure by British cruisers if



found with slaves east of a line passing sixty miles east of Socotra, on to Diu Head...." (Nicholls 1971: 223). In 1839, Said agreed to move that line nearer the East African coast as the British tried to make the Moresby Treaty more effective. In 1845, Said was pressured into an agreement which prohibited the export of slaves from Zanzibar to Muscat, but did nothing to bar the sea trade along the coast itself. These treaties had little practical effect: "By 1856 there had been no diminution in the number of slaves exported from East Africa" (Nicholls 1971: 241). Finally, in 1873, the Sultan of Zanzibar, Barghash, acquiesced to the abolition of all slave trading by sea within his dominions. The Treaty of 1873 was followed by proclamations banning the trade on land and the right of caravans to bring slaves to the coast. Formally, at least, this ended the East African slave trade.

Ironically, the efforts of the British to end the slave trade resulted in greater brutality as slaving continued in the interior. Since the price of slaves dropped dramatically with the abolition of the export trade, caravan leaders found it profitable to use slaves rather than paid porters for carrying ivory, and local chiefs acquired slaves to bolster their political and economic statuses.

#### D. European Colonization.

The advent of European power in East Africa saw the decline of Arab influence and the beginning of economic stagnation on the Kenya coast. The caravan trade, local plantation agriculture, and the

dominant position of Islamic culture all became anachronisms under British administration.

The first Europeans actually to settle in Kenya were missionaries who came to convert, to teach and to heal the sick. While such missionary activity was not overtly political, in the course of their involvement missionaries became deeply concerned with slaving and eventually established camps where escaped slaves could take refuge. Their attempts to abolish slavery became a political issue because much of the coastal economy had become dependent upon slave labor.

Initially, the only political involvement of the British government was related to the slavery issue and this concern did not represent an interest in colonization. The British government was not prepared to undertake the administrative costs of another colony, nor did they consider East Africa a particularly vital area. Since trade prospered under the Sultans of Zanzibar, Britain was content to leave the responsibilities and expenses of administration with the former and to exert political pressures indirectly. But the active interest of German explorers and the rivalries among several European powers which culminated in the Berlin Conference in 1885 forced Britain to take a more direct interest. By 1890, spheres of European influence had been demarcated; Germany had gained control over Tanganyika while Britain's sphere included Zanzibar, Kenya and Uganda.

Even after settling territorial claims with Germany, Britain showed herself to be reluctant in establishing any effective political structure in East Africa. From 1888 to 1895, involvement was largely directed through the Imperial British East Africa Company (IBEA Company). The IBEA Company was unable to realize a profit on its operations, primarily because of the administrative costs entailed in maintaining its position in Uganda. The year 1895 marked the final withdrawal of the IBEA Company from Kenya and the area became the British East Africa Protectorate.

The declaration of the East Africa Protectorate coincided with the Mazrui Rebellion. The Mazruis of Takaungu objected to the choice of the local leader imposed upon them by the IBEA Company before its withdrawal from the coast. The contending successor, Mbarak, was declared a rebel. Mbarak joined his uncle, Mbaruk, at Gazi. Since Mbaruk refused to turn his nephew over to the British, he, too, was declared a rebel.

"Although the rebels retreated before the heavier odds against them, their raiding and burning of towns like Malindi, Takaungu and Vanga and numerous villages tied down the heavier forces of local and naval personnel and disturbed the area between Malindi and Vanga" (Salim 1973: 72).

The Mazrui Rebellion undoubtedly began as an internal struggle over succession, but once under way it drew support from other disaffected parties on the coast. Some Swahili leaders raised the flag of Islam against the intrusion of Christian and European forces. Swahili opposition to British rule was also rooted in the economic importance

of slaving. Abolition of the slave trade had long been the objective of the British government and their accession to political power threatened the Swahili economy. Various Miji Kenda groups also gave support to the Mazruis, partly because they regarded the family as powerful and possibly capable of expelling the British.

Final subjugation of the Kenya coast came at the end of the Mazrui Rebellion in March 1896. Prior to the rebellion, preparations had been made for returning the Sultan's province (Seyyidieh) to Zanzibari control, for a ten-mile coastal strip was officially recognized as falling under the Sultan's jurisdiction according to the partition treaty of 1886. A European commission had established the validity of the Sultan's claims to the coastal towns and villages and these claims had been recognized in leaving him in "authority over the islands of Zanzibar, Pemba, Mafia and Lamu, and also over the coast, to a depth of 10 miles from the River Rovuma in the south to Kipini in the north" (Marsh and Kingsnorth 1972: 96). With the installation of the IBEA Company, the Sultan was prevailed upon to lease the ten-mile strip for fifty years "provided that his customs revenue continued" (*ibid.*, p. 98). In 1890, an Anglo-German treaty (also called the Heligoland Treaty) "provided for a British protectorate over Zanzibar and the ten-mile coastal strip" (Salim 1973: 66). With the withdrawal of the IBEA Company, the British government decided not to return the coastal strip to the Sultan, and "although the Sultan's nominal suzerainty was

maintained, the British government was determined to assume sole responsibility" (ibid., p. 73). The coastal strip was thus incorporated into the British East Africa Protectorate.

The impact of colonial rule on the coast led to decline in both economic and political status. The position of dominance and prosperity were undermined by a series of policies and actions initiated by the British administration.

Partly because of the fear aroused by the Mazrui Rebellion, and partly because Hardinge, commissioner of the Protectorate, was sympathetic to Muslim culture, the British government maintained the traditional Muslim administration on the coast immediately after declaring the Protectorate. The British pledged

"that Islam would remain as the public and established creed, that the Sharia (Muslim law) would be maintained as would be the traditional officials--kadhis, liwalis and others. All traditional rights would be respected" (Salim 1973: 73).

Aside from the promise to preserve the cultural and religious customs practiced on the coast, Hardinge had his own personal vision of expanding the Arab-Swahili elite into a corps of trained officers who would assist in the administration of the entire protectorate, not only the coast. This vision was never realized:

"It was a vision born of original partiality for things Islamic, reinforced by an association with the largely Muslim populations of the coast. In that sense, it was a very limited vision. It had not seriously encompassed the human and material potentialities of the rest of the protectorate" (ibid., p. 86).

The British foreign office entertained an entirely different vision from that of Hardinge. Egypt was the important area of British involvement and because Uganda offered control over the headwaters of the Nile, it became important for the protection of Britain's Egyptian interests. The East Africa Protectorate was merely an access route to the Nile. The British government finally accepted political and economic responsibility for Kenya because the IBEA Company had defaulted, not because Kenya was thought to be intrinsically valuable:

"When the British East Africa protectorate was declared in 1895 no one set much value on it for its own sake. It was like a 'no-man's land' between the desirability of controlling Zanzibar and the Indian Ocean coast on the one side and the desirability of controlling Uganda and the headwaters of the Nile on the other. As an area which linked the two, providing a route to the interior, it had value. That, it seemed, was its only importance" (Marsh and Kingsnorth 1972: 109).

The year after Kenya became a protectorate, the railway line that was to extend from Mombasa to Lake Victoria was begun. The purpose of the railway was to establish an effective link between the coast and Uganda, but the effects were to have important political implications for the coast. What started out as a supply camp in 1896 became the new capital of the Protectorate in 1907. This change of government locality from Mombasa to Nairobi reflected the shift of interest toward the interior. The highland areas were regarded as having higher agricultural potential and the cooler climate was generally preferred by the British to the heat and humidity of the coast. The railway made the highlands easily accessible and

the result was an influx of European settlers who were given grants of land. Foreign settlement merely added another factor which turned British interests away from the coast.

"As Hobley a senior commissioner at Mombasa put it, 'The development of the highlands and the growth of a vociferous and energetic white population upcountry has absorbed the attention of the central government to an undue extent. The interests of the coastlands have therefore suffered'" (Salim 1973: 93).

The railway also had an economic impact on the coast. It rendered the caravan trade obsolete. The cost of transporting goods fell "from 7s 6d to 2½d per ton per mile" (Marsh and Kingsnorth 1972: 112). With the caravan trade gone, the incomes gained from hiring out slaves to act as porters were also lost. At the same time, the construction of the railway increased the demand for labor. Wages rose, making it all the more difficult for landowners to substitute hired for slave labor (see Salim 1973: 105).

Development of the "White Highlands" attracted more attention to Kenya agriculture, but not coastal agriculture. The abolition of the slave trade in 1873, and of the institution of slavery in 1907, had thrown coastal agriculture into rapid decline. Without slave labor, the plantations could not be maintained and the land began to revert to bush even before the turn of the century. Estimates for the Malindi area "show to what extent cultivation had been reduced in size through loss of labour: the cultivated area...in 1896 was only about a seventh of the area once under tillage" (Salim 1973: 115).

Access to labor was not the only factor involved in the decline of agriculture on the coast. Within a year of prohibiting the ownership of slaves, the Land Titles Ordinance was passed and

"this dealt a blow to the other major pillar of the Arab-Swahili economic structure--land. Vast areas of land...were either alienated or declared Crown land, as a result of this Ordinance" (ibid., p. 114).

The Land Titles Ordinance reflected the essentially racist character of British colonial rule. Not only were non-European groups dispossessed of their lands, but areas declared Crown lands were granted to Europeans and the existence of Crown lands allowed the formation of companies or syndicates. Government policy actively encouraged European settlement, for Europeans were to be the source of capital and productive skills on which economic development was to be based. This naturally placed the African, as well as the Arab and Swahili, populations in a secondary role. The favoritism shown to Europeans was soon evidenced in the monopolistic rights accorded to their companies or the prohibition of African involvement in certain forms of production and/or exchange. For example:

"by September 1900, Denhardt & Company had been given the right to strip bark from mangrove trees within a long stretch of coast--from Vanga in the south to Ras Ngomeni in the north. The local people were warned that mangrove bark stripping by them was illegal" (ibid., p. 107).

Government policies on the coast undermined the basic structure of economic organization and were a major factor in the subsequent decline. After 1910 "reports on the coast and its people speak of seemingly unrelenting depression, stagnation, apathy and poverty"



(ibid., p. 133). Responsibility for these conditions was thought by the British to belong to the coastal people themselves:

"But the government refused to take the blame, alleging that the result was caused by the coastal people's 'indolence, pure and simple' and urged the descendents of the ex-slave masters to forget that slaves ever existed and 'put their shoulders to the wheel' to revive the prosperity of the coast" (ibid., p. 113).

Under British colonial rule the coast had become an area of economic stagnation. With the shift in interest to the highlands, it had become a political backwater as well. The reason, according to the government was "coastal indolence." Coast people were "lazy and thriftless." If the coast was backward, it was because the coast people were backward.

#### E. The Role of Foreign Influences.

Development of the Indian Ocean trade created a structure of relationships which endured until the establishment of European colonial rule in the nineteenth century. The basic structure included foreign groups located in small enclaves along the coast which served as marketing centers and sources of capital. The existence of these enclaves never represented an extended system of political domination, but they did serve as loci of commercial dominance. The structure also included politically autonomous African peoples who supplied the towns with goods and acted as middlemen in trade with the interior. Thus, indigenous and foreign groups were mutually dependent upon the entrepreneurial skills and

activities of the other and mutually benefitted from the trading system. Nonetheless, the terms of trade and balance of power favored the enclaves of foreign traders who maintained control over sources of capital and market outlets.

Although the fundamental structure remained largely the same, the quality of relations varied as different foreign groups came to power and this directly affected the efficiency of the system. Early Muslim influence was, for the most part, constructive and tended to generate close associations between Arab and African populations, giving rise to a Swahili culture and an era of economic prosperity. The Portuguese, on the other hand, sought to establish relations almost exclusively on the basis of military force and were much more exploitative of local traders, leading to a period of decline. The quality of Portuguese relations restricted the impact of foreign influence, reducing the diffusion of cultural elements to a bare minimum. Rather than stimulating progressive change, contact with the Portuguese fostered withdrawal and stagnation.

With the removal of Portuguese domination came a second era of Arab and Muslim influence when trade prospered once again. But it was also an era when other external events were affecting the structure of trade relations. Most importantly, the expansion of European colonialism in widely separated areas of the world focused in Africa as a new demand for slaves. This, in turn, stimulated expansion of the caravan trade. Since this trade involved substan-

tial costs and always represented high risks, control over capital for financing caravans became increasingly important. Control over capital seems to have been a significant element in the growth of Zanzibar as a trade empire which then attracted new entrepreneurs, including many from India, who were anxious to take advantage of the economic opportunities created by the caravan trade:

"Asian traders became the economic backbone of the entire Zanzibar system financing virtually all the caravans which left the coast for the interior on credit which they alone could afford to give, and controlling the export-import trade" (Alpers 1967: 11).

Nicholls also argues for the critical importance of Indian investors, observing that:

"Their knowledge of financial dealings and their support by wealthy Indian banking firms enabled them to undertake money-lending, banking and underwriting activities in Zanzibar. Making rapid profits from the high interest rates they charged, they were seldom short of capital" (Nicholls 1971: 347).

What emerged during the second period of Muslim influence was a trading system heavily reliant upon substantial capitalization. The structure of foreign enclaves and autonomous African political groups continued, but affluence was more concentrated within a small group of foreign financiers. The economic prosperity of African peoples was slight by comparison despite their essential role in conducting the caravan trade. Thus, although Africans were the primary source of wealth, foreign middlemen reaped a disproportionate share of the benefits. As suppliers of goods and labor, Africans occupied a subordinate position in the trading system.

Since the structure of relations offered Africans only a limited set of roles, the degree of cultural and economic change needed to participate in the caravan trade was minimal. Africans could not easily alter their roles or establish the commercial ties necessary to become successful financiers on a scale comparable with Arab or Indian traders, nor were they encouraged to do so. The system permitted a high level of local African autonomy, but it also perpetuated a relatively low level of cultural change among African groups. Tribes were not incorporated into a state organization and African participation or involvement depended on African initiative. They responded with sustained entrepreneurial skill, but this never was sufficient for them to alter the structure of trade in their favor.

From a different perspective, it is interesting that the main foreign influences south of Mombasa were largely outcasts with respect to Zanzibar during the economic affluence of Busaidi rule. The Wavumba were from Shiraz, not Muscat, and in any case had been living on the coast long enough to be Swahilized--i.e., they had intermarried with African peoples and had developed a distinctive culture. Mbaruk bin Rashid was a Mazrui rebel, and the Mazrui, too, had been on the coast much longer than the newer Arab contingent that followed Seyyid Said.

Neither the Wavumba nor the Mazruis represented major sources of capital. The Wavumba were suffering an economic decline. Although the last Diwan died in 1897, no one succeeded him because "no one could afford the cost of the enthronement ceremonies nor would he

have any chance of reimbursing himself if he borrowed the wherewithal from his friends and relatives" (Baker 1949: 36). The wealth once amassed by Diwan Ruga, through trade in ivory and slaves, belonged to a by-gone era for the Wavumba. By the late nineteenth century, their contributions to the general economy were probably slight.

Mombasa does not seem to have rivalled Zanzibar in wealth. It experienced a decline until the 1840s when the greatly increased demand for ivory revived Mombasan trade. Nonetheless, the coast opposite Pemba and Zanzibar attracted the largest caravans, and "by 1850 Tanga had grown so important as an end-station for these caravans that it probably had more inhabitants than Mombasa" (Davidson 1969: 160). Merchants were not allowed to call at coastal ports opposite Zanzibar, which allowed the customs master, Jairam, to maintain control over exports. This did not include northern ports such as Mombasa, which, "with its customs master independent of the authority of Jairam of Zanzibar, flourished as a small entrepot. Its major misfortune was that it did not offer many slaves for sale" (Nicholls 1971: 374-375).

The Wadigo suffered not only from the overall structure of trade which kept all African groups in a subordinate role, but also from the disruptive and marginal positions of their immediate foreign neighbors. The south coast of Kenya remained a secondary area of development during the nineteenth century, leaving the Wadigo with relatively limited opportunities for enhancing their economic

position.

The structure of relations began to change in the twentieth century. Under British colonial rule, a centralized system of government and a resident population of British administrators were eventually established. The importance of coastal enclaves declined and power shifted to the interior. Rail transportation replaced the caravan trade and the earlier system of plantation agriculture was replaced by foreign-owned companies and syndicates.

After Hardinge, British attitudes toward the coast were indifferent at best, but the south coast was thought of in an even more negative light:

"Districts like that of Vanga, to the south, were considered ...unsuitable for European settlement owing to their inhospitable climate. There was, moreover, the ever-present problem of procuring an adequate supply of labour which was one of the drawbacks of the district" (Salim 1973: 122).

When Hollis conducted a survey in 1907 to establish which lands could be granted to European settlers, he did not even bother to visit the districts south of Mombasa (see *ibid.*).

Coastal Africans had suffered from structured underdevelopment prior to British rule, but the changes following the arrival of the British greatly multiplied the structural disadvantages. Their exclusion from economic opportunities was written into law and government efforts to achieve development openly favored European development.

The quality of relations also degenerated. Africans were thought to be inherently and biologically inferior to Europeans, and

this racist doctrine further excluded African participation in political and economic affairs.

Once again a European power had displaced Arab and Swahili control over the East African coast, and once again the coast had been thrown into a period of stagnation and decline. Within this context, Digo backwardness can be viewed, at least in part, as an outcome of a particular structure and quality of relations with foreign powers which continuously favored the greater development of foreign groups, often at African expense.

#### F. The Digo Place in History.

The relative historical anonymity of the Wadigo cannot be entirely explained by the role of dominating foreign powers. Even among African groups, the Digo place in history is not recorded as having been particularly outstanding or influential. They do not seem to have been as aggressive as some of their neighbors nor as noted for commercial acumen. Lamphear says of the Digo area:

"No people with a commercial skill approaching that of the Kamba inhabited the hinterland of this portion of the coast. The Digo and Segeju peoples who lived along the southern section of the northern Mrima were apparently engaged in some commercial activity during the first part of the century, sending ivory caravans of their own as far as Unyamwezi and trading with the Swahili at market-villages near Tanga and other coastal towns; but...there is nothing to suggest that this indigenous commerce of the south was anything as far-flung or sophisticated as the system developed by the Kamba and Nyika inland from Mombasa...." (Lamphear 1973: 92).

Throughout recent history, the Wadigo appear to have been flanked by more powerful groups: the Shambaa kingdom to the south; the Masai, Iloikop and Wakamba to the west; the Shirazis (Wavumba),

Wasegeju, Arabs and Swahilis along the coast.

While foreign influences must certainly have had their impact on the Wadigo, other factors have also contributed to Digo circumstances. The environment was one such factor which may help to account for the status of Digo society. Digo territory was fertile and productive compared to the territories of the Masai, Wakamba and Waduruma, but it did not offer good pasturage. Consequently, the Wadigo became a settled people who were not in direct competition with pastoral or hunting groups. Because rainfall was more reliable, they were probably less subject to drought and famine than the Wakamba and Masai. When famine did occur, warfare and cattle-raiding would have offered a poor solution, since they could not keep cattle and the drier territories of their neighbors held no attraction.

Much of the fame and fortune of the pastoral peoples was based on cattle and cattle-raiding. Wadigo had no need to raid for cattle. Kamba fame in trading was based on hunting and mobility which developed into a widespread network of colonies. It was also partly a result of the central location of Kamba territory which lay between the coast and the abundant environment of the interior. They were in a natural position to become middlemen. The Wadigo were not a mobile, hunting people, and they had no need to establish colonies in other territories.

Although some Wadigo did become involved in the caravan trade,



they were not renowned as traders. For the most part, they seem to have been hired as porters by Swahili traders. It is possible that the socio-economic organization of the Wadigo did not lend itself to extensive involvement in long-distance trading. Among a settled people, capital assets such as land and trees become important economic factors. Absence may weaken claims or result in a general decline in the quality and value of those assets. Left unweeded, Digo farms rapidly revert to bush. The more successful Digo farmers may have rejected entering the caravan trade for these reasons, leaving only the less successful, or perhaps younger, unestablished men to find long-distance trade an attractive economic alternative.

There are other environmental factors which should be considered. The Wadigo seem to have suffered a decline in population which must have been due to a long series of stresses including disease, warfare and famine. The Wadigo and Wasegeju are reported as having been involved in internecine conflicts by the 1840s which Lamphear (1973: 92) believes "virtually ended their commercial activity." In 1859 the Masai attacked Vanga, taking all the cattle, and in 1884 "famine and disease drove the Masai to the coast to raid the Digo districts and it was beyond the power of the Sultan's garrison to render effective protection against them" (Salim 1973: 53). During the 1870s and 1880s "local conflict fed the trade in slaves. It was a time when chiefs indulged in raid and counterraid, when they financed wars by selling their own subjects, when, for a fee, they permitted kidnapping on the paths of their own territories" (Feierman

1974: 169). It was in 1882 that Mbaruk sacked Vanga using slaves as warriors as well as Masai allies. Vanga was burnt and looted by Mbaruk in 1886 and 1895, and the general disruption of the Mazrui Rebellion of 1895 has already been described.

The effects of disease are not as well documented, but it is known that there were serious outbreaks of cholera in Vanga and Wasini in 1858, when two hundred and sixty-two people died at Wasini in thirty-seven days, and in 1869, when four hundred and thirty died at Vanga and Wasini in fourteen days (see Hollis 1900: 293-294). Smallpox and fevers were also widespread on the coast (see Salim 1973: 30).

Although the Wadigo may not have experienced famine as frequently as those who lived in drier regions, famine did occur on the coast. The most notable of the nineteenth century swept from Kilwa to Lamu in 1884. It was this famine that precipitated Masai raids and also revived the slave trade. Conditions were so severe that individuals tried to sell themselves as slaves to avoid starvation. Hollis (1900: 295) reported that "thousands of the natives died" during this famine.

The relative historical anonymity of the Wadigo has been the result of a variety of factors, many of them external events and the influence of foreign powers but others have been environmental and the structure of relations with more powerful African neighbors. Under different circumstances, the Wadigo might have enjoyed a

more notable place in history and have achieved greater economic prosperity. On the other hand, without the development of the Indian Ocean trade, they surely would have been even more obscure. External events, culture contact and diffusion, i.e., the forces of history, have had their impact on Digo society, but the structure and quality of relations restricted the degree of progressive change these forces induced.

## CHAPTER V

### THE ROLE OF TRADITION

Backwardness in the socio-cultural sphere is marked by certain configurations of values and organizational forms. Traditional or premodern societies, according to prevailing theoretical concepts, have a magico-religious ideology and are organized principally on the basis of ascriptive kinship relations. According to these criteria, Digo society is essentially traditional, as will be shown in this chapter. The real issue is not the existence of tradition, however, but whether or not tradition can be usefully viewed as homogeneous, consistent and changeless, and ultimately whether or not tradition inherently poses an obstacle to economic development. These questions will be addressed in this chapter.

At various points throughout this chapter it will become evident that not all members of Digo society share the same values and attitudes, that structural arrangements offer individuals considerable flexibility in pursuing their own interests, and that change has generated certain inconsistencies. But it will also become evident that particular patterns predominate. Digo society is not uniform, but it does not vary beyond certain limits; it is flexible, but not infinitely so. Consequently, change has introduced various degrees of ideological and structural conflict, but the Digo people are finding innovative solutions which allow them to adopt change and at the same time attempt to reduce the level of systemic conflict.

Not all of their solutions are entirely successful, but their efforts show a willingness to accept change and to alter their traditional patterns.

#### A. Cultural Attitudes and Values.

Anthropologists have long appreciated the quality of small-scale societies which gives cohesion to the community and institutionalizes a code of correct behavior. Redfield (1953: 20) speaks of the "moral order" as "the organization of human sentiments into judgments as to what is right." For Redfield, the moral order was that dimension of society which included the conscience of the individual and the morality of behavior which grew out of a shared set of values.

It was interesting to me that the elders of Kikoeni held a view of their community very similar to that of Redfield, except that the solidarity and moral cohesion were seen as disintegrating in the face of recent changes. For Digo elders, the moral order is the foundation of society; without it the people cannot function as a community and divisive forces predominate. Before turning to changes and inconsistencies which now exist in Digo attitudes and beliefs, traditional ideology will be examined. I do this partly because it provides the background for current changes but also because much of that ideology persists.

1. Community Welfare. In traditional Digo ideology, the welfare of the community is partially defined in terms of the conditions of farming. The flow of cash, the quality of family meals, the ability to purchase clothing and to a great extent the sense of

security and well-being, mirror the agricultural cycle. The hot, dry season is a time of stress; the harvest season a time of plenty. The process of farming establishes specific dimensions to man's relationship with nature and makes certain aspects of the environment more significant than others. At the community level, rainfall is of central importance and magical powers related to rain-making are an essential aspect of political power. Since leadership is of necessity a part of community welfare, rain-making powers are quite logically a necessary element of leadership.

Traditionally, the Kubo (rain-maker chief) brought blessings upon the community and these blessings were directly related to rainfall and the productivity of the land. The welfare of the community and the prosperity of farming were each facets of the other, and were interwoven in socio-political institutions and ritual.

The rain-making ceremony of the Wadigo expresses many aspects of the moral order and the basic ideology of Digo society. The relationship between man and environment, between the natural and the supernatural, between the living and the dead, between the Kubo and the community are all represented in this ceremony.

The rain-making ceremony is performed if the long rains are late or too intermittent to support newly planted crops. A cow is sacrificed at the kaya on Dzombo Mountain on the grave site of Kubo Mwamzungu. Before the cow is slaughtered there is dancing, called Ndaro, and many words are spoken into the cow's ear requesting rain. The request is made to Kubo Mwamzungu, to the ancestral spirits (koma), and now also to Allah. When the cow is slaughtered, the

meat is divided among the people. Traditionally, the ceremony was conducted by the Kubo; when it was performed in 1972, it was led by the senior elder of Kikoneni. Waduruma are also expected to attend which seems to represent a dependence on Digo powers and subordination to Digo leadership.

Digo ideology defines the relationship between man and environment as being heavily influenced by supernatural forces, including witches, ancestors and devils as well as a single godhead, Allah. Ideas surrounding environmental events are combinations of both natural and supernatural phenomena and these ideas define the potential for human manipulation as well as determining the appropriateness of different actions.

Productivity in a farming community is dependent upon natural resources, but this natural environment, being subject to supernatural forces, is partly an extension of the social and moral order. Prosperous farming is one expression of harmony; misfortune in farming or failure of the rains is one of the possible expressions of disharmony between society and nature or among individuals. Disruption of natural cycles can be due to disruptions in either the moral and social order of the living community or the supernatural order of the ancestors. Man's immorality can have a direct effect on events in the natural world; so also can the community of the dead exercise powers affecting natural events.

Rainfall and the division of time into wet and dry seasons are accepted as natural phenomena. The rain ceremony would not be performed during the dry season. It is when there are irregularities in

the onset of the rains that human behavior can be both the cause and the remedy. Behavior which can cause the rains to fail may simply be immorality within the community or it may take the more powerful forms of witchcraft or activities of the koma (ancestral spirits) who are dissatisfied with the behavior of their descendents.

In conducting the rain ceremony, the Kubo acted as a moral force and also an embodiment of power. As leader of the community, the Kubo was a symbol of unity; he was the representative of the people trying to counteract divisive, factioning elements. His request for rain was made on behalf of the community as a whole and represented community solidarity. As a moral force, the Kubo was a link between human morality and natural processes. More important, however, were the special magical and religious powers which he was believed to possess. Supernatural forces are generally considered as more powerful than human actors and therefore cannot be influenced by ordinary means. As a magico-religious power, the Kubo was a link between the supernatural and the natural orders.

Sacrifice is an important intermediary act in Digo ideology which has survived the adoption of Islam. In giving something of high social and economic value--a cow--the people show the importance of their request. It also shows their lack of power, since the essence of a sacrificial act is supplication or appeasement.

Thus, the rain ceremony embodies Digo concepts of the intimate relationship among moral order, social action and natural events--i.e., between society and environment. It represents the continuity of the community in its symbolism of solidarity and also in its recog-



nition of ancestral generations. It reflects a hierarchy of power in which the Kubo can be seen as occupying an intermediate position: he is the most powerful among the living but he makes a sacrificial offering to the koma and to his own ancestor, Kubo Mwamzungu, for the ancestors are still more powerful. The rain ceremony is an attempt to reestablish harmony through the ritual performance of supplication to superior powers.

The position of power held by the Kubo was expressed in other forms besides his role in making rain. He was also a protective force. By virtue of his magical powers, he could suppress witchcraft which was considered a major threat to community welfare. His medicines were more powerful than those of other waganga (medicine men) and were believed to be effective for the entire community. The Kubo would place medicines at each major junction in the paths while other medicines were mixed with water and given to the people to drink. He was also associated with the provision of adequate food supplies, for productivity and prosperity were among the blessings which could be brought to the community by a strong leader.

2. Individual Welfare. Below the level of community, the moral order is most strongly expressed in terms of kinship. The norms and expectations surrounding kinship ties constitute "judgments as to what is right" (Redfield 1953: 20) and help define Digo concepts of human morality. The obligations and duties derived from these norms and expectations constitute the major sources of support available to individual members of the society. At various stages of the life

cycle and during any form of crisis, a person turns to kinsmen for assistance.

The kinship unit most often used to identify an individual is the ukoo. The ukoo is traced matrilineally and is exogamous. Each ukoo is named, but different ukoo can have the same name. The multiplicity of groups having the same name appears to be due to successive fissioning within a single kinship unit over many generations, each group maintaining the original name. There are, for example, more than twenty ukoo called "Mdziriphe" in Kikoneni Location alone, but the kinship ties among them are too distant to be traced through oral tradition and are therefore treated as different ukoo even though it is assumed they were all related at some time in the past. If two Mdziriphes meet, they will determine whether or not they are members of the same ukoo by reciting their maternal ancestors as far back as possible. If a common ancestor cannot be established, they will regard each other as members of different Mdziriphe ukoo.

Each individual is related to four ukoo, but the degree and quality of relationship varies significantly. A person is considered a full member of the mother's ukoo and this is the closest and most permanent bond. The mother's ukoo cannot expel its members even if they are guilty of serious crimes or chronic misbehavior. In contrast, the father's ukoo must be shown deference and respect if acceptance and aid are to be forthcoming. It is not incumbent upon the father's ukoo to support or succor the father's offspring, but

if good relations are maintained, a degree of relationship will be recognized. Conflicting interests in land (see Access to Land below) are a potential source for poor relations between a child and his father's ukoo, making this a rather unstable bond. A child is also considered to have a relationship with the mother's father's ukoo and the father's father's ukoo, but neither of these represent particularly strong bonds. Respect must be shown to the father's father's ukoo if aid is to be expected, for a child can be quickly shunned by its members if they do not approve of his behavior. The ties to the mother's father's ukoo are only through marriage, not through consanguinity, and therefore are not as binding as the ties to the mother's or the father's ukoo.

A kifudu "oath" unites the members of each ukoo, all of whom share in the oath. The eldest member of the ukoo is given custody of the kifudu and is responsible for building and maintaining a kifudu house which is a tangible symbol of the ukoo itself. The kifudu house must be maintained with the proper ritual and materials if the well-being of the ukoo and its members is not to be threatened; failure to maintain it can result in illness or some other misfortune for the members of the ukoo. A kifudu ceremony reaffirms the solidarity of the kin group and is performed when the custodian of the kifudu house dies. Thus, the different aspects of kifudu provide symbolic and ritual expression of the matrilineal kinship principle.

The unity symbolized in kifudu is translated into a sense of moral obligation among members and underwrites the great variety of

functions the ukoo performs for individuals. In cases of rape, murder, adultery, and land disputes, it is the ukoo which is expected to resolve the issue, actively supporting its members and contributing to whatever expenses are involved.<sup>1</sup> At critical points in an individual's life cycle such as circumcision, marriage, and death, it is the kin group that organizes, pays the costs, and ritually witnesses the event. Since several hundred people may attend a wedding or a funeral, the costs are substantial and the task of organizing such events is a major one.

The unity of the ukoo also becomes an economic asset. Kinship solidarity imparts a corporate quality to the ukoo, giving access to a greater fund of resources and spreading costs over a greater number of families and individuals. Without support from an ukoo, most young men would be unable to meet the cost of marriage, nor could most family units meet the costs of a funeral or compensation if one among them committed a crime. The moral order expressed in the obligations and functions of the ukoo is at least partially reinforced by economic necessity.

In the past, the corporate quality of the ukoo was also closely linked to rights over land. Ownership was vested in the ukoo itself and members were given usufructory rights which were passed on to matrilineal heirs with approval of ukoo elders. Outsiders, either

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1. In the past, the cost for murder was high: the offender's ukoo was obligated to give a person of similar age and of the same sex as compensation. Ukoo are still expected to pay compensation but it now takes the form of cash payments.

members of another ukoo or members of another ethnic group, could also be given usufructory rights, but land could not be permanently alienated from the ukoo, i.e., land could not be sold or treated as private property.

Rights over land have since become more complicated (see Access to Land below). Land is now most frequently inherited from the father and the sale of land has become quite common. Nonetheless, the ukoo continues to have a certain degree of control over land and can provide individuals with usufructory rights.

The many functions of the ukoo show the extent to which a person's welfare is dependent upon their relationships within the kinship network. From the individual's perspective, the mother's ukoo is the most important since the obligations are strongest within this kin group. The mother's ukoo is invariably expected to support, but other ukoo may also be persuaded to align themselves and offer assistance; especially the father's, the mother's mother's, and the father's father's ukoo. The extent to which an individual is able to gain needed support depends on his/her skills in developing close ties with kin groups that are only marginally obligated. Although an individual's welfare is closely associated with a structured system, there is ample opportunity for manipulating structural units to enhance one's position.

Within the kinship structure, the principle of gerontocratic rule is followed. Moral behavior involves respect and mutual support among all members of an ukoo, but special deference is shown to elders. This principle is expressed in the context of kifudu when

responsibility for the kifudu house is passed on to the eldest member of the ukoo. And, in part, the principle is an extension of respect for the ancestors, who are believed capable of affecting a person's fortunes. To offend an elder or an ancestor is to court misfortune.

In Digo ideology, the world is populated with a great variety of devils and witches capable of bringing death, crippling disease, discord and financial disaster. They are seen as vengeful, greedy and jealous, working their evil through supernatural powers and the use of "medicines." Human greed and jealousy is also thought to be acted out in witchcraft and neighbors can therefore be a threat to an individual's well-being.

Since witchcraft is a major concern and is thought to be the most frequent cause of serious illness, many methods of counter-acting it have been devised, but at an individual level the most common response is to enlist the services of a diviner (mpidgadzi mburuga) or a local doctor (mganga). These practitioners try to determine the cause of illness or other misfortune and then prescribe treatment or some form of remedial action.

3. Change and Variability. The traditional attitudes and beliefs concerning community and individual welfare described above are based on conversations with village elders. Not surprisingly, the emphasis is on "ideal" culture and the preservation of tradition. While this perspective is an important one for understanding the Digo people, it also creates certain illusions and false impressions. Discussions with elders concerning basic value orientations

frequently conform to Redfield's (1953: 13) conception of tribal society as being homogeneous: "The people are homogeneous in that they share the same tradition and have the same view of the good life."

Yet the moral order is neither unitary nor homogeneous. Attitudes and values vary within the community, especially as change occurs. Variations often represent different sub-sets of individuals whose interests differentiate them from other groups. Furthermore, an idealized version of cultural values is not a satisfactory guide to actual behavior. If the moral order obstructs the interests of individuals or groups, at least some will pursue their interests despite social pressure or questions of conscience. Since much of the moral order is concerned with ethics and obligations to others, moral behavior is inextricably involved in a multiplicity of loyalties with the potential for conflicting definitions of what is right or good.

Although the rain ceremony is still performed, the ideological unity between society and environment is currently seen as having been eroded. With the intrusion of the British colonial administration, the office of Kubo was supplanted by a chieftainship, and the change from Kubo to chief is thought to have weakened the traditional institutions which embodied the moral order although it did nothing to weaken those forces which disrupt natural processes and bring misfortune. The old men perceive in these changes a threat to continued prosperity and a decline in the strength of the community.

Evil forces are thought to have increased their power since there are fewer legitimate countervailing forces to keep them under control. Witchcraft, especially, is thought to be out of hand, and in July, 1973, an outsider was invited to Kikoneni to expose witches. Several thousand shillings were paid to this man before it was decided he was a charlatan and did not really possess the power to identify witches. By inviting an outsider, the Wadigo showed the extent to which they feel a lack of internal controls at the community level. The considerable amount of money they paid indicates that the problem is regarded as severe.

Since independence, the Kenya national government has taken over local administration, but its policies have continued to erode traditional Digo organization. By placing the greatest importance on modernization and economic development, the elder who was serving as chief for the past thirteen years was considered too conservative to effectively implement national policy. Consequently, he was officially asked to resign as of January 13, 1975. Recruitment of a successor was to be conducted by elected officials. In previous selections of a chief, the people were allowed to vote by lining up behind their preferred candidate and the man with the greatest number of supporters acceded to authority. The procedure being followed in 1975 was clearly designed to give the government greater control over the selection process whereby they could install a younger, educated person. As of August 1975, when I left Kikoneni, no chief had been chosen but two candidates were being considered, neither of whom was married and both were in their twenties.



Whoever is eventually selected, it seems obvious that the chieftainship will no longer contain the qualities characteristic of traditional Digo leadership. A Digo leader was preeminently a religious figure whose secular powers rested on the strength of his medicines and his unique position as intermediary between the community and supernatural forces. He was a rain-maker and a medicine man who could personify and speak for the people as a whole. In preserving the traditions and customs of the society, his role was necessarily a conservative one. Under the Kenya government, a chief is a secular figure charged with administering a political subdivision of the country and with implementing national policy decisions at the local level. He is a tax collector; an organizer of self-help projects; an intermediary between the community and the government bureaucracy. His role is not to preserve Digo customs but to gain active support for programs that will introduce change.

While the Kubo continues to hold a place of central symbolic importance for many elders, there are others who compare the present favorably in relation to the past. Not all Wadigo regret the change from rule by a Kubo to a system of chieftainship of the present type. There are those who believe the Kubo's powers were too great and that the old form of political organization tended toward despotism. Others thought that it was now necessary to have a literate man as chief even if this meant accepting a younger man; otherwise the chief was forced to rely on others to interpret written documents and he might be given false information.

Not all the Wadigo continue to consider the kifudu ceremony essential and some have ceased participating. It was interesting that those who chose to disregard the central ritual associated with the ukoo did not think the strength or importance of the ukoo itself was lessening because of it. Virtually everyone described the ukoo as a strong institution although many thought there was less respect being shown ukoo elders these days.

Since much of my research was concerned with economic factors, I was particularly interested in the contradictions and ambiguities within the moral order with respect to land sales. Before the 1960s, land was occasionally sold within the community or to a restricted number of outsiders, but selling land was an exceptional occurrence. Since the 1960s, the situation has changed dramatically with the influx of Kamba settlers. There is now a definite market for land and Wadigo have sold land to Wakamba at relatively low prices.

In spite of these sales, there is a widespread consensus that selling land is morally and ethically reprehensible. It is immoral both because it threatens the birthright of future generations of Digo children and because the influx of settlers has reached a sufficient rate to constitute a significant minority group living in the area which threatens Digo hegemony within their own territory. Land sales within the Digo community was one means of providing land for young men; while such transactions might alienate land from a particular kin group, the land remained within the community. Sales to outsiders, on the other hand, are a completely different

order of alienation. There is virtually no prospect of returning the land to members of the Digo community let alone members of the seller's kin group.

In light of the strong cultural injunction against selling land, the incidence of land sales (see Access to Land below) is of considerable interest. In an interview, one senior member of the community vociferously condemned the sale of land as totally immoral; it was several months later before I discovered that he himself had already sold several pieces of land. Thus, even some elders have responded to the opportunity of obtaining immediate cash profits by selling to outsiders despite cultural reprobation of the practice. While the involvement of elders does not increase the degree of variability within the moral order, it does show that the variability is not restricted to younger age groups and that older men are not always as committed to the idealized cultural value system as their conversations normally indicate.

#### B. Social Organization and Access to Resources.

Within Digo society, kinship is the most powerful dynamic and integrative principle of social structure. Residential and economic units are both firmly rooted in kinship. The reorganization of political affairs during and after the period of colonial rule altered but by no means eradicated the influence of kinship on political units. Kinship is also a central principle in social organization as it relates to economic obligations, the settlement of disputes, access to resources, inheritance of goods, and marriage and divorce.

In this section, discussion will focus on the juncture between social organization and the economy by examining the ways in which social organization channels the major factors of production: land, labor and capital. The social rules governing these factors directly influence the economic opportunities available to individuals and households, and therefore directly affect the potential for economic growth or change.

1. Access to Land. In Digo society, individuals gain rights over land by receiving it from other persons, by clearing vacant land or by purchasing land, but legitimate occupation and ownership is not recognized without some visible sign of cultivation. Tree crops, such as coconut palms or mango trees, are the most effective and most acceptable means of establishing tangible evidence of land ownership. Trees are relatively permanent and validate a person's claims over many years even if the land is not used for annual crops. Bush-covered land is not considered vacant if tree crops remain, and no one can use such land without permission from the owner of the trees. When all evidence of annual and tree crops are gone, or when no one claims ownership of the trees, land is considered vacant and becomes freely available to anyone willing to clear and plant it.

Although the existence of crops legitimates land ownership, rights over land are not equivalent to rights over crops. It is possible for land to belong to one person and the crops to another. This condition is created when usufruct rights to land are given to someone other than the owner. Under most circumstances, crop owner-

ship is directly related to labor; whoever prepares the land and plants it is normally considered owner of the crop.

Once brought into production, land is controlled by a complex set of social rules. In the past, land could be permanently alienated only by allowing it to become vacant, i.e., it could not be sold. Although individuals had strong claims to particular parcels of land, when they died elders of matrilineal descent groups (ukoo) exercised considerable control over the allocation of their land and had exclusive rights over its allocation if there were no heirs. Previously, matrilineal inheritance was the dominant pattern, with land going from mothers' brothers to sisters' sons or from mothers to daughters, which kept control of land within the same ukoo generation after generation.

The Wadigo have since adopted changes in the rules governing land tenure. Most importantly, land can now be inherited patrilineally and land can be sold. Although matrilineal inheritance is still practiced, patrilineal inheritance is now becoming the predominant pattern. In a survey of twenty-eight male heads of household, forty-one of the total eighty-one farms owned by these men were received from their fathers with an additional thirteen being received on the basis of patrilineal principles--i.e., sixty-seven percent of their farms were acquired through patrilineal inheritance. In contrast, only ten farms (twelve percent) were received on the basis of matrilineal principles (see Table 6).

While patrilineal inheritance seems to be the preferred prac-

TABLE 6  
ACCESS TO LAND

Household	# of farms	Source
1	1	From father-in-law.
2	9	All from father.
3	3	All from father.
4	1	From mother's brother.
5	3	All from father.
6	1	From father.
7	1	From father's father.
8	5	4 from father's father; bought 1.
9	1	Inherited elsewhere; bought 1 in this area.
10	1	From father.
11	3	2 from brother-in-law; bought 1.
12	2	All from father.
13	3	2 from father; cleared 1.
14	3	1 from father; 1 from ukoo; 1 from mother's brother (paid for crops).
15	3	All from father.
16	4	All from father's father.
17	2	All from father.
18	7	2 from father; 2 from mother's brother; bought 3.
19	2	Cleared both.
20	2	All from father.
21	6	2 from father; 2 from father's father; bought 2.
22	2	All from ukoo.
23	2	1 from ukoo; bought 1.
24	1	From father.
25	3	2 from father; 1 from father's nephew.
26	2	1 from father's father; bought 1.
27	4	3 from father; cleared 1.
28	4	2 from father; cleared 1; bought 1.
28 men	81 farms	12 from father's father = 15% 41 from father = 51% 4 from mother's brother = 5% 4 from ukoo = 5% 2 from brother-in-law = 2% 5 cleared = 6% 11 bought = 14% 1 from father-in-law = 1% 1 from father's nephew = 1%
		81 farms = 100%

tice, there is considerable variability in the possible sources of land. In addition to fathers, the survey of households given in Table 6 shows farms being received from fathers' fathers, mothers' brothers, ukoo, brothers-in-law, a father-in-law, and a father's nephew as well as by clearing or purchasing land.<sup>1</sup>

Access to land, as currently patterned in Digo society, is enmeshed in potential conflicts. The combination of matrilineal descent and patrilineal inheritance unavoidably alienates land from the ukoo unless cross-cousin marriage is practiced, in which case a piece of land passes back and forth between two ukoo each successive generation. Without cross-cousin marriage, land is owned by an indefinite series of different ukoo. Land received from either a father or a mother's brother, if inherited patrilineally, will be lost to the ukoo which originally owned that land.

The Wadigo are fully cognizant of the desirability of cross-cousin marriage and parents do urge their children to marry cross-cousins, but arranged marriages are a thing of the past, making the preference of the parents impossible to enforce. Consequently, cross-cousin marriage has provided a very limited solution to the problem.

The co-existence of patrilineal and matrilineal inheritance has created the possibility of multiple and conflicting claims to land. Since the ukoo bases its interests in land on matriliney, a man's brothers and sisters as well as his sister's children may be able

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1. For a complete discussion of Table 6 see Appendix C.

to make claims against land the man has given to his own children. This is particularly true when permanent trees were planted by a father and not his son or when a father gives land to his daughters. In a case where a father plants permanent trees and his son inherits them, the son also inherits the land, but when the son dies, the father's brother can prevent the son's children from using that land. The father's brother will base his claim on the fact that his brother and not the son planted those trees. While the son has the right to use the trees, his children do not because the trees are not their father's but their grandfather's.

Although the father's ukoo cannot successfully contest a father's right to leave land and trees to his own children, patrilineal claims become weaker with the generation of grandchildren and the father's ukoo may be able to reclaim both trees and land. Patrilineal claims are particularly weak when a father leaves land to his daughters. When his daughters die, land they inherited from their father can often be reverted to their father's ukoo. Even if she registers that land in her son's name, members of her father's ukoo could successfully contest her son's claims. Part of the reason for the weakness of a daughter's children's claims is because her children are invariably members of her ukoo and automatically perpetuate the alienation of land from her father's ukoo even if she marries a cross-cousin.

In an effort to resolve the conflict between patrilineal heirs and a man's matrikin, the Wadigo are adopting a pattern of allocation that accommodates both groups. Division of a farm cleared from



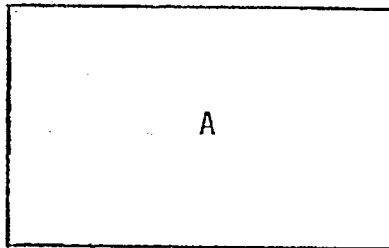
vacant land, shown as a model in Figure 1, illustrates how the pattern operates. Under this system, a man's children have their strongest claims over land given to them by their father while he is still living, and these parcels of land can, in turn, be given to the next generation of patrilineal heirs. When a man dies, however, the ukoo takes control of one-quarter of the land the man himself was using, the remaining three-quarters being inherited by the man's heirs. The inherited segment reverts to the ukoo when this generation of heirs dies. (An actual case of land division is given in Appendix C which shows how the model operates in practice.)

The conflict between patrilineal and matrilineal principles is not the only source of insecurity in land tenure. When a father dies, large groups of full siblings often share rights to that land. Such a farm will normally be managed by the eldest male. Mismanagement or differential interests in developing the farm are potential sources of conflict among siblings and may inhibit investment in that particular piece of land, especially if the people involved have access to alternative farms over which they exercise more exclusive control.

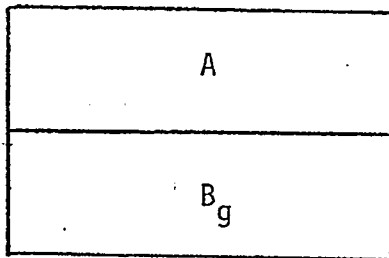
The possibility of selling land has added another dimension of conflict to the land tenure situation. In the past, the dominant pattern was to grant usufruct rights which left ownership unaffected. Furthermore, usufruct rights were normally restricted to using the land for food crops. If someone given usufruct planted permanent trees, the owner would be required to pay for those trees before he could reclaim the land. Landowners were therefore quite

FIGURE 1

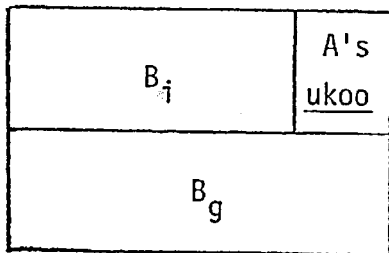
## A MODEL OF LAND DIVISION



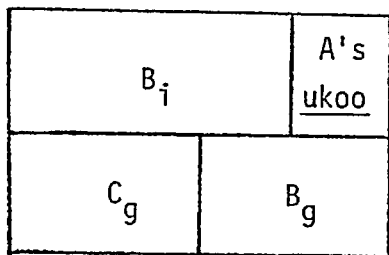
A clears vacant land and plants trees to establish his claim.



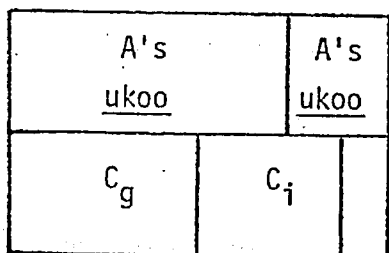
A gives  $\frac{1}{2}$  of this farm to his son B ( $g = \text{given}$ ).



A dies; B inherits  $\frac{3}{4}$  of A's half;  $\frac{1}{4}$  of A's half goes to A's ukoo ( $i = \text{inherited}$ ).



B gives  $\frac{1}{2}$  of  $B_g$  to his son C; B cannot give any of  $B_i$  to his son.



B dies; his son C inherits  $\frac{3}{4}$  of  $B_g$ ;  $\frac{1}{4}$  of  $B_g$  goes to B's ukoo; all of  $B_i$  goes to A's ukoo.

B's  
ukoo

explicit in prohibiting the establishment of permanent crops by those given usufruct rights. Since title deeds have not been available until very recently, and since some Wadigo are challenging land transactions with outsiders, settlers who feel insecure are rapidly planting permanent trees as a safeguard. If a man wins a land dispute and is awarded legal ownership, he must pay fixed rates of compensation for all crops planted by the settler. In the case of annual crops, the owner can avoid cash payment by allowing the settler to harvest, but permanent crops always require cash outlays. Wakamba who might lose in a land dispute are relying on the hope that no legal action will be initiated if the claimant knows he will be confronted with the necessity of paying several hundred shillings for permanent trees should he be awarded the farm.

Although land sales are not channelled by the kinship system (i.e., a person can purchase land from a member of any ukoo), sales do reflect differential authority over land depending on which kin group gave land to the person wishing to sell. If a man received land from his father, he can successfully sell it even in the face of opposition from his father's ukoo. In giving land to a son, the father seems to effectively alienate it from his own ukoo. If a man receives land from his mother's ukoo, on the other hand, he is forbidden from selling it. Should he conclude a transaction with an outsider and receive payment, the mother's ukoo can contest the sale and reimburse the buyer on behalf of the member who sold it. Such a case was in progress in 1975 although it had not yet been concluded by the time I left the village. The solidarity of the

mother's ukoo is still effective in blocking land sales, while the father's ukoo appears to have little power against the rights to land granted through patrilineal inheritance. Since land received from a father is not a part of lands owned by the mother's ukoo (unless a wife's mother's brother makes a gift of land to the husband on behalf of the children), the mother's ukoo will not be involved nor are they concerned with sales of such land. Therefore, the mother's ukoo will not exert its influence to block the sale.

The mother's ukoo does have its own weakness in preventing land sales to outsiders, however. If an elder of the ukoo decides to sell land, there may be no one in authority over him or anyone with sufficient power to obstruct his decision. Several cases of such sales have reportedly taken place. In one of my farm case studies the household head was a member of a small ukoo which jointly decided to sell a piece of land and distribute the returns among the members.

Land sales within the Digo community are gaining in frequency and importance as a means of obtaining access to land. Of the eighty-one farms shown in Table 6, fourteen percent were purchased making land sales a more frequent form of land transfer in this sample than transfers based on matrilineal principles (twelve percent).

2. Access to Labor. Access to labor is also undergoing significant changes within Digo society. In the recent past, wiri (communal work groups) were common. Any individual within a village could call a wiri so long as they could provide enough food to feed

all the participants. When a wiri was called, all able-bodied members of the village were expected to participate, providing labor for one to three days on the farm of the person who called it. In return, participants received meals for each day they worked. In large villages, calling a wiri provided a large labor force for a short period when agricultural labor requirements were at a peak, but it also entailed considerable expense and not everyone could afford to call a wiri. Wiri were organized for house-building as well as farm labor. The last of these work groups occurred some five to ten years ago.

Another form of cooperative labor previously practiced by the Wadigo was the kukumbana. A small group of families, perhaps three or four, would agree to work as a unit on each of their farms in rotation. Typically, the group would work on one family's farm for two days during a peak labor period such as weeding. No meals were provided for the participants. The principal feature which distinguished the kukumbana from a wiri was the reciprocal exchange of labor. The wiri benefitted only the person who called it; labor being exchanged for meals. Each participating family benefitted from the kukumbana, and labor was exchanged for labor.

The core of the farm labor force is now the conjugal family. In a monogamous household, husband and wife have mutual obligations to work on the farm, and either can complain if their spouse is lax in meeting this responsibility. Both parents have the right to demand labor from their children, but the father normally enjoys greater

authority; he can take the older, stronger children to work with him, for example, and a child is less likely to try circumventing his father's instructions than his mother's.

In a polygynous household, access to labor is related to allocations of land among its members. The man has rights over the labor of his wives and all the children--they can be told to work on his farm either singly or as a group. A father can request labor from a married son and his wife, but the obligation to comply weakens as the couple get children of their own. A wife can request her husband to help on her farm, but she cannot demand it (unless it is a specifically male task such as felling large trees). If the husband agrees to contribute labor on a wife's farm, he will have to give roughly equivalent amounts of time to each wife if he hopes to avoid jealousy and quarrelling. A wife can demand labor from her own children and she can request help from the children of her co-wives, but these "step-children" can refuse her and are likely to do so if there is tension and jealousy among the wives.

In any household, either monogamous or polygynous, a daughter's labor is lost when she marries and goes to live with her husband. If she is divorced and returns to her father's home, she will be expected to help her parents with farming tasks even if she is also given a piece of land for her own use.

Beyond the conjugal household, the strongest obligation to contribute labor when asked to do so falls upon the closest relatives--i.e., those to whom a person is most obligated to give periodic

monetary gifts or assistance. Ideally, the degree of obligation is thus guided by the structure of kinship statuses. In practice, the quality of personal relationships within this structure plays a greater part in directing the flow of labor. Even a man's brother may refuse to help him, while a cousin or an ukoo member may agree.

Within the kinship network, most requests for labor will be made to the husband's kin group. Since the woman moves to her husband's home, her relatives may live at quite a distance; but more importantly, the land belongs to the husband. If a man does ask for labor from his wife's relatives, it will usually be restricted to her unmarried brothers or sisters. Children from either kin group can sometimes be "borrowed" for a few days or a week and come to live with the family they will be helping. Relatives are not paid for contributing labor, but labor may be reciprocated or monetary gifts given at another time so that giving and receiving of resources is somewhat balanced over time.

Farmers have the option of supplementing family labor by hiring laborers if cash resources are available. It used to be customary to pay laborers with produce, and although this is still done occasionally, it has become the exception rather than the rule. Most laborers now demand cash payment.

If a family needs additional labor during peak periods, they are now expected to hire labor if they are financially able. To ask for assistance from kinsmen has become an admission of poverty as well as an inability to meet the labor demands of the farm. Hiring labor

is thus replacing reciprocal and group labor arrangements, most notably the kukumbana and wiri discussed earlier. Families are forced to rely more heavily on their own labor resources and to supplement it with hired labor rather than enlisting aid from their village or kin groups.

Since elders were usually the only ones who could afford to call wiri of any size, the traditional system of access to labor tended to underwrite the greater wealth of elder members of the community. Currently, farming success is still largely a function of family cycle, but men who can maintain good relations with their older children (especially sons) are those who have access to a larger work force. Under the wiri system, every village member was obligated to work on the farm of the person who called the wiri, whether or not their relations were amicable. While sons do have obligations to help their father, these obligations can be met half-heartedly or even circumvented entirely. Consequently, management of labor resources is increasingly dependent upon the maintenance of good family relations.

Since women contribute a substantial proportion of farm labor, a woman's interest in the production process is of some importance for the development of a farm. A number of factors influence the amount of labor a woman can reasonably be expected to perform including marital status, access to land, the number of children she has borne and the stability of her position.

In Digo society, marital status is differentiated according to they type of marriage performed as well as the categories of single,



married, divorced and widowed. A woman's marital status directly influences the degree of interest she will have in agriculture. If she is married and has children, many of her interests will be centered on the rights of her children. Since the type of marriage affects the legitimate rights of children, the type of marriage performed will also influence a woman's interest in her husband's farm.

In the least expensive form of marriage, called nyambura, the husband's rights over his wife are not extensive. She maintains strong ties with her matrikin and will return to them if the marriage fails. The husband may find it difficult to regain the bridewealth he paid if he divorces his wife. The children have a closer relationship with their mother's ukoo, and their strongest claims to land are with their matrikin rather than their father. In the case of divorce, the children will often stay with the mother and inherit land from their mother's brother.

A more expensive form of marriage, called king'ombe, gives the husband almost exclusive rights over his wife's labor and her children. A king'ombe marriage weakens a woman's ties with her matrikin and she will return to her father's farm if the marriage fails. The children will inherit from their father and be less dependent upon their mother's ukoo for access to resources. In case of divorce, the children will go with their father as soon as they are old enough to be separated from the mother.

A third form of marriage, called harusi chidzomba, has developed as a result of Islamic influence. The harusi chidzomba is performed

by a kadhi (teacher of the Islamic faith) and is recognized by Islamic law. In an harusi chidzomba marriage, the husband gains substantial rights over his wife's labor and her children. In accordance with Islamic law, the children inherit from their father, thus weakening their dependence on their mother's ukoo.

Digo women tend to dislike king'ombe marriages since a husband can make more demands on her and she is largely deprived of support from her own matrikin. Furthermore, the husband has more absolute rights over the children. Harusi chidzomba is currently the preferred form of marriage, partly because it offers the prestige of recognition under Islamic law. Since wives and children have explicit rights to the husband's property under Islamic law, both women and children have a vested interest in developing the man's farm. Nyambura marriages divide the interests of wives and children between the husband's (father's) land and the wives' (mothers') brothers' farms.

All marriages in Digo society suffer from the prevalence of divorce which weakens a woman's interest in working on her husband's land. Although I do not have extensive statistics on the incidence of divorce, the Wadigo themselves recognize it as being high. In the case of one family (recorded in Appendix C showing land division) eighteen children of marriageable age have accumulated a total of twelve divorces out of twenty-nine marriages--i.e., forty-one percent of their marriages have already ended in divorce.

Even though Digo women always face the possibility of being divorced by their husbands, they may derive incentive to work on his

land from the future inheritance of their children. If a woman's children will definitely inherit land from their father, she may work hard to improve that land, but this is most effectively done through planting and maintaining permanent crops. Since women devote the greatest share of their time to annual food crops, their farm labor is often relatively unimportant in increasing the value of the farm to be inherited by their children. The division of labor thus counteracts much of the incentive a woman might gain from the principle of patrilineal inheritance. Nonetheless, a woman can plant permanent crops on land allocated to her which serve as a cash income for the family as a whole and as an investment for her children who will eventually inherit them.

Although the possibility of divorce and certain forms of marriage may act as disincentives, a woman and her children are always obligated to devote a substantial proportion of their labor to the husband's (father's) land, from which they receive the greatest share of their subsistence. Since labor inputs constitute an important aspect of rights to land, the issues involved in access to labor have a certain feedback effect on access to land. Rights to land are partially established by labor inputs, and a man's wives and children develop interests in his farm by virtue of the labor they devote to it. This factor has tended to reinforce the practice of patrilineal inheritance. Even sons of nyambura marriages, who owe labor to their mother's brother and can expect to inherit land from him, gain some claims to their father's land by working on his

farm. In such marriages the father's land should go to his sister's sons, but if his own sons have helped plant and maintain permanent crops or clear new land, there is widespread feeling that the son is being cheated if all the benefits of his efforts go to his cousins (his father's sister's children). A son's claims to his father's land are particularly strong if he helped clear new land since his father's ukoo would have no previous rights to such land.

3. Access to Capital. The two principal sources of capital are credit and cash gifts.

a. Credit. Access to credit in the Digo community provides a means of acquiring liquid capital. Since credit is based on the borrower's possession of tree crops, credit ratings among the Wadigo rest on the number of a man's permanent trees rather than his personal credibility.

If a man needs immediate cash, he can borrow according to one of three possible arrangements. The lender normally has greater power in determining which arrangement will be followed, but his relationship to the borrower will influence his choice to some extent.

Under kodi ya kuhesabu mavuno, the conditions of the loan insure a fixed return to the lender. Suppose a man borrows Sh 500 and uses his coconut trees as a means of repayment. If the price of coconuts sold on the market is Sh 20 per hundred, the lender will be allowed to buy coconuts from the borrower at a lower price up to the amount of the loan. If the agreed price is Sh 10 per hundred, the borrower receives Sh 500 for which he must give five thousand coconuts to the lender. In this case, the lender would make a 100% profit since he

can sell five thousand coconuts for Sh 1000. The borrower may need several harvests to accumulate five thousand coconuts, but since they are actually counted, the lender does not risk losing any part of the agreed number and he may even allow the borrower to retain some of each harvest so long as the greater share goes to repaying the loan. The only factor which could reduce the lender's profit would be a drop in the market price for coconuts.

A second alternative, kodi ya miaka, presents a greater risk of loss to the lender. Under this system, the lender is given rights to harvest the borrower's tree crop for a specified number of years. The lender will visit the farm before making the loan in order to estimate the annual harvest. If the harvest is normally one thousand coconuts per year and the loan is for Sh 500, the lender will want to harvest for five years. This gives him five thousand coconuts which he can sell for Sh 1000. Theoretically the profit is the same as that gained under kodi ya kuhesabu mavuno, but the lender can sustain losses under kodi ya miaka. Since no specific number of coconuts is established, the borrower is not obligated to make up losses due to any decrease in output--e.g., fires or theft. The borrower himself is in a position to steal some of the harvest since the trees are located on his farm and the lender will have difficulty overseeing the trees. On the other hand, if production is exceptionally good, the increased returns go to the lender and not the borrower.

A third alternative arrangement, rahani, offers the greatest potential return to the lender. Under this system, a specified

proportion of the borrower's trees will be harvested by the lender until the principal is repaid. In other words, the lender continues to profit from the trees for as long as it takes the borrower to repay the cash loan. The lender is able to realize a profit many times the amount of the initial loan if the borrower cannot repay for many years.

b. Cash Gifts. The credit arrangements described above are resorted to only when large amounts of cash are needed. For smaller amounts of money, the Wadigo rely on "help" (msaada) from friends and relatives. Cash gifts are extremely common and represent the principal means of meeting a family's daily cash requirements when their own cash resources are temporarily exhausted.

4. Change and Variability. The various forms of marriage practices by the Wadigo underline the inherent structural conflicts between matrilineal and patrilineal principles. Individuals have rights and responsibilities in relation to both the conjugal family (especially the father) and the matrilineal kin group (especially the mother's brother). The complexity of these often conflicting obligations afford considerable latitude for manipulation and playing one group off against another. A woman may seek the support of her matrikin in disputes with her husband, but use her position with her husband's group in disputes with her matrikin. A son may attempt to get land from both his father and his mother's brother, or rely on his mother's brother if he thinks his father makes him work too hard. The alternatives available can provide a certain security since they increase the number of people who can

be turned to for resources and support, but they can also create insecurity since any one group may feel free to neglect their obligations on the assumption that they will be met by some other group. The structural alternatives can thus reduce the certainty of obtaining resources from any group. Within this situation, the surest way of obtaining labor beyond the conjugal family unit is to hire labor. As already mentioned, families are now expected to hire labor if they can afford it. This not only relieves kinsmen of additional labor demands, but also avoids the resentments which develop from conflicting demands for labor within the different kinship units. For example, a woman married in the nyambura form can be expected to help her brother during peak labor periods, but this reduces the amount of time she can spend on her husband's farm and can easily cause resentment on his part.

Many of the structural conflicts involved in access to both land and labor are probably being reduced as harusi chidzomba (Islamic marriages) become more prevalent and as patrilineal inheritance becomes more firmly established. These trends are currently being reinforced by a cultural commitment to Islam and by the emergence of the conjugal family as the basic labor unit.

The disappearance of reciprocal labor exchange and village-wide labor groups has resulted in an individualization of family units in relation to the production process. Development of a farm and the level of agricultural output are now more dependent upon the efforts of a man, his wife (wives), and his children (and/or hired labor if the family can afford it). The labor demands made on a

man's children reinforce the principle of patrilineal inheritance and weaken alternative demands on their labor as well as alternative sources of support. Most young men I talked with felt that their labor obligations to their fathers far outweighed any obligations to their mother's brothers. Furthermore, many of them felt that it would be improper if they actively tried to obtain a farm from their mother's brother while their father was still living. If a son did so, they felt the father would be justified in refusing to give the son land since turning to the mother's brother would be an act of disrespect toward the father. These sentiments seem to indicate that sons, at least, may no longer be able to manipulate patrilineal and matrilineal obligations as freely as they once could and that the system is less flexible as patrilineal inheritance increasingly displaces matrilineal inheritance.

The data shown in Table 6 describing the sources of land for twenty-eight household heads certainly corroborate the displacement of matrilineal inheritance. If these data are representative of Digo society, the change to patrilineal inheritance is well advanced. Since present structural and cultural trends are also toward patrilineal inheritance, it seems reasonable to conclude that the system will stabilize and become less flexible as necessary adjustments and accommodations are made. The model of land division shown in Figure 1, which is validated in all essential features by the actual case of land division given in Appendix C, illustrates the current pattern of accommodation achieved between patrilineal inheritance and matri-



lineal descent with respect to land tenure. Although the rights of the matrilineal kin group are maintained over successive generations, the relative importance of patrilineal inheritance is reflected in the restriction of ukoo rights to only one quarter of a man's land and does not include land legitimately given to his son(s) while he was living. Accomodation is also being made for sons born of nyambura marriages. Previously, these sons had rights to inherit land from their mother's brothers but not from their fathers. Since nyambura marriages are not recognized under Islamic law, the children were defined as illegitimate and therefore had no rights to their fathers' farms. Currently there is an attempt by some kadhis (Islamic teachers) to separate the child's status from the marital status of the parents. If successful, the parents would still be considered as having an illicit sexual relationship, but the children would not be disinherited nor considered illegitimate. This argument is based on the idea that a man's child is a man's child whether or not he is legally married and he should be responsible for providing his children with the necessities of life.

If patrilineal inheritance of land is stabilized, and if it can be extended to include the children of all forms of marriage, many of the conflicting labor obligations affecting wives and children will be eliminated. Conflicts for labor will be further reduced if hired labor continues to displace kinship obligations. Since both men and women have their strongest ties with the matrilineal descent group, requesting support in the form of labor automatically conflicts with patrilineal inheritance, but ties among matrikin can

be maintained in other forms of support such as financial aid, arrangement and payment for marriages, attendance at funerals, and settlement of disputes. Eliminating labor obligations reduces the structural conflicts, but does not necessarily weaken other rights and obligations embodied in the matrilineal descent group. These accommodations seem to be the emerging labor patterns in Digo society.

### C. Tradition and Development.

In many respects, Digo society is conservatively traditional. Their cosmology and ideology are still strongly based on magico-religious ideas including beliefs in the efficacy of sacrifice and the pervasive power of witchcraft. Their social system is almost totally structured on the basis of kinship relations, and matrilineal descent groups continue to act as corporate units, serving a wide variety of social functions. Many elders perceived the Digo way of life as a consistent, homogeneous whole and view change as a process of destruction or breakdown which threatens the moral order, disrupting the balance between natural and supernatural forces.

Nonetheless, Digo society is not changeless and consistency and homogeneity exist only at the level of ideal culture. Even the elders, who are so unwilling to reject the past in conversation, are accepting change and are much more flexible in their actions than in their verbal statements. Others are accepting change more readily, with fewer reservations about the past, and they seem perfectly willing to accept new demands in order to meet changing circumstances. Accepting a younger man as chief because only younger men are liter-

ate is a case in point. Not surprisingly, many young people are anxious for change and positively embrace new opportunities. Several of the young men I met wanted a formal education badly enough to pay their own school fees, and some did so in spite of parental opposition.

Numerous examples of change, inconsistency and variability within Digo society have been described in previous sections of this chapter, but the question still remains whether or not tradition is an obstacle to economic development. In order to answer this question, it is necessary to establish what is traditional and what is not, but this threatens to lead us into the pitfall of the tradition-modernity dichotomy. Rather than categorizing features as "traditional" or "non-traditional," I propose asking the question in a more productive fashion: do the features characterizing Digo society act as obstacles to economic development?

The answer to the latter question is yes and no; the features characterizing Digo society both obstruct and facilitate economic development. An example will illustrate this. The loss of the Kubo has left the Wadigo without a fully legitimate person who can represent their interests. The government sees the change to chieftainship as a progressive step and is actively seeking to install a younger, less conservative man who will introduce further change. This strategy may be successful, but it may fail. If a young chief is not respected, he is unlikely to achieve lasting changes. A Kubo who had progressive ideas could surely accomplish much more, but a conservative Kubo could also stymie important programs.

Either form of leadership could facilitate or obstruct change, but a Kubo would have been a more powerful and effective force whichever position he adopted. It is unlikely that a chief could ever acquire the symbolic significance or legitimacy that was accorded the Kubo. Thus, the government has opted for a relatively weak ally in an effort to remove the risk of facing a strong opponent, but in doing so the potential of having a strong ally was also removed. Destroying the traditional form of leadership actually may have reduced the capacity for change.

Other features of Digo society are equally ambiguous. Land sales can encourage more intensive land use and thereby increase production; but they can also stimulate speculation or absentee ownership and thereby inhibit productive land use. Current Digo patterns of inheritance and marriage are creating greater incentives for women and children to invest in the conjugal household economy, but they are also creating conflicting rights and obligations.

The last example is an important one. Patrilineal inheritance and the preferred form of marriage, harusi chidzomba, both strengthen the economic unity of the conjugal family. The loss of communal labor arrangements reinforces this pattern, as does the expectation that supplementary labor be hired rather than provided by kinsmen. Households are being forced to rely more heavily on their own labor resources but there are also fewer demands for contributing labor to help other households. On the one hand, strengthening common economic interests and reducing outside obligations should encour-

age economic investment; on the other hand, each family is limited in the scale of operation it is able to maintain.

Any socio-economic system, modern or traditional, is a complex and dynamic set of features, and any feature may act as both an incentive and a disincentive. It is the role of the entrepreneur to find new, profitable combinations or to manipulate various norms to enhance his economic position. Digo society offers a highly flexible and variable set of alternatives for acquiring resources or pursuing economic activities: some will make profits by offering credit; others by inheriting a large farm with tree crops; others by selling land and investing money in a business venture. But some will try one or more of these alternatives and fail, for there are risks and uncertainties, and profits are not guaranteed.

To a degree, arguing that Digo tradition is currently flexible and variable rests on accepting relatively recent features as part of their tradition. While this is not wholly legitimate, neither is it entirely illegitimate. Only if tradition is regarded as rigid and unchanging is it impossible to add new elements without destroying the quality of being traditional. Adding patrilineal inheritance, for instance, has not altered the overall importance of kinship as a basis for social organization nor the essential magico-religious character of Digo ideology. On the other hand, land sales might best be viewed as a new, non-traditional feature. But it could also be argued that the very adoption of new features indicates the flexibility of Digo tradition. It is precisely this type

of definitional difficulty that I tried to avoid in rephrasing the basic question concerning the role of tradition.

Unfortunately, the theoretical importance of tradition has been overstated in the literature concerning development, and the dichotomy between tradition and modernity has created a typological cul-de-sac that obscures the real issues. The role of tradition is an ambiguous one because it is not the quality of being traditional that determines whether or not a given structural arrangement or prescriptive norm will obstruct economic development. "Modern" or non-traditional features can be equally obstructive. Either "modern" or "traditional" patterns can contribute to a reputed condition of backwardness.

## CHAPTER VI

### THE ECONOMY

The Digo people view themselves, and are viewed by others, as agriculturalists. Although they do rely heavily on a diversified horticulture and raising some livestock to meet their subsistence needs, it is misleading to think of the Digo economy merely as a subsistence agricultural system for this is only one segment of economic activity. Dichotomous models which divide the economy into only two sectors such as the dual economy model or a market versus subsistence model obscure the complexity of economic behavior and the principles governing production and exchange. Miracle (1968) has described this problem as follows:

"Less-developed economies are divided into a 'modern' sector or sectors, often referred to as the 'foreign enclave' or the 'money economy,' and a residual that is frequently almost entirely agricultural and usually called 'subsistence agriculture,' although Emke recognizes a third 'native market economy' between the foreign enclave and what he calls the 'subsistence sector'.... Sometimes distinctions are made between pure 'subsistence' producers and producers who have both 'subsistence' and non-'subsistence' production, but such producers are nearly always identified as part of the 'subsistence' sector. This lumping together occurs largely because of the difficulty of establishing precise degrees of 'subsistence' production, as typically defined, and apparently also because of the common, but demonstrably questionable, assumption that for purposes of analysis there is little difference between producers with a high proportion of 'subsistence' production and those with a low proportion - that the important distinction is between some 'subsistence' production and none" (Miracle 1968: 293-294).

Miracle goes on to argue that managerial decisions concerning subsistence agricultural production are very much affected by the

relative proportion of non-subsistence production, and that simple dichotomies seriously distort our understanding of farm management in less-developed economies. This criticism can be extended to include non-farm activities as well, since all economic decisions will impinge on farm management and directly affect subsistence production.

Economic behavior is both a means of providing a minimum level of material provisioning and a means of maintaining a particular standard of living. So defined, economic behavior includes production activities other than agriculture such as collecting water and firewood, house building, hand-craft manufactures, and wage labor as well as exchange activities such as shopping, marketing produce and petty trading. There is nothing innovative in the inclusion of such activities in definitions of the economy, but including them prevents adopting a narrowly focused view which concentrates almost exclusively on agriculture. A broader analysis is particularly important for agricultural development planning since inducing change in farming cannot be entirely divorced from other dimensions of the economy.

In the first part of this chapter<sup>1</sup>, an analysis of the local economy will be given to show that farming is only one segment of Digo economic activity and that other segments impose certain limits

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1. The basic data for this chapter consist of information gathered in an initial survey of twenty-seven Digo households and thirteen Kamba households. More detailed economic data were obtained for ten of these families (seven Digo and three Kamba households) which are treated as case studies.



on the resources available for agriculture. This analysis should also give a more accurate picture of the extent to which the economy is commercialized than a description of farming alone would provide.

The second part of the chapter compares Digo patterns of investment in farming with those of Kamba settlers. Since the Wakamba are generally regarded as more progressive farmers, I was interested in discovering the degree to which their farming strategies differed from Digo patterns. If the Wadigo are truly more backward, then Kamba farmers should be following distinctly different strategies. If, however, the Digo system is highly adapted to local conditions, we should expect Kamba patterns to be converging toward Digo practices in response to local pressures and constraints.

#### A. The Local Economy.

1. Daily Activities. Since labor time is one of the most significant resources within the Digo economy, allocation of time to the full range of daily activities becomes an important consideration. In an effort to place farm labor within this broader context, the round of daily activities was sampled by collecting data on every fourth day for two Digo families. By following this schedule, the data include a sample of different days of the week: Mondays, Tuesdays, et cetera. Data collection began November 17, 1974 and ended July 31, 1975 (257 days) giving a total sample of sixty-five days (25% of 257 days). Entire days spent away from home (at funerals, weddings, visiting, travelling or at hospital) are not included in Table 7 which tabulates the proportion of time spent on

different activities. Entire days away from home were spent as follows:

	Husband A	Husband B	Wife A	Wife B
Funerals	2	1	2	1
Travel/Visiting	1	1	7	8
Hospital	3	0	12	0
Weddings	1	1	1	1
Total	7	3	22	10

Data were not available for one day for Husband A and two days for Wife A, leaving the following number of days as the final sample for daily activities tabulated in Table 7:

Husband A : 57 days = 22% of 257 days

Husband B : 62 days = 24% of 257 days

Wife A : 41 days = 16% of 257 days

Wife B : 55 days = 21% of 257 days

The figures in Table 7 are based on the number of hours each individual was awake, an average of fifteen hours per day for each person. It was customary for them to arise between six and seven in the morning and to go to sleep between nine and ten at night, giving an average of nine hours of sleep each night.

Comparing the two families, husbands and wives tend to show the same overall proportions of "work time:" Husband A = 43.4%; Wife A = 48.0% versus Husband B = 69.2%; Wife B = 62.0%. Thus, family B devotes nearly 40% more of their waking hours to work than family A. Despite this difference, family A is in better financial condition. The gross income of family A for November, 1974 through August, 1975 was KSh 3170.80 compared to KSh 1498.00 for family B.

TABLE 7  
 DAILY ACTIVITIES  
 (Percent of waking hours)

Activity	Husband A	Husband B	Wife A	Wife B
Farming	26.5	16.0	14.9	12.3
Walking to and from farm	1.2	1.3	1.0	1.0
Non-farm business	10.1	2.1	-	-
Wage labor	-	25.8	-	-
Shopping	5.6	5.1	-	-
Cooking	-	.4	7.8	14.3
Dishes	-	-	3.1	4.3
Sweeping	-	-	1.8	2.6
Getting water	-	-	4.6	9.7
Collecting firewood	-	-	2.1	7.2
Laundry	-	-	1.5	2.4
House building	-	18.5	-	3.7
Mat making	-	-	11.2	4.5
Bathing	4.3	3.7	2.6	3.5
Eating	8.7	7.0	8.5	8.2
Talking	11.0	5.8	7.1	4.9
Resting	21.9	13.9	24.3	11.8
Walking for pleasure	1.1	-	1.8	.1
Sick (resting)	5.8	-	4.2	7.7
Attending funerals	2.7	-	3.5	1.0
Travelling	1.1	.4	-	.8
Total	100.0	100.0	100.0	100.0

Comparing the two men, Husband A's economic strategy is a combination of farming and wholesaling copra while Husband B farms, wholesales copra and works for the Ministry of Natural Resources. Due to a fire which destroyed a large number of farms and houses, Husband B was also spending nearly one-fifth of his time building another house. Husband A spent 14.3% more of his time relaxing than Husband B, but had Husband B not been building a house it is quite possible that his relaxation time would have approached that of Husband A.

Comparing the two women, Wife B devotes twice as much of her time to housework as Wife A. However, this discrepancy seems to be due to Wife A's illness--she had an operation at a Mombasa hospital in February and was recuperating for several months. For the period November through January, before her illness, Wife A spent her time as follows:

Farming	19.1%
Housework	39.8%
Mat making	10.5%
Eating and bathing	8.3%
Funerals	2.3%
Relaxing	20.0%
	<hr/>
	100.0%

Before her illness, Wife A spent virtually the same amount of time on housework as Wife B and had a total "work time" of 69.4% versus 62.0% for Wife B.

Of a fifteen hour day, these four individuals averaged nine hours and ten minutes of work time (using November through January data for Wife A). Only an average of three hours per day, or one-third of all

work time, was spent on farming. To increase the time given to farm labor, either the nine hour work time would have to be lengthened, or a substitute would have to be found for other work requirements; for example, a water outlet could reduce the amount of time spent collecting water or women could purchase mats rather than make them.

Since the nine hours and ten minutes is an average, additional time that could be devoted to farming can be analyzed in a different way. Both Husband B and Wife A (for November - January) averaged ten hours and twenty-five minutes of work time per day. Using this as a standard work day, Husband A could increase his farm labor by three hours and fifty-five minutes per day since he averaged only six and one half hours of daily work time. If family B were not building a house, the husband could theoretically add two hours and forty-five minutes per day to farming and his wife one hour and forty-five minutes per day. In other words, substantial labor inputs could be added to farming by Husband A if he reduced his leisure time to the proportion of his wife's, and by family B in years they were not building a house. For Wife A to increase her farm labor time, she would have to reduce her housework or time spent making mats (accepting three hours per day as a minimum average period for relaxing plus an average of one and one half hours per day for eating, bathing and social obligations).

The men could, of course, also increase their farm labor time by eliminating non-farm work activities, be they trading or wage labor, but this would require changing their economic strategies.

The time requirements of non-farm activities do place constraints on potential farm labor, but these constraints appear to be more stringent for women than for men, since women must devote large blocks of time to housework each day. The limited time investment in farming made by men seems to be most heavily influenced by economic strategies involving non-farm incomes.

2. Non-Farm Incomes. Generating incomes outside of farming is not unusual in the Kikoneni area. Of the twenty-seven Digo households surveyed, seventy percent (nineteen households) reported some form of non-farm income and twenty-six percent (seven households) reported more than one non-farm enterprise (see Table 8). The most common business is small-scale wholesaling of produce--eight men sell fruit and/or copra which they collect from other farmers. One individual is an agent for cash crops and wholesales produce on a much larger scale in combination with a transport business. Six men are involved in retail trade selling dried fish, meat, or a range of goods (two storekeepers and one hawker who travels by bicycle). Five men offer specialized services: masonry, house building; local medicines; and teaching the Koran. Three individuals work as unskilled laborers. Two men hold political posts from which they receive an income, one of whom also rents a building being used as a "hoteli" and the other runs a maize grinding operation. Income streams from these various non-farm enterprises range from a few hundred shillings a year to thousands of shillings.

Of the thirteen Kamba families surveyed, only two male heads of household reported no non-farm income, but in three other cases

TABLE 8  
SOURCES OF NON-FARM INCOMES

Digo (27 households)		Kamba (13 households)	
Survey Number	Business	Survey Number	Business
2	sells dry fish	4	laborer - butcher shop
3	none	14	sells fruit
5	mason	15	occasional laborer
6	occasional laborer	16	teacher
7	house building	19	sells cloth
8	none	20	none (widow)
9	occasional laborer	22	none (wife; husband farming elsewhere)
10	local doctor ( <u>mganga</u> )	33	carpenter; pension (was a policeman)
12	none	34	none (wife; husband a policeman)
17	none	36	shares woodcarving business
18	teaches Koran; sells fruit	37	hotel; shares in Kenya Breweries & Kenatco Transport; maize grinder with brothers
21	sells maize	39	none
23	hawker	41	none
24	sells fruit & dry fish		
25	store; transport		
26	sells fruit & copra		
27	butcher		
28	none		
29	sells fruit; rents hotel; village committee coun- sellor		
30	store; maize grinder		
31	none		
32	none		
35	local doctor ( <u>mganga</u> )		
38	sells fruit; laborer for Ministry of Natural Resources		
40	none		
42	sells fruit		
43	sells fruit		

women were acting as heads of household and reported no non-farm income (one woman who is a widow; one whose husband is farming in Ukambani; and one whose husband is a policeman). Of the remaining eight households, one was involved in small-scale wholesaling of produce, two were in retail trade (selling cloth and selling food at a "hoteli"), two offered specialized services (carpentry and teaching at a government school), one man worked as an unskilled laborer, and one received a pension for having served in the police force. Several other Kamba incomes originated outside the area: one man went to work in a butcher shop in Malindi, leaving his wife and son to run the farm; another owned shares in a Kamba woodcarving business; and a third man was in partnership with his brothers in a maize grinding enterprise located in Ukambani as well as owning shares in Kenatco Transport and Kenya Breweries.

Within the limitations of the small sample of households surveyed, Kamba patterns of obtaining non-farm incomes differ rather significantly from Digo patterns. Kamba men are more likely to leave in search of wage labor while their wives manage their farms as in surveys 4, 16, 33, and 34. Survey 22 shows a variant of this strategy with the husband operating one farm in Ukambani and his wife operating another in the Kikoneni area. A second major difference is that at least some Kamba men have invested in shareholding and are thereby participating in larger-scale businesses at the national rather than just the local level. Digo men, on the other hand, do not tend to seek wage labor--only two of the twenty-seven Digo



men surveyed were employed by an outside agency (one as a laborer for the Ministry of Natural Resources and the other as a counsellor for the government). In both cases these men lived at home and still had time to work on or oversee their farms. Also, Digo men tend to restrict their economic activities to relatively small-scale, local enterprises which are individually owned or operated. Their major linkage to the national economy lies in supplying produce to urban markets.

Although Kamba males seem to be more flexible or diversified in their economic strategies, involvement in wage labor or shareholding does not necessarily indicate greater economic success. Certain combinations of business and farming within the local economy have provided some Digo men with income levels which certainly exceed incomes obtained from police work or modest shareholdings. Given the success of individual Digo men, their emphasis on local level strategies cannot be interpreted as a lack of entrepreneurial talent nor an inability to capitalize on economic opportunities.

As stated previously, the Digo people strongly identify themselves as agriculturalists and they tend to view non-farm enterprises as supplementary. When asked what type of enterprise they would invest in if they were suddenly to have substantial funds available, they invariably replied farming. Although I believe these answers to have been given honestly, actual economic behavior contradicts their verbal statements. Business investment far exceeds farm investment. Of the seven Digo case study households,

four had business enterprises as did one of the three Kamba case study households (#11). Table 9 compares business with farm investment for these families:

TABLE 9

## BUSINESS VERSUS FARM INVESTMENT

(November, 1974 - August, 1975)

Farm #	Business Investment (KSh)	Farm Investment (KSh)
1	827.55	74.75
3	2,667.05	48.25
7	1,082.90	482.00
8	45,550.00	952.00
11	2,970.95	500.20

Despite the higher rate of investment in business, returns to cash investment were higher for farming than for business enterprises. Table 10 shows net returns for each shilling invested in both farming and business. Since incomes for both categories were grossly underreported on Farm 8, only four case studies were used to compute average rates of return: the average net return to each shilling invested in farming was KSh 7.06 compared to KSh .69 for businesses; i.e., net returns to cash investment in farming averaged approximately ten times the rate of net returns to business.

The best explanation for the comparatively high rate of investment in business enterprises is the low level of risk or uncertainty

TABLE 10

## NET RETURNS TO FARMING AND BUSINESS (KSh)

	Farm Number				
	1	3	7	8	11
Farm Income	658.25	599.50	3,702.90	477.65	1,661.30
Farm Inputs	74.75	48.25	482.00	952.00	500.20
Net Farm Income	583.50	551.25	3,220.90	-474.35	1,161.10
Net Return/KSh 1	7.81	11.42	6.68	-.50	2.32
Business Income	1,625.80	3,665.85	2,013.15	47,228.00	4,644.10
Business Inputs	827.55	2,667.05	1,082.90	45,550.00	2,970.95
Net Business Income	798.25	998.80	930.25	1,678.00	1,673.15
Net Return/KSh 1	.96	.37	.86	.04	.56

associated with these ventures. If a man buys coconuts from a number of other farmers, he knows that he can get a certain price after splitting and drying them. Furthermore, he will get the return on his investment within a few days. The same is true for wholesaling other types of produce or buying dried shark and selling it in small quantities. Businesses provide quick, sure returns while farming is less certain and there is a time delay in realizing returns to farm investment. In managing a household, the benefits of certainty and immediate profits can often outweigh the uncertain possibility of higher future profits. Household management follows a pattern of buying certain necessities on a daily basis; for example, kerosene, sugar, tea, fresh fish or dried shark, and spices are normally purchased in amounts that will be consumed the same day. This pattern of buying places a premium on liquid assets and accounts for much of the constant giving and receiving of small amounts of cash among kinsmen. Since the type of businesses undertaken by Digo men normally keeps assets liquid, these profits can contribute to immediate household needs while other assets are frozen in farming enterprises.

3. Individual Case Histories. In pursuing the relative importance of farming and business, case histories were collected from three members of the community who had achieved high levels of economic success in business. In each case, the men began farming shortly after marrying their first wives and continued to invest in farming in addition to their business ventures.

a. Kassim. In 1954, Kassim left school after completing Standard 6 and went to Mombasa to look for work. His efforts to find work in the city were not successful and he returned home where he sold dried shark for his father. In 1956, he became a clerk for an American gold prospector and made KSh 150 per month for a full year. In 1957, he married, built a house and began farming. He also began buying chillies and coconuts which he sold in Mombasa. His first wife proved barren and he divorced her in 1963 when he married another woman. From 1964 to 1966 he worked for the County Council in adult education and in planting a nursery for which he received KSh 120 per month. From 1967 to 1968 he worked for the sugar factory contracting laborers to cut sugar cane. He was paid a commission for every five laborers he contracted. He used the money made from this job to build a small "hoteli" where he sold tea and some foods during 1968 and 1969. In November, 1969, he and his two brothers combined resources and opened a store. In 1974, Kassim bought out his brothers' interests in the store making it his own business.

When Kassim and his brothers opened the store, they were able to stock enough items with a combined investment of about KSh 1000. With inflation, Kassim estimates that it would require a minimum of KSh 6000 to stock a similar inventory of items in 1975. While the business has been profitable, returns have been diminishing, which Kassim attributes to increased competition. When the store was opened in 1969, there were only three shops in the area but by

1974 there were some ten shops selling similar items.

b. Kibwana. As a young man Kibwana began earning money in 1950 wholesaling bananas, oranges and chickens. In 1953 he married and built a small house. From 1954 until 1957 he worked as a foreman for a European mining company that was prospecting for minerals at Mrima. Kibwana earned KSh 120 per month while working for this company. In 1958, after the mining company left, he began working for the Kenya Sugar Company as an overseer at a salary of KSh 70 per month. In 1959 he married a second wife and began building a "hoteli," using his salary from his overseer job to help meet expenses. He also invested in farming during this time, aided by the labor inputs of his two wives. By 1962 he had completed enough of the "hoteli" to leave the Kenya Sugar Company and open the "hoteli" for business. There was only one other small "hoteli" in Kikoneni at that time, so Kibwana faced little competition. Between 1962 and 1969 he slowly expanded the "hoteli" from its initial one room to a larger operation and in 1968 started building a store which was opened in 1970. He tried to obtain a bank loan during this time but his application was rejected "because they didn't trust my properties." Once the store was opened, Kibwana devoted most of his time to that business and hired people to run the "hoteli." In 1973 he started building a house near Mombasa (in Likoni) which he began renting in 1974. He presently rents six rooms plus three "stores" in that building and his brother oversees it for him.

In 1975, Kibwana was dividing his time between overseeing his "hoteli" and his store. He was paying one of his brothers a salary to work in the store and was also hiring a cook and two waiters in the "hoteli." The stocking of these two businesses was a task he still did himself.

c. Mohamed. Mohamed went to school through Standard 5 and subsequently was able to get a job as a junior instructor for the Ministry of Agriculture from 1953 to 1956 at a salary of KSh 60 per month. It was during this time that he built his first house. After quitting work for the Ministry of Agriculture, he and his brother (same father but different mothers) opened a store. This continued as a joint venture from 1956 until 1960. In 1960, they built another store at Mrima and subsequently divided the business--Mohamed got the store at Mrima and his brother the one in Kikoneni. From 1960 until 1973, Mohamed ran his store and invested in farming, but he also ventured into new enterprises. In 1968 he began building the foundation for a large store in Kikoneni (it is now the largest store in the village). In 1969 he bought a maize grinder and a Toyota pick-up truck. He had previously purchased small cars, an Anglia in 1966 and a Renault in 1968, but the pick-up allowed him to use his vehicle as a transport business for stocking his own store as well as those of other shopkeepers. In 1975, Mohamed was farming on a relatively large scale, operating his store in Kikoneni, renting his store in Mrima, running his maize grinding business, and using a second, newer Toyota pick-up truck for a transport business.

When Mohamed and his brother opened their first store, they

started with an initial investment of approximately KSh 300; Mohamed estimates that a minimum of KSh 6000 would be needed to start a successful store now (1975). Mohamed has been very successful and claims that business in his Kikoneni store is increasing despite more competition from other similar businesses which have been opened in the last few years.

The case histories of these men suggest several factors which contributed to their economic success. Formal education aided some of them in obtaining wage labor and was undoubtedly important for keeping records and running businesses started later in their careers. Wage labor itself provided an important, though not large, source of cash income at some stages. Partnerships between brothers seem to have been very helpful during early efforts to establish business enterprises that required capital investments. Also, at least part of their success can be attributed to relatively low rates of investment required when they started their first businesses as well as the lack of local competition. Higher costs and greater competition currently make it more difficult to establish stores or "hotels," and maize grinding enterprises have experienced the same problems. (Mohamed's maize grinding operation reportedly netted him something in the order of KSh 3000 per month before other grinding machines were brought into the area.)

Although these men have invested in farming, their case histories show a tendency to also invest in other, diversifying business enterprises. Success in business seems to lead to greater involve-



ment in business as well as larger scale farming. Those who have achieved unusually high levels of economic success appear to be as committed to strategies combining business and farming as those who are less successful.

4. Household Budgets. In addition to non-farm activities and non-farm incomes, data were gathered on consumption expenditures for the ten case study farms. Table 11 shows all expenditures except farm and business investments; Table 12 shows the percent of total consumption expenditures spent on various items.

TABLE 11  
CONSUMPTION EXPENDITURES

Digo Farms	KSh	Kamba Farms	KSh
1	1427.85	11	2367.40
2	1052.75	13	1098.35
3	2629.50	14	1261.80
4	1672.10		
5	1880.90		
7	2712.30		
8	3875.80		

Although expenditure records were underreported in some cases, Table 12 shows the relatively high proportion of cash outlays devoted to food which is consistently the largest budget item for all case study farms. Unfortunately, it cannot be determined from my data what proportion of all food is purchased, but the average cash expenditure on food for these ten cases is KSh 1364.95, represent-

TABLE 12  
 CONSUMPTION EXPENDITURES ITEMIZED  
 (Percent)

	Farm Number									
	1	2	3	4	5	7	8	11	13	14
Food	45.4	68.8	55.2	84.4	59.8	80.4	89.2	60.7	42.4	59.1
House- hold*	15.0	17.3	10.3	8.1	21.7	9.5	9.6	20.9	20.6	23.9
Social Obliga- tions**	9.7	5.5	4.9	.1	3.4	-	-	7.5	15.2	9.3
Cigar- ettes	12.4	-	11.9	7.2	1.1	7.7	.8	-	-	.3
Medical	6.6	2.1	3.5	.2	1.8	.9	.3	2.3	3.9	4.1
Loans/ debts	4.9	1.4	7.3	-	5.3	-	-	-	-	-
Travel	6.0	4.9	5.1	-	2.8	-	-	8.4	13.1	1.5
School fees	-	-	1.6	-	-	1.5	-	-	.6	-
Misc.	-	-	.2	-	4.1	-	.1	.2	4.2	1.8
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

\* Household items include soap, kerosene, matches, razor blades, batteries and clothing.

\*\* Social obligations include donations at funerals and weddings as well as financial assistance given to kinsmen and friends.

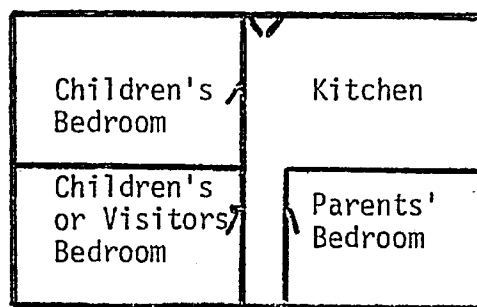
ing a substantial outlay given the level of income on most farms. Comparing Digo and Kamba expenditures on food gives an average of KSh 1366.15 for Digo families versus KSh 882.98 for Kamba families; i.e., the Wadigo consume a greater amount of purchased foods and show a greater dependence on the market to meet their dietary standards than do the Wakamba. Kamba families, on the other hand, tend to spend a higher proportion of expenditures on household costs (including clothing).

5. A Household Inventory. An inventory of all household goods was taken for one middle-income family to find the relative importance of purchased items.

The house itself is of typical Digo design, being built of wattle and daub with roofing made of woven coconut fronds (makuti). The front part of the roof extends several feet to create a protected front "porch." The floor plan (see Figure 2) is relatively square with a hallway extending from front to back and four rooms built off this hallway.

FIGURE 2

FLOOR PLAN OF A DIGO HOUSE



a. Kitchen. The kitchen area is used for most household labor that must be done indoors. This room includes the granary--a platform built on poles and covered with makuti so visitors cannot see whether provisions are ample or inadequate. The granary is usually built by the owner with locally available materials. In J's kitchen there are two cooking areas, each consisting of three cooking stones. Cooking stones are given to a new bride when she is married. Other non-purchased items in the kitchen include a shelf built along one wall; pegs placed into the wall to hold various utensils; a block of wood used as a stool; an old discarded coconut grinder also used as a stool; two coconut shell spoons (ruphazi); two homemade brooms; and two food covers (akawa) made by J's wife. The following inventory of purchased kitchen goods includes the current price range for these items:

	<u>Price Range (KSh)</u>
3 large metal cooking pans ( <u>sufurias</u> )	@ 10.00-15.00
2 small metal cooking pans ( <u>sufurias</u> )	@ 3.00- 8.00
3 wooden spoons ( <u>mwiko</u> )	@ 1.00- 2.00
2 large baskets	@ 5.00- 8.00
3 small baskets	@ 1.00- 4.00
1 coconut grinder ( <u>mbuzi</u> )	@ 3.00- 6.00
1 metal strainer	@ 3.00- 4.00
1 winnowing basket	@ 5.00-10.00
4 cups and saucers	@ 3.50- 6.00
2 teaspoons	@ 1.00
1 tablespoon	@ 1.50- 2.00
4 water glasses	@ 2.50
1 metal water glass	@ 1.00- 2.00
3 clay water pots	@ 2.00- 3.00
2 metal buckets	@ 12.00-20.00
2 glass plates	@ 5.00-10.00
2 small metal bowls	@ 2.00- 3.50
2 metal plates	@ 2.00- 3.50
1 large metal platter ( <u>sinia</u> )	@ 12.00-15.00
2 small glass bowls	@ 3.00- 6.00
1 sifter ( <u>chungio</u> )	@ 2.00- 5.00
1 fry pan for chapatis ( <u>chuma cha mukate</u> )	@ 3.00- 6.00

1 charcoal stove ( <u>jiko la makaa</u> )	@ 3.00- 6.00
2 tin lamps	@ .25- .50
1 chimney lamp	@ 10.00-20.00
1 mat knife	@ .50
1 cooking knife ( <u>ruphamba</u> )	@ .30- .50
1 mortar and pestle ( <u>kinu na mtwangio</u> )	@ 30.00-40.00

b. Parents' Bedroom. The purchased items kept in the parents'

bedroom included:

	Price Range (KSh)
1 double bed (rope)	frame @ 10.00-15.00
	rope @ 1.50- 4.00
1 small bed (rope)	frame @ 5.00- 7.00
	rope @ 1.00- 2.00
2 wood boxes for clothes	@ 10.00-15.00
1 wood table	@ 15.00-20.00
1 cloth "wall" for privacy ( <u>pazia</u> )	@ 36.00
1 mirror	@ 2.00
1 torch (flashlight)	@ 12.00-15.00
1 charcoal iron (for ironing clothes)	@ 35.00
1 knife ( <u>kisu cha msumeno</u> )	@ 5.00-10.00
1 wood comb	@ 1.00- 2.00
1 plastic comb	@ 1.00- 1.50
1 plastic toothbrush	@ 1.00- 1.50

In addition to these goods, a rope is strung from wall to wall for hanging the pazia and can also be used for hanging up clothes. The room is furnished with three women's mats (mkeka), one small men's mat (kijamvi) and one oval, colored mat (kiswala) made by J's wife.

The market value of mats is as follows:

<u>mkeka</u>	KSh 60.00-120.00
<u>kijamvi</u> (small)	KSh 5.00- 6.00
<u>kijamvi</u> (large)	KSh 15.00- 20.00
<u>kiswala</u>	KSh 30.00- 80.00

The other two bedrooms together contain three rope beds, one table and two boxes for clothes but since all J's children have moved out of their parents' house, these rooms are now used for visitors.

The cost of the household furnishings ranges from KSh 405.30 (low estimate) to KSh 602.00 (high estimate). It should be noted that the great majority of household goods are purchased; mats being the only items of substantial value that were not purchased by this family. Although a number of things are produced locally--for example, coconut grinders, sifter, rope beds, wooden boxes, clay water pots (made in Majoreni), and tin lamps--homeowners do not make their own but buy from those who specialize in making one of these items. Other goods such as glasses, plates, spoons, mirrors, toothbrushes, torches (flashlights), charcoal irons, et cetera are not produced locally and involve homeowners in the wider market economy.

6. Summary. Placed within the context of the broader local economy, subsistence agriculture accounts for a relatively small proportion of all time and cash investments. Cash crop farming combined with non-farm enterprises (and in one case, wage labor) consume a greater share of male labor time, while household tasks and mat making consume a greater proportion of female labor time. Cash investment tends to be concentrated in non-farm business ventures despite higher rates of return to farm investments.

Subsistence farming does provide important economic necessities, but a wide range of consumption goods, including many household items and certain foodstuffs, are purchased.

The market economy has thus become an integral part of the local economy, both in terms of production and consumption. Al-

though the variety and availability of purchasable goods have increased, commercialization is not a recent phenomenon. The Wadigo have been involved in trading networks based on general-purpose money for at least a century, first using rupees and then shillings as the medium of exchange. Consequently, the relative importance of commercial activities in their economic strategies should not be surprising.

Nonetheless, commercialization is significant in its impact on agriculture. The existence of a commercial market has created both a demand for purchased consumption goods and a variety of economic opportunities outside of farming. The daily demand for purchased items requires having cash in-hand which is most easily and quickly acquired by investing in a non-farm business that gives rapid returns at low risk. Therefore, the commercial market directs a certain proportion of resources toward non-farm investments and expenditures, and since this proportion tends to be high among the Wadigo, only a limited amount of resources are available for agriculture.

In addition to the effects of commercialization, economic activities related to other aspects of household management also restrict the availability of resources for farming. This is particularly important with respect to female labor, since household chores place heavy demands on their time.

Attempts to develop Digo agriculture will have to be made within the context of the broader local economy, including pre-

vailing consumption and investment patterns. At the moment, the high levels of risk and delayed returns associated with farming have produced a preference for non-farm investment, and any program for increasing agricultural production will have to compete with this pattern of economic behavior.

#### B. Investment in Farming.

Digo agriculture is thought to be relatively backward in many respects, but special attention has been given to the lack of investment in purchased inputs being recommended by extension agents assigned to the area (see Appendix D). Since extension personnel generally regard Kamba settlers as more progressive, data on Kamba investments will be used as a comparison.

In order to analyze current patterns, investments in farming have been divided into three categories: non-labor cash inputs; hired labor inputs; and planting trees. These categories distinguish cash invested in hired labor from cash invested in other inputs and also focus attention on permanent tree crops which greatly increase the value of land.

1. Non-Labor Cash Inputs. A list of non-labor cash inputs for each of the ten case study farms is given in Table 13. Despite no reported inputs for three of the seven Digo farms, the Digo average (KSh 88.75) is far higher than the Kamba average (KSh 10.45). This is partly due to the unusual expense of title deeds on Farm 8, but also to the relatively high rates of expenditure on Farms 7 and 5. For both groups, planting materials account for a large propor-



TABLE 13

## FARM INVESTMENT: NON-LABOR CASH INPUTS

Farm #*	KSh	Item
1	11.00	<u>panga</u>
	5.00	file (for sharpening knives & panga)
	10.00	chickens
2	---	
3	10.50	disinfectant (thought to keep away wild pigs)
	2.25	sesame seeds (local variety)
	3.50	cowpea seeds (local variety)
	2.00	rope (for goats)
4	5.00	maize seeds (local variety)
5	11.00	file
	23.00	maize seeds (Coast Composite)
	5.00	insecticide (for maize)
	1.75	cowpea seeds (local variety)
	1.25	green gram seeds (local variety)
	10.00	sesame seeds (local variety)
7	250.00	planting material for sugar cane
8	270.00	title deeds for 57.5 acres
11	2.50	cotton seeds
	1.75	been seeds (local variety)
	7.50	6 gunny sacks
	6.60	insecticide (for cotton)
13	8.00	maize seeds (local variety)
	1.75	cowpea seeds (local variety)
	1.75	bean seeds (local variety)
14	1.50	chicken
Total	= 652.60	

\* Digo farms = 1-8  
Kamba farms = 11-14

tion of the inputs (48% on Digo farms and 50% on Kamba farms), but only on one Digo farm (#5) were seeds of an improved variety purchased. In general, both Digo and Kamba farmers show very low rates of investment in terms of non-labor cash inputs. If the cost of title deeds is excluded from consideration, only one of the ten farmers invested more than KSh 52.00.

2. Hired Labor Inputs. The amount of cash expended on hired labor for each of the case studies is presented in Table 14. Kamba farmers have a slightly higher average (KSh 165.67) than Digo farmers (KSh 158.56), but the range of variation is extreme for both groups and reduces the usefulness of accepting the averages as significant. At least some Digo farmers show as great or greater inclination to invest in hired labor as Kamba farmers. Only two farms (one Digo and one Kamba) show hired labor as a relatively high proportion of total labor. Of these two farms, the Digo farmer hired more than three times the number of hours as the Kamba farmer, but paid only a little more than twice the amount of money by averaging a lower rate of payment per hour.

3. Planting Trees. In 1973, the average number of trees planted by thirteen Kamba households was more than twice the average planted by twenty-seven Digo households (see Table 15). While Digo farmers were adding coconut palms at the highest rate, followed by a fairly even but lower emphasis on cashews and citrus, Kamba farmers concentrated most heavily on citrus and coconuts.

Although Kamba investments in trees are impressively higher

TABLE 14

## FARM INVESTMENT: HIRED LABOR INPUTS

Digo Farms	KSh	Hours	KSh/Hour	Hired Labor as % of Total Labor
1	43.25	29	1.49	1.82
2	9.00	7	1.29	.56
3	30.00	21	1.43	1.29
4	30.00	38	.79	2.58
5	83.65	110	.76	5.62
7	232.00	290	.80	6.32
8	682.00	1303	.52	34.41
Kamba Farms				
11	319.00	372	.86	23.18
13	8.00	5	1.60	.83
14	170.00*	18	3.33	1.36
TOTAL	1606.90	2193		

\* Includes KSh 110.00 for tractor hire.

TABLE 15

## FARM INVESTMENT: PLANTING TREES

Tree Crop	Average # Planted in 1973 (27 Digo Households)	Average # Planted in 1973 (13 Kamba Households)
Cashews	29	39
Coconuts	44	86
Citrus	24	92
Mangoes	8	6
TOTAL	105	223

than Digo investments, much of the difference is due to the newness of Kamba farms. The Wakamba are settlers in the Kikoneni area and are only beginning to establish their farms (the oldest Kamba farms in the survey were purchased in 1967). Digo farmers already have a relatively large number of trees that are producing (an average of two hundred and eight trees for twenty-seven households) compared to Kamba farmers (an average of forty-three trees for thirteen households).

4. The Evidence for Convergence. Despite the alleged progressiveness of Kamba settlers, their farming patterns are remarkably similar to Digo patterns. With respect to non-labor cash inputs and cash invested in hired labor, Kamba farmers fall inside the Digo range of variation.<sup>1</sup> Kamba settlers do differ significantly in cropping strategies, however, which is only partially shown by the data on planting trees.

With respect to food crops, both Digo and Kamba families devote approximately the same proportion of labor to maize, but Kamba households devote more labor to beans, cowpeas and sweet potatoes as their secondary food crops while Digo households emphasize rice and cassava (see Appendix D). These differences in food crops are largely due to dietary practices and are likely to persist so long as the

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1. Three Kamba households do not constitute a reliable comparison, but data from the larger sample covered in the initial survey also show Digo and Kamba patterns to be similar for investments in hired labor and the average proportions of acreage devoted to subsistence and cash crops (see Appendix D).

two groups continue to eat their customary dishes.

Of greater significance are the differences in cash crops. For the three Kamba case study households, bixa alone accounted for an average of thirty-nine percent of all farm income, while the four tree crops included in Table 15 accounted for an average of only five percent. In comparison, the seven Digo households received no income from bixa, but the four tree crops accounted for an average of fifty-four percent of all farm income and cashews alone averaged forty-four percent. Thus, Digo farmers rely very heavily on tree crops for cash incomes while Kamba settlers depend mostly on bixa.

Since Kamba farmers are still in the process of establishing farms, their cash crop strategies initially concentrated on rapidly productive crops such as bixa and sesame, both of which can be harvested after a few months. What the data on planting trees shows is a shift in cash crop strategies.

The most significant aspect of Kamba investments in trees is not the relatively high rate, which can be expected to level off, but the definite trend toward a greater reliance on tree crops and thus a degree of convergence with Digo cropping patterns. Trees will begin to occupy more acreage on Kamba farms and to provide a greater proportion of cash income. The serious decline in prices for bixa over the past several years is likely to decrease the emphasis currently given to this crop on Kamba farms, particularly as newly planted trees begin to produce and provide an alternative source of income.

If Kamba farmers are assumed to be converging toward Digo crop-

ping patterns, why do their investments in trees show such a low rate for cashews relative to citrus and coconuts? Part of the answer may lie in the higher labor requirements for cashews which require many hours for clearing, harvesting and processing. Since Kamba farmers still produce a significant amount of bixa and since cashews compete with bixa for labor time, the high labor intensity of cashews may well be a factor in slowing investment in this crop. This would mean that convergence toward Digo cropping patterns is being slowed by a commitment to bixa. A different perspective can be gained by looking at the sequence and timing of Kamba investments. The thirteen households surveyed have a total of five hundred and sixty-three trees already producing, ninety-one percent of which are cashews (515 trees) giving an average of forty per household. In contrast to the large number of cashews, there are only forty-one producing citrus trees and one producing coconut palm for all thirteen households. The current emphasis on citrus and coconuts can thus be seen as following an earlier emphasis on cashews. Since cashews mature and begin producing in less than half the time required for citrus and coconuts, an early emphasis on cashews is consistent with the previously noted tendency of the Wakamba to plant crops which produce returns more quickly. Given the current average of forty producing cashew trees per Kamba household, the average investment of thirty-nine young trees will bring the average per household to seventy-nine within two or three years--i.e., the same as the 1973 average of producing cashews (78 trees) for

twenty-seven Digo households (see Table 16). The high labor requirements for cashews places an upper limit on the number of trees that can reasonably be managed by a household without investing in hired labor; therefore, a slower rate of investment is probably desirable given the number of cashews already producing on Kamba farms.

TABLE 16  
PROJECTED NUMBER OF TREES FOR KAMBA FARMS COMPARED  
WITH EXISTING AVERAGE FOR DIGO FARMS

Crop	Average # of Producing Trees in 1973 (27 Digo Households)	Average # of Producing Trees + Average Number Planted in 1973 (13 Kamba Households)
Cashews	78	79
Coconuts	97	86
Citrus	24	95
Mangoes	4	7
TOTAL	203	267

Table 16 shows the projected average number of trees for Kamba farms as the sum of the average number producing and the average number planted in 1973. This projection shows the average total for Kamba farms exceeding the average total actually reported for Digo farms in 1973. Convergence for cashews is very high, but Digo farmers continue to have a somewhat greater emphasis on coconuts, while Kamba farmers are projected to exceed the Wadigo in the number



of citrus and mango trees. However, these projections exaggerate Kamba tree crops and devalue Digo investments since the figures are based on two unreasonable assumptions: 1) all newly planted trees on Kamba farms will survive and become productive; and 2) all newly planted trees on Digo farms merely replace dead or unproductive trees, leaving the average number constant. Following the opposite assumptions that the Wakamba will lose some of their trees, and the Wadigo will increase the number of their trees to some extent, the difference in totals will actually be less than that shown in Table 16--i.e., overall convergence will be greater.

5. Summary. Given the evidence for convergence, it seems reasonable to conclude that Kamba farmers are not introducing economic strategies that are significantly more progressive. If convergence toward Digo patterns does occur, it would appear that Digo agriculture offers a viable system of production which is very likely well adapted to local conditions. This is not to say that it is the best possible system or that new techniques could not increase productivity; but if Kamba settlers, who are better educated and have a different traditional background, adopt similar patterns, it does suggest that Digo economic strategies are constrained by conditions of risk and limitations imposed by the broader economy rather than by tradition or the condition of backwardness. Neither traditional beliefs nor backwardness necessarily precludes responsiveness to economic opportunities.

## CHAPTER VII

### THE MODERN SECTOR

The economy of the Kikoeni area is not an isolated system operating only on the basis of local principles. In earlier chapters, it was shown that a wide range of factors, including the slave trade, the rise of Zanzibar, inter-Arab conflicts, the proximity of certain market centers, and the imposition of British colonial rule, have long exerted important influences on production and exchange.

Kikoeni currently exists within a national structure which has adopted certain policies and strategies for achieving the goal of economic development. The following discussion focuses on only selected aspects of agricultural policy at the national level: the development and implementation of 1) the Swynnerton Plan and 2) the Special Rural Development Program.

The emergence of the Swynnerton Plan in 1955 is considered a milestone in agricultural policy because it proposed an integrated program for developing the African areas at a time when European farming dominated governmental interests in agriculture. While it succeeded in shifting some emphasis away from European farms, the Plan itself was firmly rooted in European concepts, values and institutions. Swynnerton's vision was to develop African agriculture on a European model of mixed farming. Traditional agriculture was regarded as primitive and low-yielding as well as ecologically

destructive--therefore, it did not provide a viable foundation for economic growth. Modernization was not viewed as a gradual process of developing African systems of agricultural production, but as the displacement of African systems through the introduction of the European model and all the radical changes that entailed.

The Special Rural Development Program (SRDP) developed as the vehicle for implementing what was considered an innovative approach to problems of rural development that grew out of the Kericho Conference held in 1966. Since Kikoneni was selected as an area to be included in the Kwale SRDP in 1971, this program serves as the principal interface between local and national ("traditional" and "modern") economic sectors.

Focusing on only two expressions of national agricultural policy is necessarily limited, but these particular efforts exemplify some of the more dominant themes with their underlying bias against traditional agriculture. In this context, the Swynnerton Plan is of interest not only for its historical value but also for the continuity and persistence of the attitudes and biases embodied within it. Although the SRDP began as an innovative approach to the problems of rural development, its implementation has tended to revert to a pattern characteristic of the Swynnerton Plan in several essential features. This fundamental continuity at the policy level is significant both for national planning and for the conceptual understanding of the dichotomy between "modern" and "traditional" sectors.

#### A. Land and Development Policy in Kenya.

The total land area of Kenya, approximately 225,000 square miles, is comprised of several different ecological zones which can be distinguished on the basis of rainfall patterns. The most productive agricultural areas are the central highlands, the lake region and the coastal belt. Crop production is restricted to some twenty-six million acres located in these areas. Of Kenya's total land area, only some thirteen percent is suitable for cropping or intensive livestock production and population is understandably concentrated in these areas (see Kaplan, et al. 1967; Leavey 1963).

During the colonial period, Kenyan agriculture was developed on a dualistic basis distinguishing between European farmers living in what are now called "scheduled" areas and Africans living in reserves or "non-scheduled" areas. In 1961, two years before independence, "the estimated gross income from the scheduled areas ...was £35.9 million" compared to £10.4 million for the non-scheduled areas (Leavey 1963). Thus a minority of European farmers produced the major share of income, while Africans remained largely subsistence farmers.

Land reform in Kenya can only be understood within the context of this dualistic agricultural structure and the politics of independence. Part of the impetus for change within the scheduled areas came from concerned Europeans who feared they would be forced to leave their farms and would be unable to obtain prices commensurate with the value of their enterprise once Kenya was governed by an African administration (see Harbeson 1971, 1973). Consequent-

ly, settlement schemes were initiated prior to independence in an attempt to create a market for land within the White Highlands and maintain higher land prices. The political objective of settlement was to achieve at least a semblance of integration in European areas by bringing in Africans and it was hoped that African claims to the entire area would thereby be forestalled (see *An Economic Appraisal of the Settlement Schemes* 1971; Harbeson 1971, 1973).

Changes in agricultural policy within the non-scheduled areas took the form of land consolidation and registration rather than settlement. The principal objectives of land consolidation and registration were an assortment of political and economic considerations. Because a number of different government departments were concerned with African land tenure systems, differing, and sometimes conflicting, sets of objectives were being pursued by various governmental bodies. The Department of Agriculture was principally concerned with initiating an economic revolution within the areas of African agriculture. The major elements of this revolution were to be land consolidation (aimed at both parcellation and fragmentation), a system of mixed farming on enclosed units of economic size, the development of cash crops (hitherto restricted or banned in African reserves), and the provision of legal title enabling farmers to offer land as security for loans. Progressive farmers were the keystone, for they would be the ones to adopt efficient mixed farming techniques, to utilize credit properly, and to show an interest in developing cash crops. Less progressive farmers would sell land

to those who were more successful and would become a landless class of laborers working for landowners. It was assumed that the increased size of consolidated holdings, in addition to the more intensive (but conservationist) use of land, would generate employment at an average rate of three permanent laborers per landowner. The individualization of land tenure, which most certainly penetrated the core of many traditional social systems, was viewed as a natural evolutionary process, and one which should be speeded as much as possible through the judicious application of public policy measures. Traditional agriculture was viewed as ecologically destructive, creating severe problems of erosion and decreased soil fertility--a process the Department of Agriculture hoped to reverse. Individualization of tenure was thought to induce not only capital investment but also an effective concern for conservation of the land resource. Mixed farming was another part of the effort to bring the non-scheduled areas into ecological balance, while titles and credit were part of the plan to generate capital investment. Cash crops were considered essential for raising incomes to the point where investment and economic growth would be feasible for the small farmer.<sup>1</sup>

The most systematic explication of this basic outline for developing African agriculture was presented in 1955 as the Swynnerton Plan. The Plan envisioned mixed farming as the foundation for

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1. This composite view of the program advocated by the Department of Agriculture was drawn principally from Swynnerton 1955; Clayton 1964; and Sorrenson 1967.

subsistence needs and the intensive development of cash crops as a means for commercializing the African agricultural economy. The benefits of the Plan were seen as very wide-ranging:

"By developing big cash crop industries, a very wide cross-section of the African community will benefit. The growers will be augmenting not only their own wealth but that of the district, the coffers of African District Councils and the income of the Colony from exports. In many cases they will be creating and meeting their own wants, e.g., cheaper sugar and tea, milk, meat, fruit and slaughter stock... which will help to take off animals from the over-stocked semi-arid pastoral areas for which there is little outlet at present. More people...will be employed as farm laborers. The numbers of people who will find employment in derivative occupations and who will, therefore, help to relieve pressure on the land, teachers, tradesmen, artisans, employees in social services, will greatly increase" (Swynnerton 1955: 14).

Provincial administrations were principally concerned with the political implications of land consolidation. During the colonial period, these political considerations included a desire to expand European settlement and the consequent need to absorb a growing African population within the reserves; a desire to create a contented, economically prosperous middle class of African farmers who would be supportive of the government; and a desire to avoid measures which would arouse African fears of being alienated from their land.

The prospect of creating a class of landless laborers, which seemed natural to the Department of Agriculture, was particularly bothersome to political administrators. Thus, the administration repeatedly failed to act on recommendations made by the Department of Agriculture because of the political ramifications of such a major change of customary rules concerning land tenure. Consequently, it was not until after the Mau Mau Rebellion, when the administration

offered to consolidate Kikuyu farms as a reward for those who had remained loyal during the rebellion, that a land consolidation program of any size was actually implemented.

The administration was undoubtedly most concerned with political stability, but the overall policy during that period was to establish a viable class of African farmers who would be loyal to the government because they had been given an economic stake in the nation. To that degree, the administration was concerned with the returns to be gained from land consolidation (see Sorrenson 1967; Clayton 1964). It was the Department of Agriculture which envisioned an agrarian revolution founded on a European pattern of mixed farming with consolidated, enclosed farms provided with legal title and therefore with access to credit.

1. The Land Consolidation and Registration Program. After the Mau Mau Rebellion, land consolidation and registration were begun in earnest and by the mid-1960s the Mission on Land Consolidation and Registration was able to report that consolidation had taken on a mystical quality among officials and registered titles were in demand throughout the country either by individual farmers or by clans (see Lawrance 1967). In 1971 the enthusiasm showed few signs of abatement: an increase of 1,058,000 hectares came under adjudication in 1971 compared to the number for 1970 (Economic Survey 1972: 82).

The Mission on Land Consolidation and Registration distinguished five separate processes which have frequently been subsumed



under the title of land consolidation and registration in Kenya: 1) overcoming parcellation (the division of land into holdings of uneconomic size); 2) overcoming fragmentation (the dispersal of a single person's landholdings); 3) enclosure; 4) land distribution; and 5) registration of legal titles (see Lawrance 1967). Under the Swynnerton Plan parcellation was seen as a central problem in African agriculture, but the actual program implemented on the basis of the Swynnerton Plan failed to alleviate these conditions. Consolidation programs in the non-scheduled areas have been restricted to dealing with fragmentation, enclosure and registration. (Land distribution has occurred principally in scheduled areas.) Farmers have been given title to the same amount of land they had owned prior to consolidation, minus a proportion allocated for roads, schools, and other public facilities (see African Land Development in Kenya 1962).

## 2. Evaluation of the Land Consolidation and Registration Program.

a. Parcellation. The Swynnerton Plan considered an economic holding to be 7.5 acres within Central Province (Sorrenson 1967: 224). The parcellation of land into smaller units was viewed as one of the most critical factors inhibiting agricultural development since such units could only be expected to provide subsistence. The 7.5 acre minimum was based on the assumption that the farm would support only one family (Sorrenson 1967: 225). Despite Swynnerton's clear statement that the possible economic benefits of

land consolidation would be defeated if landholdings were not brought up to the minimum level, Kenya's consolidation program made no effort to overcome the problem of parcellation. As already noted, farmers were given title to the same amount of land they had owned prior to consolidation. Thus, the conflicting goals of the Department of Agriculture and the administration created a program which compromised the Department of Agriculture's package program, undermining the envisioned agrarian transformation. Sorrenson found that only some twenty percent of the registered holdings in Central Province were 7.5 acres or more and that many of these farms supported more than one family. (Sorrenson 1967: 224-225). Therefore, even many of the farms meeting Swynnerton's standard for economic size are subsistence enterprises. In Meru, the minimum size for upper altitude farms was to be ten to twelve acres and six acres for middle altitude farms, but in the majority of cases farms were three and a half acres or less (Bernard 1972: 107).

b. Fragmentation and Refragmentation. The principal objections to fragmentation of landholdings relate to farm management. A number of small, dispersed units is believed to prevent effective crop rotation, require terracing to be a cooperative effort of many farmers planting adjoining plots, require cooperative water management if irrigation is used, and restrict the application of manure to plots or increase the work required for applying manure to distant plots--i.e., fragmentation inhibits many conservationist measures employed in European mixed farming. It is also assumed

that fragmentation gives rise to inefficiencies in farm management since farmers must spend some proportion of their time travelling to and from dispersed plots. A number of Kenya officials, both in and out of the Department of Agriculture, believed that simply consolidating fragmented holdings into a single unit would provide economic returns in the non-scheduled areas and this aspect of land consolidation has received the greatest emphasis in Kenya's program (see Clayton 1964; African Land Development in Kenya 1962; Harbeson 1971, 1973; Homan 1963; Lawrance 1967, 1970; and Pedraza 1967).

It is particularly difficult to evaluate either the veracity or the economic importance of the assertions given above. In the first place, African farming techniques cannot be assumed, a priori, to have more negative ecological consequences than European techniques. It is quite possible that mixed farming could not have prevented ecological imbalance in the densely populated African reserves. The fact that mixed farming had been successful in the White Highlands was at least partially related to the man-land ratio which was vastly lower than the ratio on the reserves. Furthermore, African farming techniques are not homogeneous--a considerable variety of systems are to be found including those practicing irrigation, terracing and organic fertilization (see Clayton 1964: 63-67). The fact that complex farming systems can operate in conjunction with equally complex systems of inheritance may be due, in part, to different patterns of labor recruitment. The model

for European farming is based on monogamous couples dependent on family or hired labor. African farmers are often able to exploit the labor of polygynous households, a wider network of other kinsmen, or reciprocal labor arrangements with other farmers. These differences may have important implications for the economic consequences of land fragmentation, including the amount of time spent travelling to and from plots. Furthermore, the significance of time spent travelling can only be evaluated in terms of opportunity costs. If the farmer has no other economically productive use for the time spent travelling, it adds no economic benefit to reduce that time. The amount of time spent in travelling also depends on the types of crops being grown. Crops which require little attention reduce the amount of time lost and therefore the potential returns to consolidation. In situations where fragments are held in different ecozones, the time a farmer spends travelling to his various plots may be considered a premium paid for diversification of cropping--i.e., a premium paid to reduce risk. In Meru, where some land consolidation has been completed, farmers have traditionally relied on access to plots in different ecological zones but are now forced to specialize since consolidated holdings provide a single set of production potentials (see Bernard 1972). This means that farmers must purchase many of their subsistence needs on the market. Bottlenecks in the circulation of food crops and low or fluctuating prices for cash crops have increased the risks of the individual farmer considerably as a result of consolidation.

It is clear that fragmentation may occur in a variety of settings and it is this variability of impinging factors which influences the economic significance of fragmentation. If labor is abundant and has few alternative uses or if ecological diversification provides sufficient benefits, fragmentation may not be a problem warranting a major government program. In Central Province, the showplace of land consolidation, Kikuyu farmers have increased their output (see Leavey 1963), and while these results have been used to encourage land consolidation in other parts of Kenya, the increases are undoubtedly due to a number of changes in Kikuyuland and it is virtually impossible to factor out the contribution of consolidation. First, it would be necessary to know the extent of disruption to farming that ensued from Mau Mau and the Emergency which may have depressed the base figures showing an inordinate increase. Second, the encouragement of cash crops which had formerly been prohibited for Africans may well account for a substantial proportion of the increase. Third, land consolidation was possible in Kikuyu areas largely because of the wholesale villagization, detention of local leaders, and concentration of administrative personnel within the area during the Emergency (see Gray 1968: 28; Sorrenson 1967: 70-71). Later attempts to initiate consolidation programs in Nyanza, among the Luo, failed due to local opposition (see Lawrance 1967). What is successful in one area cannot always be transferred to other areas experiencing a different set of conditions and problems.

An important consideration in justifying the expense of a

consolidation program is the extent to which refragmentation is prevented (see Moral-Lopez 1962). In Kenya, subdivision of a consolidated holding requires governmental approval and would not be permitted in the case of small holdings (see African Land Development in Kenya 1962; Mifsud 1967; Lawrance 1967, 1970). In order to circumvent this prohibition, many people simply do not report deaths: "it has been calculated, after four full years of registration in the Kiambu district, over 3,000 titles are still registered in the names of deceased persons" (Mifsud 1967: 89). There has also been reluctance to use the courts to settle succession because of the compensation issues involved. It would appear that in many cases traditional rules of succession and inheritance are being followed and the consolidated holdings in the Register do not accurately reflect the traditional pattern of landholding that is reasserting itself.

c. Enclosure. The purpose of enclosure is to allow better livestock management and to facilitate the use of organic fertilizer. Enclosure is one of the basic elements of mixed farming and one part of Kenya's land consolidation program (see Lawrance 1967). It seems clear that enclosure is necessary for improvement of stock through controlled breeding, but this, in turn, is dependent upon the availability of high-grade animals and services connected with their care. So far, few of these services have reached smallholders --the majority of farmers covered by consolidation programs. In the absence of such services, enclosure has only a limited value in

improving the quality of livestock. It seems doubtful that enclosure alone would be sufficient to increase the use of manure if it had not been used previously. Furthermore, traditional plant varieties may not respond significantly to the application of fertilizer unless soil fertility has been seriously depleted. Since many consolidated holdings are too small to practice good mixed farming in the first place (see Sorrenson 1967), it is possible that the most important function of enclosure has been to demarcate the boundaries of registered land and thereby reduce the expenses of litigation.

d. Registration. Registered titles should provide four basic benefits: 1) allow safe land transactions among individuals and thus encourage those who have no interest in land to sell to those who do; 2) provide security on the land and therefore encourage private investment and land improvements; 3) eliminate land litigation and the costs associated with it including court fees, bribes and man-days of labor time; 4) provide security for loans and thereby contribute to the capitalization of agriculture through the use of credit (see African Land Development in Kenya 1962; Clayton 1964; Sorrenson 1967; Lawrance 1967). Of these four benefits, the elimination of insecurity and of land litigation have probably been the most significant so far. Unfortunately there is little information on the rate of private investment that has resulted from possessing legal titles. Land sales have not been particularly numerous, which is not surprising considering traditional attitudes toward land. Capitalization through credit has been

disappointing (see below).

Despite the supposed benefits, the Mission on Land Consolidation and Registration points out that unregistered land is not necessarily poorly farmed. (They observe that "most of the English farming land is unregistered and none the less well farmed for that. All the cocoa, palm oil and groundnuts of West Africa have been produced without registration of title..." (Lawrance 1967: 9)). Registration itself does not necessarily promote more efficient use of labor or increase agricultural output. On the other hand, registration can institutionalize the defects present in any given pattern of land use (parcellation being most important in some areas) while it removes the capacity of customary law to apply remedial measures of adjustment (see Mifsud 1967: 34-35). Registration is probably most important in areas experiencing high rates of land litigation and severe insecurity when that reduces private investment. The returns to registration will be markedly less in other areas, particularly where customary law already provides secure individual rights in land (which is true of some parts of Kenya).

e. Credit. One of the central arguments for registration of title has consistently been to enable farmers to obtain loans, using their land as security (see African Land Development in Kenya 1962; Leavey 1963; Clayton 1964; Sorrenson 1967; Lawrance 1967). Yet in 1971, the Agricultural Finance Corporation (the most important source of agricultural credit in Kenya) approved only 2,782 loans for smallholders out of a total of 9,105 loans (see Economic Survey 1972: 79-80). It may be argued that small,



short-term loans appear to be available from non-commercial sources, and that credit will become more important at later stages of development when farmers are attempting to expand or significantly improve their enterprises. If this is the case, it should be pointed out that a substantially larger portfolio would be required since an increase could be expected not only in the number of potential borrowers but also in the amount borrowed per loan. At the present time, the low rate of lending to smallholders within registered areas reflects the failure to follow up consolidation with effective technical changes and farm plans in the vast majority of cases.

f. Mechanization. Mechanization of African farming was never a part of the Swynnerton Plan which envisioned abundant labor in the form of a landless class which would be employed on the consolidated landholdings that had displaced them (see Swynnerton 1955). In the event, the average size of consolidated holdings has consistently been below the minimum economic unit specified for various areas, and rather than increase employment opportunities, consolidation has contributed to landless unemployment (see Lawrance 1967, 1970; Sorrenson 1967). Consequently, the major emphasis on mechanization has been restricted to resettlement schemes and large-farm areas (see Hall 1968; Havelock 1971; Mettrick 1970). As of 1971 there were approximately 7,000 wheeled tractors in Kenya "of which probably 5,000 to 5,500 are on large-scale farms and estates. About 500 tractors are used by local and central Government, leaving about 1,000 to 1,500 in private or commercial use on small-scale farms,

building sites, commercial transport duties, etc." (Havelock 1971: 24).

It seems clear that the land consolidation and registration program in Kenya was originally founded on what Hayami and Ruttan (1971: 28) have identified as the conservationist model, i.e., European mixed farming. The fact that this pattern has not emerged as the dominant form of land use is due to several factors. First, landholdings are generally too small, and too great a proportion of the land is needed for subsistence crops. Second, farmers are anxious to plant any extra land with cash crops rather than leys or crops required for good rotation regimes (see Sorrenson 1967). Third, improved animal husbandry would require grade stock and many services not presently available to the majority of landowners. A real shortcoming of the program seems to have been its failure to substantially change the basic problems that existed within agriculture prior to consolidation. These problems include too many people in Central Province living in too small an area of arable land; too few job opportunities for landless laborers either on or off the farm; gearing farm plans to the larger farmer without giving adequate attention to smallholder problems; and the failure to achieve incomes much above the level of subsistence because the landholdings are too small.

By providing registered titles, the government provided the smallholder security on the land, but by its failure to provide complimentary services and alternative means of employment, the

result has been the institutionalization of peasant, subsistence-plus-cash farming rather than the dynamic, commercialized agriculture envisioned in the 1950s. At the same time, consolidation has exacerbated the problem of landless unemployment and strengthened the position of a minority class of landed gentry. In Meru it has disrupted the diversified pattern of traditional agriculture based on the use of different ecozones, increasing the risks for individual farmers in that area.

The returns from land consolidation and registration are generally thought to be produced by more efficient management, less time wasted walking to and from plots, greater availability of organic fertilizer, and reduction of costs for land litigation. While it is undoubtedly true that some of these benefits do exist, they hardly constitute an agrarian revolution in Kenya. Furthermore, with the exception of reducing litigation costs, there is no empirical, quantified data showing that substantial gains have actually been made from these benefits--they are simply assumed. Removing the ban on cash cropping may have provided more progress in African agriculture than all the supposed benefits of consolidation. It is quite possible that the money spent on consolidation could have been better spent on developing markets for cash crops--especially in light of the fact that refragmentation may occur very rapidly since the population problem has not yet been resolved.

#### B. The Special Rural Development Program.

The Special Rural Development Program (SRDP) in Kenya grew out

of the Kericho Conference held in 1966. The objectives of this conference were to discuss problems of rural development, education, and employment. Given the broad aims of increasing

"incomes and employment opportunities through increased agricultural productivity...the Conference suggested the establishment of 'pilot areas' covering a varied socio-economic cross-section of Kenya in which integrated approaches to rural development, supported by external funding sources, could be tried and tested" (Ascroft, et al. 1971: 1).

Since the immediate results of the Kericho Conference tended to be too general to provide practical guidelines for the development of specific programs, members of the staff at the University of Nairobi produced a paper in 1967 ("Pilot Projects in Rural Development" by L.G. Cowan, J. Heyer, and J. Moris) which attempted to set forth suggestions for initiating pilot projects. These suggestions included the establishment of a National Co-ordinating Committee to avoid duplication; the choice of pilot areas to represent different ecological zones and levels of development; accepting as a goal that the special programs be replicable in other parts of Kenya; and generation of baseline data for each selected area "to provide a basis for evaluating the usefulness and suitability for replication of the special programmes developed within them" (Ascroft, et al. 1971: 2).

Most of these suggestions were followed: in 1968 fourteen separate divisions<sup>1</sup> were chosen as potential SRDP areas and in 1969

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1. The divisions selected were a) several locations in Kwale District; b) Mbere Division; c) Tetu Division; d) Vihiga Division; e) Migori Division; f) Kapenguria Division; g) Irianyi Division; h) Mwandanyi Division; i) Yatta Division; j) South Imenti Division; k) Kiharu Division; l) Northern Division of Baringo; m) Northern Division in Nandi; and n) Central Division in Busia.

the National Rural Development Council was created "to co-ordinate SRDP efforts, and to negotiate external finance and technical assistance..." (ibid., p. 3). Replicability was officially accepted as a central objective, meaning that the injection of funds should not be so high as to prohibit similar efforts in other parts of the country. The aim was not to intensively develop one small area through a high concentration of developmental resources, but to use the pilot areas as experiments in testing innovative approaches to problems of rural development.

In 1969 a SIDA/FAO Mission visited Kenya and recommended sponsorship of "an integrated rural development project in the Migori Division" (SIDA/FAO Mission Report 1969: 2). The Mission gave ten general criteria for its selection of the Migori Division, several of which reiterated the broad objectives of the SRDP:

"(2)...the project would need to be located in an area with considerable unused agricultural potential, offering good prospects for making a marked impact within the lifetime of the project and thus demonstrating the value of the methods used.

(3)...As a pilot project, aiming not only at developing the immediate area but also at working out concepts and methods applicable elsewhere, our choice had to fall on an area broadly representative of some other parts of Kenya and where the objectives of the project could be expected to be achieved with an injection of resources on a scale modest enough to be repeated in those other regions....

(4)...the Mission felt it necessary to avoid recommending action, at this stage, in any area with particularly intractable difficulties of a general kind.

(5)...The Mission was...inclined to give preference to those areas whose agricultural development could most suitably be based on commodities for which the medium and long-term outlook on the international markets seems most promising.

(6)...The Mission took account of the stage reached by land registration and consolidation as this has a marked effect on

the efforts and investment which a farmer is willing to put into his land and also affects the farmer's ability to obtain credit.

(7)...In principle, the Mission attached great importance to communications, especially the road network and its condition in the wet season. (In practice, this criterion was not decisive since roads in all areas visited were far from satisfactory both in quantity and quality).

(8)...The prospect of being able to set up small but economic agricultural processing industries to improve the farmers' returns and to provide employment opportunities was regarded as a favourable factor.

(9)...The extent of self-help undertakings was noted as an indication of the enterprise and cooperative spirit of the people of an area." (SIDA/FAO Mission Report 1969: 5-6).

By 1971, external funding had been negotiated for five additional areas: Norwegian sponsorship in Mbere Division; American sponsorship in Vihiga Division; Dutch sponsorship in Kapenguria; German sponsorship in Irianyi; and British sponsorship in Kwale. Together, these six sites were to serve as "first phase areas" from which a certain amount of experience could be gained before extending programs to include the remaining eight divisions which had been selected as potential SRDP areas.

Program outlines were generated for each SRDP area, specifying the types of projects to be undertaken. Unfortunately, these outlines fell short of the objectives established for the SRDP, and because a variety of projects were to be introduced simultaneously with no control groups, experimental value was also largely negated.

"...the programme outlines themselves were put together by local level government personnel with some assistance from Central Government, few if any of whom were especially well versed in the processes of experimental design. As a result, they failed to incorporate to any appreciable degree normal methods of scientific experimentation involving appropriate treatments carefully introduced and evaluated against comparable control groups.

Each of the programme outlines so far developed for individual SRDP areas constituted a variegated package of diverse projects, programmes and experiments. If the entire package were to be introduced at the same time in any one area, the problem of evaluating the separate effects of its different components becomes so complex to be virtually impossible. Indeed, one would be reduced to determining whether the global package as a whole succeeded or failed. If it succeeded, we will never know whether we have carried forward for replication a number of uneconomical, deadwood projects; if it failed, we would likewise remain in the dark as to whether we have lost a number of innovations which likely would have succeeded if they were introduced in isolation of the rest of the package. The procedure is certainly not parsimonious, leave alone scientifically acceptable" (Ascroft, et al. 1971: 4-5).

Although the SRDP was certainly innovative in its conception, by the time specific programs were being suggested and planned the effort drifted back to a relatively conventional approach to rural development. This experience is instructive because it shows the difficulties of initiating truly innovative concepts. The complex set of factors involved in designing and implementing actual programs seem to be embedded in their own "traditions" which inhibit innovation. Some of these traditions are nothing more than biases and ideas accepted or held by those responsible for design and implementation. If tribal systems of land tenure are believed to depress agricultural productivity, changing the rules of tenure will undoubtedly be one of the programs suggested. Other traditions represent the vested interests of different governmental agencies. Still other traditions lie in the norms which govern the distribution of funds, the lines of communication, and the channels of influence and power. Generating a new concept or approach at a conference table is one thing, but it does nothing to alter the

structural and cultural organization of the system which must ultimately transform the concept into concrete action. In effect, the concept is modified and reshaped as it filters through various levels and stages. The more "traditional" the structural and cultural organization, the more the concept will begin to resemble pre-existing concepts until the programs that eventually emerge are programs that reflect traditional rather than innovative approaches.

Another weakness in attempts to establish innovative programs lies in the problem of effectively communicating the concept to all levels of personnel involved. By the time it has reached a young extension agent who is actually in contact with local farmers, the initial concept may well be lost or substantially altered. Even if the concept has been absorbed at a theoretical level, extension agents may have no idea how to translate it into action.

1. The Kwale SRDP. In 1972 three locations in Southern Kwale Division became an SRDP area. Because it was designated a rural growth point, the village of Kikoneni became the focus of rather intensive development efforts including land adjudication, provision of water, construction of a health center, and the posting of a sizeable cadre of extension personnel.

The Kwale SRDP illustrates many of the problems which face rural development programs in general as well as those which confront effective implementation of the SRDP concept. Of particular interest are the continuities which can be identified between priorities and specific projects of the Kwale SRDP and the basic



assumptions of the Swynnerton Plan. Too many of these assumptions have not been seriously re-evaluated since 1955 and they have become a kind of ideological tradition within the modern sector. One ideological bias which has persisted and has seriously undermined the SRDP is to disregard local practices and values. Two important corollaries are to see planning as the preserve of experts (i.e., to plan from above), and to see farmers as recipients rather than participants. It is difficult to meaningfully incorporate those who are defined as ignorant and backward; it is virtually impossible to have a dialogue if only one side is believed to possess any significant information or knowledge. While Swynnerton's definition of backwardness undoubtedly involved racial issues, current definitions are perpetrated by Africans against Africans based on educational and cultural differences. As far as developmental efforts are concerned, the latter can be as debilitating as the former.

The Kwale program was conceived as a sequential set of projects which would provide an integrated and holistic approach to rural development. The package included provision of critical infrastructural elements as well as specific efforts to upgrade health and educational levels within the area. The core of the program for the Kikoneni croplands was to be improved crop husbandry achieved through

"an intensive extension experiment which would focus on introducing entire mixed farming systems by on farm demonstration using volunteer groupings so as to cover both

small and medium farms with on farm training" (SRDP Kwale South, Data Sheet 14: 1).

In preparation for introducing the extension program, the following support services were planned (see SRDP Kwale, Project Report and Annual Evaluation Review 1973/74): .

1. Land adjudication to be continued to provide farmers with individual title deeds which will serve as a basis for obtaining agricultural credit. (This program was begun before Kwale became an SRDP site as part of the national level project to adjudicate all important agricultural lands; but provision of title deeds was also accepted as an essential part of the SRDP.) Those who are selected to participate in the on-farm demonstration of the mixed farming system will be required to have title deeds and then will be expected to apply for agricultural credit (see SRDP Kwale South, Data Sheet 14: 3).
2. Improvement of the road network to provide all-weather transportation.
3. Health improvement program to include:
  - a. provision of a potable water supply with public spigots placed at central locations throughout the area;
  - b. construction of a health center oriented to diagnosis and out-patient care (in-patient facilities to be restricted to providing temporary accommodations for patients awaiting transfer to the district hospital at Msambweni);

- c. assignment of a mobile health education team to be stationed at Kikoneni.
4. Community development program to include:
  - a. training and seminars for local leaders;
  - b. women's group leaders courses;
  - c. functional literacy projects;
  - d. self-help projects;
  - e. day care center projects.
5. Establishment of a producers' cooperative to provide marketing services and loans.
6. Agricultural services program to include:
  - a. central tree crop nursery at Mtwapa Agricultural Research Station;
  - b. coconut nurseries in SRDP area;
  - c. sugarcane nursery in SRDP area;
  - d. agricultural service center.

To avoid the mistakes in other SRDP areas, large introductory barazas (meetings) were not convened to announce the program in Kwale. Such barazas had normally been called too far in advance and had had the effect of generating excessive expectations long before any concrete action could be taken. By the time projects actually got under way, local people had frequently become apathetic and disinterested (see *An Overall Evaluation of the SRDP*, Occasional Paper No. 8, 1972: 53).

Planning for the implementation of the SRDP projects in Kwale

was also influenced by awareness of a local attitude of suspicion toward government programs. At least some of the Wadigo viewed both the SRDP and the land adjudication program as projects designed to benefit immigrant settlers: "Already many Digo are apparently convinced that 'SRDP' is a code word for a Kwale immigrants' improvement plan. This suspicion has been voiced in County Council" (Almy and Mbithi 1972: G-24). To some extent this attitude is based on earlier experience with the Shimba Hills Settlement Scheme in which the government sponsored an influx of settlers in attempts to develop the Shimba Hills area (see SRDP, Occasional Paper No. 8, 1972: B-5). This attitude is also part of a more general feeling that the central government gives greater emphasis to development in up-country regions and favors up-country peoples. Since the initiation of both land adjudication and the SRDP occurred very shortly after the spontaneous influx of up-country settlers began in the Kikoneni area, local Digo opinion associates government concerns for development with government concerns for up-country settlers.

In an attempt to overcome negative impressions and to generate public support, the following strategy was adopted at Kikoneni:

"Launching of SRDP to be followed by a popular, ready-to-go project which:

- a) Meets with immediate widespread approval.
- b) Visibly involves and benefits many people at once.
- c) Has highly predictable short-run pay-off.

It is reasoned that a project with such qualities following immediately upon mobilization will generate public goodwill and increase Government credibility, thus facilitating introduction of later less popular projects" (Overall Evaluation of the SRDP, Occasional Paper No. 8, 1972: 36).

The projects which were felt to best meet these criteria were provision of a potable water supply and the road improvement program. Consequently, these projects were given priority. It was hoped that the benefits gained would alleviate the negative image of government-sponsored development programs in general and demonstrate the positive role envisioned for the SRDP in particular.

In light of the tremendous importance attached to the water supply project, it was especially unfortunate that it became embroiled in a series of political and technical problems. Both selection of the first area to be serviced and construction of the pipe trenches became foci for inter-ethnic as well as intra-ethnic rivalry (see Mutiso 1972: B-13). Phase I was planned to service Kikoneni village not because it was the area with the greatest water shortage but because it would provide an early, visible demonstration effect within a Digo population. This selection created resentment among Kamba settlers and among Digo groups not living in the immediate Kikoneni area. Resentments were exacerbated when it was decided that digging trenches was to be done as a self-help project rather than by hired labor:

"Major problems arose out of the fact that the Kambas of Mwanayamala and Digos of Kigombero, ... who did most of the trenching up to about  $\frac{1}{2}$  mile from the chief's center, are not to receive water until Phase II. The Digos around the chief's center were refusing to trench until political pressure from the Provincial and District level as well as MPs [Members of Parliament], was brought to bear on them" (Mutiso 1972: B-13).

Since those who did a majority of the trenching were not to receive

water until Phase II, they naturally resented the selection of Kikoneni village for Phase I. On the other hand, the population of Kikoneni village had been told that trenching was to be done by hired labor and they developed their own resentments when pressured into doing this task on a self-help basis. The net result of this project was to demonstrate the imposition of a plan controlled from the outside and it was imposed in such a way that resentment was generated among all groups.

In spite of such problems, considerable progress was made in implementing the support services before and during the period of my fieldwork. By 1974 land had been adjudicated and registered in five sublocations (Bumbani A, Bumbani B, Bumbani C, Mrima and Mwanayamala) which included all of the Kikoneni area. The road connecting Kikoneni with the major tarmac highway through Mrima had been improved (C108) as had the road connecting Kikoneni and Mwanayamala (D547). Work was in progress on the road connecting Kikoneni with Msambweni through Vivwini (D547) which would provide a shorter route to Mombasa. The water supply project was complete through Phase I--i.e., nine public spigots were in operation in and around Kikoneni village. Construction of the health center was very near completion at the time I left the village in August, 1975. All five parts of the community development program had been initiated and a producers' cooperative, the Kikoneni Farmers Cooperative Society, had been established in 1973. The agricultural services program had also achieved progress: planting material for 6,718

trees had been sold to farmers in South Kwale from Mtwapa and 3,632 plants had been sold from a coconut nursery established at Msambweni (SRDP Kwale, Project Report and Annual Evaluation Review 1973/74: 32); a sugarcane nursery was begun at Kigombero but problems were encountered making it necessary to cut most of the cane and sell it to the factory; and a building had been constructed in Kikoneni to serve as an agricultural service center although it had not yet been equipped.

In terms of visibility, the SRDP had accomplished considerable impact by 1975. Even farmers who had never heard of SRDP, much less understood its goals, had been affected by one or more of the programs. Reactions to these changes have been complex: it is sometimes possible to identify particular responses with specific categories of people, but individual variation is great and even single individuals will react positively to some projects but negatively to others. Under conditions of rapid change, it is reasonable to expect wide ranges of opinion. The significance of any given change will not be fully understood immediately; perceptions and misperceptions must be circulated before the community (or its subgroups) can begin to develop consensual judgments. Since the changes initiated by the SRDP are so recent, the climate of opinion is still in flux and the level of misinformation tends to be high.

The land registration program has not yet inspired many farmers to go through the necessary steps for obtaining title deeds. The process involves paying a fee of approximately KSh 4.00 per acre

and cash outlays are naturally unpopular. Some people seem to believe that this is a recurring, annual fee and therefore view it as exorbitantly expensive. Very few farmers seemed anxious to have title deeds. While some openly reject the importance of "carrying your farm in your pocket as a piece of paper (which can be lost)," others feel that title deeds are important. It was interesting that farmers owning land near the Ramisi sugar plantation saw the main value of legal titles as protection against government confiscation of land. Others thought that title deeds might offer some protection against claims of in-coming settlers who are buying land from the Wadigo--they did not also observe that title deeds permit land sales which permanently alienate the seller from the land (an impossible transaction under traditional rules of tenure). Since credit has not been readily available, title deeds are not yet associated with gaining access to this resource. Many farmers expressed a strong interest in obtaining loans, however, and this may eventually stimulate a greater desire for having legal titles.

Improved roads have ushered in a remarkable increase in bus service. In 1973 only four buses arrived regularly in Kikoneni; in 1975 fourteen buses were routed through the village and half of them made the trip twice a day making it possible to catch a bus at twenty-one different times during any one day. Before the roads were improved, Kikoneni was entirely cut off during periods of heavy rain. In 1972, Mutiso made the following observations:

"For all practical purposes there are no roads in Kikoneni Location....During the rainy season it is only 4 wheel drive vehicles which can even get to the centers /i.e., Kikoneni



village/....C108 from A-14 to Shimba Hills-Kikoneni Mrima needs extensive work; parts are impassable even with rally driving on 4 wheel drive" (Mutiso 1972: B-12).

Of course, not everyone needs or can afford to take advantage of bus transport, but many do. For those who use buses to transport produce or lorries to transport sugarcane, improved roads are an asset. They also allow uninterrupted stocking of local shops so that tea, salt, kerosene, etc., are always available. Nonetheless, one very old man looked at the road and said, "The government wants roads, so we get roads whether we want them or not." To him, the road program was simply one more intrusion. Some men maintain a skeptical attitude, believing that the first year of heavy rains will wash out even the improved roads and the government will have spent a lot of money for nothing. In one conversation a group of men were debating whether living near a road was an asset or a liability--chickens get run over in the road but it is easier to transport produce. (There was no final concensus of opinion on this question.)

Although roads are readily visible and ultimately may have an impact on nearly everyone in the community in terms of the availability of goods, for those who continue to walk and to head-load produce there is little tangible effect and the benefits may appear remote.

Opinions concerning the water supply project are heavily influenced by proximity to an operating outlet and also by the ability to pay the annual KSh 24.00 fee for the right to draw water from project outlets. Those who can and do use the water outlets are

very enthusiastic about the project. Some of those who cannot use the outlets because of distance are enthusiastically waiting for the project to be extended. Nonetheless, the resentments described earlier still remain and were reasserted when the river began to dry up in 1975. As the water supply dwindled, a rash of rumor and opinion emerged. It was claimed that people up-river were diverting or over-using the water and the government would have to regulate the situation. One sub-chief believed that the problem lay in clearing fields up to the river's banks, thereby reducing the runoff and increasing evaporation and he began visiting farmers to tell them they must henceforth leave a belt of heavy vegetation along the river (which would also harbor monkeys and baboons). Some Wadigo told me that the Kamba settlers came from a dry area and they were bringing the dryness with them into Digo territory. The Peace Corps Volunteer working on the water project thought the river bed was clogged with silt and vegetative debris and he recommended that a self-help project be organized to dig out the channel. Such a group was organized and men dug out the channel over a distance of about  $\frac{1}{2}$  mile, but the result was insufficient to provide enough water for even one day's consumption. It was at the baraza held to organize this self-help group that the old resentments concerning selection of Kikoneni village were expressed again.

The temporary failure of the water project during the dry season certainly encouraged skepticism about the efficacy of government projects. Those who had paid for water were in no better position than those who had not paid. The project failed at pre-

cisely the time that other sources of water were also minimal, which forcefully demonstrated the inability of the program to control the environment in favor of human needs. Everyone had to resort once again to the natural sources of water in the area. During the critical season of the year, the elaborate man-made machinery sat idle, unable to alter the basic pattern of head-loading water from local streams and springs as the Wadigo have done generation after generation.

Digo attitudes concerning health and illness are very firmly rooted in ideas of witchcraft and are most closely associated with local waganga (doctors). When a person becomes ill, traditional curing methods are tried first. Only when traditional cures are perceived as ineffective is a person likely to be sent to the clinic in Kikoneni or the district hospital at Msambweni. Even one of the sub-chiefs, who had completed a year of secondary school, engaged local waganga for two weeks after his six year old son became ill. When the boy was hardly breathing his father finally took him to the hospital where he died that night. Until these attitudes change, the importance of the health center is likely to be marginal. It is also true that conditions at the hospital are not always conducive to recovery and patients may even contract fatal diseases when being treated for less serious disorders. The dispensary in Kikoneni, while supplied with Western medicines, is staffed by a man who has no medical training and who gives penicillin for such ailments as headaches. It should be added, therefore, that until the quali-

ty of health services is up-graded, Digo attitudes may be largely legitimate in regarding Western medicine as nothing more than a last-resort alternative to traditional cures.

2. SRDP Agricultural Recommendations. Although virtually all support services included in the SRDP plan had at least been initiated, the core of the program--the agricultural extension plan--was still in a very early stage of implementation during the period of my fieldwork. My evaluation of the three-course rotation recommended for the Kikoneni croplands<sup>1</sup> is, therefore, based not on farmers' responses but on my own understanding of Digo agriculture.

At one level the recommended SRDP rotations seem to introduce little change. Priority is still given to maize; crops are interplanted; and none of the selected crops are new introductions. Groundnuts have apparently been more popular in the past, but one of the case study farmers has planted a small plot this year. Sesame, green grams and pidgeon peas are all widely planted at present.

Yet despite this superficial resemblance to current cropping patterns, the SRDP recommendations involve significant changes in Digo agriculture in the form of cash inputs, labor patterns, and food crops available for subsistence needs.

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1. The SRDP recommends the following three course rotation for the Kikoneni croplands: 1) maize interplanted with sesame; 2) groundnuts; 3) pidgeon peas interplanted with green grams. This rotation is to be combined with five tree crops: coconuts, bananas, cashews; mangoes and limes.

Cash inputs such as tractor hire, improved seeds, fertilizers and insecticides are the important elements of the SRDP package. In combination, these inputs can reduce the labor constraint, eliminate the need for fallowing, and increase production through the manipulation of plant characteristics and control of insects. Without cash investment, the projected incomes for the SRDP rotation would fall drastically. Yet neither Digo nor Kamba farmers show substantial rates of cash investment in farming. With SRDP estimates adjusted to the cultivated areas of each case study farm, Digo farmers average only thirty-six percent of the low SRDP estimate for cash inputs while Kamba farmers average only twenty-eight percent. Using the high SRDP estimates, Digo farmers average seven percent and Kamba farmers five percent. The type and rate of cash investment envisioned under the SRDP recommendations are virtually non-existent on the vast majority of farms in the Kikoneni area. The lack of cash investment in farming cannot be assumed to be solely attributable to a lack of cash resources since five of the ten case study farmers managed to invest an average of KSh 10,619.69 in non-farm business ventures and even the high SRDP recommendations for investment in farming average only KSh 849.03.

Changes in labor patterns would also be required if the SRDP rotation were adopted. Crops not included in the rotation presently absorb twenty-nine percent of all labor on Digo case study farms and thirty-two percent of all labor on Kamba case study farms. Adoption of the rotation would therefore require redirecting nearly

one-third of farm labor inputs.

Current labor patterns contain different types of rigidities in the allocation of labor. Hired labor should be easily redirected while family labor may be more difficult to alter. Annual crops are more easily substituted than perennial crops and cash crops should be more easily substituted than food crops--thus, labor committed to perennial or food crops can be expected to be more rigid than labor committed to annual or cash crops.

Looking only at Digo labor patterns, the twenty-nine percent of all labor absorbed by non-SRDP crops is allocated as shown in Table 17.

TABLE 17

## ALLOCATION OF LABOR TO NON-SRDP CROPS

Non-SRDP Crops	Family Labor	Hired Labor	Total
Perennial Food Crops*	5%	1%	6%
Annual Food Crops	10%	-	10%
Subtotal	15%	1%	16%
Perennial Cash Crops	8%	4%	12%
Annual Cash Crops	1%	-	1%
Subtotal	9%	4%	13%
TOTAL	24%	5%	29%

\* Includes cassava.

Even though hired labor (5%) should be easily redirected, this is made difficult on the Digo case study farms because all hired labor is allocated to perennial crops. Perennial crops also absorb thirteen percent of family labor, making eighteen percent of all labor relatively rigid. The eleven percent of all labor devoted to annual crops is almost entirely (i.e., ten percent) given to foods which are also relatively rigid (see below). The most easily substituted enterprises, the annual cash crops, would redirect only one percent of all labor. Thus, it appears that it would be difficult to direct twenty-eight percent of all labor on the Digo farms toward SRDP crops.

The most important crops which would be displaced by the SRDP rotation on the Digo case study farms are:

- a. Food Crops--rice, cassava and cowpeas;
- b. Cash Crops--sugar, chillies and cotton.

In deleting these six crops, thirty-two percent of female family labor time would have to be redirected compared to only twenty-four percent of male family labor time. The greater dislocation of female labor is due to two factors: 1) women spend a greater proportion of their farm labor time on food crops than do men, and 2) family labor time devoted to non-SRDP food crops (15%) is greater than that devoted to non-SRDP cash crops (9%). It is quite probable that female labor patterns are more rigid than male patterns since women carry a greater proportion of the responsibility for producing subsistence foods. By deleting rice, cassava and cowpeas,

the SRDP rotation radically reduces subsistence production and also assumes that female labor will be redirected toward cash crops. Since rice is a preferred food, and since cassava is a low-risk crop compared to maize, it is unlikely that women will cease cultivating these food crops willingly. Elimination of dietary staples invites rejection of the program unless the new rotation proves sufficiently profitable to permit purchasing those items. Even so, women have less to gain from cash crops since men control cash resources and husbands may be unwilling to spend money on rice or cassava. It may also be more economical to produce these crops than to purchase them if market prices are high.

Another assumption underlying the SRDP rotation is the idea that all crops, including maize, are to be considered cash crops. This, too, represents a fundamental change in the Digo economy since Digo agriculture is predominantly subsistence oriented. Maize is not normally sold by Digo farmers, but more importantly it can be considered improper to do so. Since maize is the basic dietary staple, an adequate supply is needed to meet the subsistence needs of each household. Failure to produce enough maize means economic hardship and often periods of severe hunger for individual families --who then become a burden on relatives and friends. Those who sell maize in order to get cash income and then spend the money on luxuries are also unable to feed their families adequately and so become an economic burden. In an effort to prevent the latter case, one of the sub-chiefs (there was no chief at the time) issued the



following "chief's order" on June 12, 1975:

"Due to the problem which recently affected farmers and the people of Kikoneni Location, namely the problem of hunger experienced last year because of the abnormal shortage of rain in this Location, I am taking this opportunity, as Chief of this Location, to refuse and prohibit the transport of maize from this Location to another Location or to any town such as Mombasa for the purpose of selling maize. Exceptions will be made only for those persons who have problems such as paying school fees for their children. Before receiving permission to sell maize, an investigation will be carried out to establish that their requests are truthful and not deceptive." (Translated from Swahili original).

Digo reactions to this order were significantly different from Kamba reactions. Digo farmers, with some exceptions, felt that it was an appropriate action for the sub-chief to take. Quite a number of Digo farmers were simply unconcerned since they did not plan to sell maize in any case. Kamba farmers, on the other hand, were agitated and several were quick to seek special permission to sell maize. Those who did not seek permission tended to feel that the action was not only inappropriate but also impossible to enforce and therefore they could sell maize without fear of punishment.

Although attitudes toward marketing produce do vary within the Digo community, there is still a fairly strong consensus that categorizes maize as a subsistence food crop and inhibits the sale of maize. While Kamba attitudes are ostensibly more market oriented, in practice Kamba farms, like Digo farms, are primarily subsistence oriented (see Appendix D).

#### C. Continuities in Policy.

The assumptions embodied in the Swynnerton Plan were deeply rooted in a belief that African systems of agriculture were funda-

mentally backward and that social institutions, particularly those concerned with land tenure and inheritance, simply reinforced traditional production practices. The core of the problem of modernization was thus seen as something internal to African societies.

Traditional forms of land tenure created a dual set of factors which were assumed to inhibit progressive farming. On the one hand, insecurity on the land was attributed to traditional tenure systems, offering low incentives for substantial investments in farm improvements or the expansion of enterprises. On the other hand, traditional tenure rested on inheritance systems which continually fragmented landholdings which further suppressed investment since plots became too small for good commercial production. Furthermore, traditional farming was seen as merely extracting what it could without benefit of those practices which could stem depletion of vital resources resulting in general ecological decline. Fragmentation contributed both to poor management and to a lack of conservationist practices.

The basic remedy prescribed was the introduction of private ownership and the consolidation of landholdings. It is interesting that little effort was made to alter traditional rules of inheritance since the pattern of fragmentation was largely the outcome of local systems of inheritance. It is reasonable to think that the process would simply re-emerge despite wholesale consolidation of plots if inheritance rules themselves were not changed. In any case, the remedy was an attempt to alter the basic relationship between social institutions and the land resource in what was

believed to be a progressive step in social evolution--i.e., establishment of the institution of private property.

The Swynnerton Plan also embodied the basic tenets of capitalism, for both land and labor were to be increasingly brought within the sphere of the market economy. Modernization was essentially equated with commercialization of the production process. Private ownership, instituted in the form of legal title deeds, would provide the basis on which land sales could be transacted. Supply and demand would then redistribute the land resource to those most interested in owning, and presumably developing, land. Those who were disinterested or so inefficient as to be unable to generate a profit, would sell and become a labor pool for either agriculture or industry. In selling land, a man surrendered access to the means of production and was left with only his labor power which he would be forced to exchange for wages in order to buy food. The net result would be the most efficient use of land, since inefficient users would gradually be eliminated and moved into the class of landless wage laborers.

Private ownership was also to provide the basis on which the land resource could be increasingly capitalized. Title deeds could be used as collateral for loans. Without them, African farmers would be excluded from the rich resources held by international banking houses, since rules of supply were deeply entrenched in the capitalistic system. Private ownership was to provide both the incentive for greater investment in land by giving security of

tenure and the means for greater investment by giving access to credit. Obviously, this assumed that investment capital could not be generated from the land itself, at least not in the initial stages of development or not in sufficient quantity to supply the demand.

The priorities of the Swynnerton Plan were not in marketing or research or even in education. The priorities were in introducing basic structural changes that would create a market economy in the African sector of production. Through government policy, "pre-capitalist" societies were to be transformed and incorporated within the capitalist system. It was a transition from "primitive" to "modern;" a step away from backwardness toward progressive social and economic evolution.

The SRDP in Kwale shows interesting continuities with the assumptions embodied in the Swynnerton Plan. The initial emphasis has been on structural changes with respect to the land resource. Assuming that credit would be required to modernize agriculture in the Kikoneni area, and further assuming that legal title deeds would be necessary to gain access to credit, lands were surveyed, adjudicated and registered. No effort was made to consolidate holdings, nor was any minimum farm size established for economic commercialized agriculture. The program quite simply aimed at providing legal title to serve as the basis for obtaining agricultural credit.

The core of the program, being the introduction of an entire mixed farming system, also reiterates the goals of the Swynnerton Plan. The mixed farming system is assumed to utilize production resources efficiently and at the same time to conserve those resources. Officially, participants in the demonstration of mixed farming systems should constitute a representative sampling of the community which would include both small and medium sized farms. Nonetheless, there is a bias toward the progressive farmer on the part of key staff members who are responsible for implementing the program.

Although the SRDP plan includes a variety of projects aimed at health and education, the core of the program is explicitly geared to transforming the production process. The SRDP package is designed to commercialize agriculture in the Kikoneni area. Not only does it require greater cash investment in farming, it also brings both land and labor under greater control of market forces. By providing individual title deeds, permanent alienation of land is now possible through sale transactions; and by devoting nearly all labor to cash crops, labor allocations should theoretically respond to market conditions rather than subsistence needs. The emphasis on cash crops would also have the effect of forcing farmers to purchase greater proportions of their subsistence needs from the market. The farmer is expected to purchase farm inputs and consumption needs while he sells those crops he specializes in producing. Thus, the SRDP package commercializes the major factors of production as well

as exchange relations and consumption patterns.

The priorities of the Kwale SRDP, however innovative at the time of conception, are essentially the same as those set forth by Swynnerton. Yet changes within Digo society have made some of these priorities redundant. Commercialization of land did not await government adjudication programs nor did the emphasis on hired labor come about as a result of government planning. Thus, both land and labor have become increasingly subject to market forces as the result of indigenous processes of change.

On the other hand, some priorities of the SRDP may meet with failure simply because the local economy is not adequately understood. The exclusive emphasis on farming ignores the importance of non-farm businesses, while the assumed direction of resources into cash cropping ignores both subsistence requirements and current investment patterns.

Since the image of Digo backwardness is assumed to indicate that Digo men cannot be trusted to use credit appropriately, the program calls for a supervised system in which the farmer receives no cash but actual farm inputs such as seeds, fertilizers and insecticides. Not only does this give virtually complete control to extension agents, but it also precludes any flexibility in the investment of credit.

On the basis of my data, which are admittedly based on a very small sample, agricultural production might be more rapidly and effectively increased by encouraging expansion and diversification

of non-farm businesses. Returns from these ventures could then be invested in both business and farming.

Whatever the appropriate strategy, the continuities between the Swynnerton Plan and the SRDP demonstrate several important considerations. First, rigidities and resistance to change are not the private preserve of the traditional sector; they are also found in the modern sector. Second, there is a tendency to conceive of rural development rather narrowly as agricultural development. Third, planning continues to be exclusively controlled by "experts" and an image of Digo backwardness is taken as justification for treating them as ignorant and irresponsible. Fourth, tradition itself continues to be viewed only as an obstacle to development and Digo agriculture is to be replaced as quickly as possible with a European model of farm production including straight rows and pure stands of single crops despite the accumulating evidence that such practices are not well adapted to tropical conditions.

Given such considerations, it should be obvious that the problem of backwardness does not lie only in the traditional sector. The modern sector also contributes to the problem, and solutions must be sought for the obstacles existing in both sectors.

## CHAPTER VIII

### CONCLUSION

The concept of backwardness is immensely broad, both in its theoretical aspects and in the diversity of conditions to which it can be applied. The purpose of this thesis has not been to provide definitive criteria or definitions of the term, but to explore some of the theoretical dimensions and some of the empirical evidence in the case of Digo society. As a conclusion, each of the four questions raised in the introduction will be answered to summarize the basic arguments put forward in earlier chapters.

A. Why are the Wadigo considered backward--i.e., what are the conceptual components of Digo backwardness?

There is no single set of criteria on which the image of Digo backwardness is based and different observers apply a variety of criteria. Digo society is a small-scale, kinship-based system. Also, the majority of the Digo people are poor, uneducated, and without significant political power. Any or all of these characteristics have been used as indicators of backwardness.

Other criteria are also being applied to the Wadigo. An educated Luo man informed me that he considered them backward because "they continue to live in slums even if they have money." When asked to elaborate, he seemed to mean that they do not adopt a more Western style of living, continuing to sit on mats instead of chairs or eating with their fingers instead of forks. Equating Western cultural



practices with modernity produces a fallacious notion of development and illegitimately views the customs of other peoples as backward:

"it associates technical updating with the diffusion of such Western inventions as two-piece suits, Bartok quartets, and cigarettes--traits which make no demonstrably greater contribution to efficiency and rational adaptation than do Chinese vases, Persian poetry, or saki" (Levine 1968: 130).

Such an approach to backwardness is objectionable on theoretical grounds because it is a form of Western ethnocentrism, even when voiced by a Kenyan, and because it implies that no indigenous, non-Western patterns can be fully modern or fully adapted to modern conditions.

As applied to the Wadigo, the image of backwardness has been at least partly disclaimed by some researchers. Gerlach believed that the image is consciously perpetrated and encouraged by the Wadigo themselves:

"after taking the unusual step of praising the diversity of Digo agriculture, Sulymani remained true to Digo norms and bemoaned the 'poverty' and backwardness of his people. A Digo characteristically - and with some justification - believes that everyone else will be envious of any success he may have, and attempt to make him share his wealth. Thus, to protect his interests and also save him from higher taxes, a typical Digo will pretend to be poor, and Sulymani was scarcely an exception to this pattern.

"It is partly because of such patterns of dissimulation that the government of Kenya believed that the Digo food economy was much poorer than was actually the case" (Gerlach 1965: 245).

Similarly, after conducting research in the area, Ingle (1971: 11) concluded that "it should be stressed that Kikoneni is not nearly as backward an area as it is sometimes described."

Thus, Gerlach and Ingle, who have recently worked among the Wadigo, independently determined that the image of Digo backwardness has been overstated. My own research also shows that while many of the Wadigo are most certainly poor, many others are doing well by Kenya standards

and there is ample evidence of local entrepreneurial skill and interest.

The confusion over just how backward Digo society really is can be attributed in part to the imprecision of the term which necessitates relying on impressionistic criteria. Confusion is also due to the co-existence of both backward and progressive elements. This is further evidence that traditional societies are not wholly consistent or homogeneous, but it also indicates that there is no scale which weights the value of different features, leaving each investigator to make his/her own judgment as to relative degrees of backwardness.

At a purely descriptive level, then, the concept of backwardness lacks precision, providing only an unspecified notion of underdevelopment based on subjective judgments. In some cases, applying the term backward is an instance of what Gearing (1970) calls "non-description"--i.e., describing a group of people by what they do not have. To describe the Wadigo as backward is to leave them undescribed and at the same time to prejudice the case by labelling them with a pejorative, low status adjective.

B. What is the relevance of the idea of backwardness for theories of development or modernization?

The proliferation of so many alternative theories of development, which have been neither proven nor disproven, is further testimony to the confusion surrounding the idea of backwardness and the wide spectrum of its possible causes.

It is not the diversity of theories per se that poses a danger. Having numerous alternative theories is problematic, but since this diversity is at least partially a function of the complexity and

diversity of social change itself, it is probably somewhat representative of reality. The danger lies in the tendency to adopt one or another theory as providing a conclusive and definitive answer. Single-factor theorists such as Nisbet, who argues that only external events can cause major social change, or Kerr, et al., who see Western industrialism as the only pattern possible for modernizing societies, introduce dogmatic interpretations which are little more than speculations supported by selective data.

In concrete instances, it becomes virtually impossible to isolate specific factors in order to establish empirical evidence for single causes of either change or backwardness. In the Digo case, evidence could be used to support nearly every model discussed in Chapter II. Structured underdevelopment has had its impact but so have diffusion, external events, and contact with more developed groups. Although my data are insufficient to evaluate the role of leadership, population density, competition with other ethnic groups or ecological variables, any or all of these may have contributed to the status of Digo society. Traditional values and organizational structures simply add a wide range of additional variables which are not easily controlled.

Under these conditions, it seems foolhardy to adopt an extreme or narrow position and certainly it is premature to accept too rigid a conception of the development process. In earlier chapters, I have argued that the idea of backwardness has become embedded in a dichotomy between tradition and modernity and that there is a predominant tendency to view tradition as an obstacle to development. These applica-

tions of the idea of backwardness create rigidities in our understanding of modernization and produce misguided policies and strategies. As I tried to demonstrate in Chapter V, the role of tradition is an ambiguous one presenting both incentives and disincentives for economic development.

The idea of backwardness, rather than clarifying theoretical formulations of development and modernization, seems only to obscure the issues further. Since the idea of backwardness is so often constrained by stereotypic or ethnocentric notions, theories or strategies of development based on such conceptions will also suffer the same defects.

C. What is the relevance of backwardness for future development or modernization among the Wadigo?

The concept of backwardness does not offer any predictive power. A condition of being backward does not necessarily indicate that the condition will continue nor does it preclude future change. This is not to say that no rigidities exist or that there are no obstacles to modernization, but a priori assumptions concerning the relative rigidity of various factors seem unwarranted. Values and beliefs can be altered and modified just as structural organization and economic conditions are susceptible to change. Basically, I agree with Muraskin's (1974: 1495) opinion that "almost all the material available about the probability of rapid or slow social change is highly speculative and philosophical." For example, the idea that obstacles rooted in child-rearing practices or enculturation are necessarily more resistant to change than obstacles rooted in objective conditions of poverty has not been adequately established and has aroused considerable controversy

(see Banfield 1958, Leacock 1971, Lewis 1966, Muraskin 1974, Silverman 1968).

Among the Wadigo, the evidence for flexibility and change is at least as strong as the evidence for continuity and resistance to change. New cropping strategies organized around recently introduced cash crops,<sup>1</sup> changes in the division of labor, adoption of new principles of inheritance and the establishment of new business ventures are only a few examples of Digo capacities for absorbing and responding to changing conditions.

Even if it can be argued that Digo society is both traditional and backward neither of these conditions can automatically be associated with resistance to change. What rigidities exist are a matter for empirical investigation and cannot be established deductively. This is consistent with viewing traditional elements as being ambiguous with respect to development and as having the potential for either supporting or inhibiting change.

In my treatment of the Digo case, emphasis has been placed on flexibility and change but there are rigidities. Perhaps most important is the rejection of Western education in favor of Islamic training in "madrassa" or Koran schools. There is a fear that Western education will alienate students from the religious and ideological precepts of Islam and perhaps result in their conversion to Christianity. Since much of Western education in East Africa has been closely tied to Christian missionary activity and since the great majority of teachers

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1. Cashewnuts were introduced by extension agents only some thirty years ago and commercial sugar production has been a response to the opening of the Ramisi sugar factory in the 1950s.

in government schools today are Christian, Digo fears are not totally unfounded. Unfortunately, rejection of Western education has secular consequences and undoubtedly prevents many capable Digo people from pursuing careers that would establish them in positions of greater power and responsibility thus reducing their image of backwardness.

Yet the example of Islam's influence on education also illustrates the ambiguity of particular traits and the necessity of empirically establishing what elements actually become rigidities. In comparison with the Waduruma, the Wadigo appear progressive precisely because they have adopted Islam while the Waduruma have remained pagan. Furthermore, Islamic law has induced adoption of patrilineal inheritance and the subsequent concentration of economic activity within the conjugal household which Swynnerton, at least, would have viewed as progressive. Had an Islamic administration, as envisioned by Hardinge, actually been established in Kenya and had it been centered in Mombasa rather than Nairobi, it is hard to imagine that Digo fortunes would not have been quite different and their adoption of Islam would not have supported upward mobility rather than inhibiting it.

Rejection of Western education by Muslims is not peculiar to the Wadigo. The problem is more widespread and includes Arab and Swahili groups as well as Islamicized African tribes. But there are leaders within Islam who are trying to find viable solutions which will permit secular as well as religious education (see Salim 1973).

A condition of backwardness does not preclude future development. History, tradition and objective economic conditions will continue to influence the status of the Digo people, but the configuration of fac-

tors plus the structure and quality of intergroup relations can lead to different outcomes. Backwardness itself cannot predict whether future configurations will result in progressive change or not.

The relevance of backwardness for future Digo development does not rest in its predictive power but in its contribution to perceptions of the Digo people and to the policies, strategies and intergroup relations which flow from these perceptions. If the image of Digo backwardness is automatically equated with resistance to change, much of Digo society will be misrepresented and policies for change will be misguided. Facile but inaccurate assumptions associated with backwardness can inhibit progressive change as much as the rigidities and obstacles existing within Digo society.

D. What is the utility of the concept of backwardness as a tool for the social sciences?

The concept of backwardness combines so many negative qualities that it cannot be said to serve as a tool in any effective way. The term is imprecise, often an instance of non-description, pejorative in connoting lower status, highly susceptible to ethnocentrism, and often associated with stereotypic notions of tradition. All too frequently backwardness is taken to imply resistance to change.

In the case of Digo society, the image of backwardness obscures rather than clarifies salient features and on-going processes of change. Such an image tends to focus on traditional practices as obstructions rather than focusing on, and more clearly identifying, specific social or economic problems.

Neither at a descriptive nor at an analytical level does backwardness provide an operable conceptualization of issues surrounding development. At best, it serves as a mirror for a variety of theoretical and descriptive difficulties that have yet to be resolved and shows some of the pitfalls to be avoided.

Since the idea of backwardness has become so encrusted with ethnocentric and stereotypic notions of resistance to change, Western culture and traditional societies, it inhibits rather than facilitates our understanding of so-called backward peoples. We need to divest ourselves of both the labels and the associated images and concentrate instead on understanding how various configurations of features and historical events interact in specific instances. Such an approach confronts us with a more complex descriptive and theoretical task, but it also frees us from some of the ethnocentric and stereotypic encrustations and allows much greater flexibility in our interpretations and categorizations of different socio-cultural features, thereby removing some of the rigidity and resistance to change which plagues "modern" programs and policies. Finally, it should discourage searching for universal formulae that do violence to the great diversity of human experience; instead, it should encourage searching for creative solutions based on the particular character and structure of any given group of people as well as the objective realities they face. Progress itself is, after all, a creative process.



APPENDIX A

CLIMATIC DATA\*

	Temperature		Barometric Pressure Average (in.)	Relative Humidity Average	Wind Speed Average (MPH)	Rainfall Total (inches)
	Average Max. °F	Average Min. °F				
Sep	79.4	70.7	29.8	84.4	12.7	.92
Oct	83.1	73.5	29.7	85.8	14.2	1.72
Nov	84.3	76.3	29.7	86.3	14.3	4.27
Dec	86.9	78.0	29.6	83.0	21.0	.71
Jan	86.9	77.9	29.7	81.6	20.2	.91
Feb	88.9	78.2	29.7	82.0	24.7	0.00
Mar	89.9	79.1	29.6	81.9	19.8	.81
Apr	81.8	77.2	29.7	89.9	12.6	6.28
May	82.8	76.3	29.7	90.4	12.7	7.91
Jun	79.8	74.1	29.8	90.0	14.9	4.71
Jul	79.0	72.9	29.8	93.3	12.0	2.99
Aug	78.8	72.0	29.9	92.6	13.4	2.29

\* Data collected at my house in Kikoneni from September 15, 1974 through August 28, 1975. Relative humidity readings normally taken between eight and nine o'clock in the morning.

APPENDIX B

SOIL ANALYSIS\*

	Soil 1**	Soil 6	Soil 10***	Soil 51	Soil 81	Soil 83
Sand	65%	30%	56%	58%	54%	42%
Silt	22%	16%	18%	22%	30%	28%
Clay	13%	54%	26%	20%	16%	30%
pH	5.9	5.7	6.4	6.2	5.4	5.6
N (m.e.%)	0.04	0.18	0.14	0.13	0.10	0.40
P (ppm)	12	8	225	10	6	10
K (m.e.%)	0.14	0.98	0.87	0.95	0.10	0.07
Ca (m.e.%)	3.4	4.8	10.8	7.4	1.6	2.5
Mg (m.e.%)	2.0	3.8	5.2	3.1	2.0	4.0
Mn (m.e.%)	0.85	1.35	1.28	1.22	1.17	0.72
O.M.	1%	2.5%	2-3%	1.5-2.5%	NA	NA

\* Data for Soils 2, 13 and 14c not included since they are not suitable for agriculture. Data for Soil 12 not available. All figures apply only to the top layer of soil which varies in depth from 10 cm. to 30 cm.

\*\* Colluvial Kikoneni.

\*\*\* This sample exceptionally high in phosphate for Soil 10.

ABBREVIATIONS:

pH	--	the negative logarithm of the hydrogen-ion activity in the soil solution
N	--	nitrogen or nitrogenous
P	--	phosphorus or phosphate
K	--	potassium or potash
Ca	--	calcium
Mg	--	magnesium
Mn	--	manganese
O.M.	--	organic matter
m.e.%	--	milli equivalents percent
ppm	--	parts per million

(compiled from Makin 1968)

## APPENDIX C

### LAND TENURE

Division of landholdings normally take place under the following circumstances:

1. a landowner (usually a father and husband) dies;
2. a son reaches the age to marry;
3. a man marries an additional wife;
4. a divorced or widowed daughter returns to her father's home.

When a married man with children dies, the inheritance of his landholdings will partly depend upon the subsequent decisions of his wife or wives as well as the stage reached in the family cycle. Very young children will not formally inherit land, while mature children can. The deceased man's family responsibilities will devolve upon another male member of his ukoo--most often his brother or his mother's brother, but his sister's son or sister's daughter's son may also be designated. The brother or mother's brother assumes responsibility for raising young children and can marry the widow(s) if there is agreement by the latter. He will ask the widow(s) if she intends to stay or to return to her father's home. If a widow chooses to return to her father's, her children inherit directly from their deceased father (the brother or mother's brother can act as caretaker if they are still minors); if she chooses to stay, she will share the farm with her children. If the deceased had more than one wife, his landholdings will be equally divided among the wives and each of these

sections will subsequently be divided among each woman's children-- i.e., children with fewer siblings will inherit a larger share since a woman having many children will receive the same amount of land as a woman having fewer children. When the land is divided, the man who assumes the family responsibilities of the deceased will receive one fourth of the land along with crops, i.e., a quarter of the land reverts to the deceased's ukoo. All crops must be counted with four or five elders acting as witnesses so that they can be divided appropriately.

A widow's option to remain on a deceased husband's farm is available only if she has borne his children or is very old. If she has not borne children, she will be expected to return to her father's home. If a woman is very old, she may stay even though she was barren. Being old, it is unlikely that her parents are still living, nor does she have children to support her. Therefore, the deceased's brother or mother's brother will accept responsibility for taking care of her.

Although a deceased man's children will be cared for by his brother or mother's brother, the mother is under some social pressure to remain with her children and share in this responsibility. If she does remain, a woman does not normally register the farm in her name--the land will be registered by her children when it is divided among them (this is a recent response to government requirements for land registration at the district office in Kwale).

If a man dies without heirs, his land reverts to his father's ukoo.

A father, while living, is morally responsible for providing his sons with land. A young man who shows an interest in farming can be given land before he is married; if he shows little interest, the father may not bother to give his son a farm until the time the boy is ready to marry.

If a father does not have enough land to give each son a viable farm, a son can receive land from other sources. Even if a man has already received land from his father, he may be given additional land from these alternative sources. Table 18 shows the source of land for eighty-one farms owned by twenty-eight Digo heads of household. Currently, a young man's father's father is the most common alternative source of land (fifteen percent). Of the five men in the survey who received land from their father's father (#7, 8, 16, 21, 26) only one had also received land from his father. Two of the other four had expanded their landholdings but only by purchasing an additional farm. The remaining two men had no other land than that received from their father's father. It should be noted that if cross-cousin marriage is practiced over successive generations, a man's father's father will belong to the same matrilineal ukoo as his son's son. Thus, patrilineal inheritance does not conflict with matrilineal descent if cross-cousin marriage rules are followed (see discussion below). The Wadigo do urge their sons to marry cross-cousins, but marriages arranged by parents are a thing of the past and the preference for cross-cousin marriage is impossible to enforce.

Other alternative sources of land are based on matrilineal

TABLE 18  
Access to Land

Household	# of farms	Source
1	1	From father-in-law.
2	9	All from father.
3	3	All from father.
4	1	From mother's brother.
5	3	All from father.
6	1	From father.
7	1	From father's father.
8	5	4 from father's father; bought 1.
9	1	Inherited elsewhere; bought 1 in this area.
10	1	From father.
11	3	2 from brother-in-law; bought 1.
12	2	All from father.
13	3	2 from father; cleared 1.
14	3	1 from father; 1 from <u>ukoo</u> ; 1 from mother's brother (paid for crops).
15	3	All from father.
16	4	All from father's father.
17	2	All from father.
18	7	2 from father; 2 from mother's brother; bought 3.
19	2	Cleared both.
20	2	All from father.
21	6	2 from father; 2 from father's father; bought 2.
22	2	All from <u>ukoo</u> .
23	2	1 from <u>ukoo</u> ; bought 1.
24	1	From father.
25	3	2 from father; 1 from father's nephew.
26	2	1 from father's father; bought 1.
27	4	3 from father; cleared 1.
28	4	2 from father; cleared 1; bought 1.

28 men	81 farms	12 from father's father	=	15%
		41 from father	=	51%
		4 from mother's brother	=	5%
		4 from <u>ukoo</u>	=	5%
		2 from brother-in-law	=	2%
		5 cleared	=	6%
		11 bought	=	14%
		1 from father-in-law	=	1%
		1 from father's nephew	=	1%

principles of inheritance, but the small proportion of land transferred according to matrilineal rules reflects the very weakened role of matrilineality with respect to inheritance. Of the eighty-one farms included in Table 18, only ten (12%) were received on the basis of matrilineal principles. While mother's brothers were once the predominant source of land (see Kayamba 1947), only three men in Table 18 (#4, 14, 18) received land from their mother's brothers, accounting for four farms or five percent of the total. Since patrilineal principles now make every father morally responsible for providing his own children with land, a mother's brother is not supposed to give a sister's son land unless he has already made adequate provision for his own children. Furthermore, he is not expected to allocate land planted with annual crops to a sister's son. If a mother's brother's children have received land from their father before he gives land to a sister's son, they cannot contest the allocation even if they feel their own farms are too small, but they can try to contest an allocation of land with annual crops. In the case of household #14, the mother's brother did give land with annual crops but the sister's son paid KSh 1285.00 for the crops in order to forestall a dispute with the mother's brother's children.

In addition to land given by mother's brothers, six other farms were acquired according to matrilineal principles: four farms were received by three men (#14, 22, 23) from their ukoo and two farms were received by one man (#11) from his brother-in-law. Two of the three men who were given ukoo land had received no land from other sources. In such cases, the ukoo can be expected to provide

for its members. The third man (#14) inherited part of a farm that was divided after very old members of his ukoo died. These old people were related to him and his claim was primarily based on matrilineal descent rather than the need for land. In only one household was land received from a brother-in-law. The male members of a wife's ukoo, usually her brother or her mother's brother, can give her husband a farm, but the land is actually given in trust for the woman's children who are all members of their ukoo. Since the husband's ukoo has no claim whatsoever to such land, his matrikin cannot contest his children's inheritance of the farm, while the children's ukoo ensures its own claims for the next generation. This practice has become increasingly rare as the shift to patrilineal inheritance has become more firmly established. A man's brother-in-law now owes his first responsibility to his own children and feels less obligated to concern himself with his sister's children, and his sister's children also have more secure rights to their father's land.

Of the remaining eighteen farms, only two were received from other relatives. One farm was received from a father's nephew (#25). I did not gather sufficient information to account for this case, but the most likely explanation is that the man's father died and his father's sister's son (nephew) took over responsibilities for the deceased's children (see earlier discussion). On the basis of this interpretation, the farm was counted as being received through patrilineal inheritance. One farm was received from a father-in-law (#1). It is possible for a man to receive land from his



father-in-law, although it is not a preferred means. If a father-in-law has no sons of his own, he may try to develop a close relationship with his son-in-law and try to convince the young man to live in his compound. Offering the son-in-law land is the only real means a father-in-law has of drawing him away from his own kin groups. The arrangement gives few advantages to ~~the son-in-law~~, who is placed in a position of dependence on his in-laws. If the marriage ends in divorce, the son-in-law and not the wife will have to leave (although he can continue farming the land if he has planted permanent crops until the father-in-law pays for such crops). Furthermore, a child cannot receive land from a mother's father in Digo society. (A mother's father is always a member of another ukoo, even if cross-cousin marriage is practiced.) Therefore, even if the marriage is successful, the son-in-law may have great difficulty giving the land to his children since the father-in-law's ukoo can raise strong objections and conflicting claims. Consequently, most Digo men find receiving land from a father-in-law an unattractive option. Aside from having to live in the compound with the wife's relatives (giving rise to many jokes about a man's in-laws similar to those told in American society), a man will always feel somewhat insecure on his father-in-law's land and his own children may be disinherited.

If all of a man's relatives fail to provide him with a farm, he has two remaining alternatives for obtaining land: 1) by clearing bush on vacant land and planting crops; or 2) by purchasing a farm. In looking at Table 18 it can be seen that these alternatives are normally used to supplement a man's landholdings and seldom

serve as the only means of access to land for specific individuals. Of the households that cleared land (#13, 19, 27, 28) only #19 failed to also receive land from relatives, and no household that purchased land (#8, 9, 11, 18, 21, 23, 26, 28) failed to receive land from relatives. In cases of land purchase, there seem to be no restrictions on buying from a member of any ukoo. Land sales were not allowed under the traditional Digo system of land tenure, which may explain why they are not channelled by the kinship system. (A relationship does exist between kinship ties and land sales, however; see discussion below.)

A woman's access to land is dependent upon her relationship to men: either her father or her husband. She can inherit land from her father and her rights will be maintained even if she marries or is later divorced. Neither her husband nor her father's ukoo can claim that land.

When a woman marries she shares in the use of her husband's land. If a man has only one wife, the farm will be operated as a single unit. If a man has more than one wife, co-wives' rights to land will depend upon the size of landholding controlled by the husband. If he has sufficient land, each wife should be given equal land resources. If one woman works especially hard, it may be possible for her to convince the husband to give her more land, but he may then have to contend with quarrels and jealousy since each woman will be concerned with the amount of land to be inherited by her children. Resolving this conflict is more likely to result in a return to equal division of land among co-wives. If the husband's

landholdings are small, the farm will be run as a single unit and co-wives will be expected to work together in cultivating it.

When a woman is divorced by her husband, she must either remarry, turn to her mother's ukoo, or return to her father's home to gain access to land. She may ask her father for a small farm, or she can work on his farm for which she receives food for herself and for any small children who have accompanied her. Her ex-husband is expected to send food for the children, however, as well as clothing and to take care of any medical expenses if a child is sick.

A young woman who is divorced is usually not in a position to inherit land since her father will still be living. She can be given usufruct rights to part of her father's land and she is free to build a house if she wishes, but this usually indicates that she does not plan to remarry. If she is given the use of a farm and builds her own house, she will then cook for herself and is responsible for her own subsistence though she may ask for help from her father or from friends. If a young divorcee does plan to remarry, she is likely to have little interest in farming or in setting up her own house. For a young female, farming as an individual effort is seldom an attractive prospect, particularly since her children may be required to return to their father after reaching the age of four to six (although they can spend long periods visiting their mother if they choose).

When land is divided, soil differences are less important than the distribution of crops--particularly permanent tree crops. Since a farmer often concentrates the greatest share of his trees in one

area, it is imperative that this section be equitably divided. Therefore, a child will not receive all of his/her inheritance in a single consolidated holding. Such consolidation could only occur if permanent trees were evenly distributed on all plots.

Within the limits permitted by an equal division of tree crops, obvious differences in soil quality will be taken into account. If certain sections are markedly inferior, each person will be given one part of the poorer section in addition to parts of the better soils. Fine gradations of soil quality will not be made, not because such differences are not recognized, but because fine gradations would require complicated boundaries and excessive division into small, separated plots. Even in cases of major soil differences plots will not be divided into very small sections. For example, if a farm having a relatively small area of poorly drained soils suitable for rice is to be divided among three sons, it is considered preferable for one son's portion to contain the entire rice plot than to subdivide it. Such soils occur throughout the Kiconeni area, but they are often limited in size and subdivision would result in plots too small to be practical.

The lack of emphasis on soils as a major element governing allocations of land is, in part, a reflection of the essentially similar ecological conditions and the overall fertility of the majority of soils. Failure to inherit a rice plot does not affect a family's survival capacity since rice is only supplementary to the dietary staples--maize and cassava. Having less fertile soils would require more extensive cultivation and/or more frequent fallowing

to achieve outputs similar to more fertile farms. Since land resources are still quite sufficient in the Kikoneni area, these techniques are feasible and a family should be able to meet their consumption requirements. The real drawback of having infertile soils is the added labor inputs required for clearing fallowed land or weeding a more extensive area.

When trees are divided, absolute numbers are the most important factor. Sick trees are not differentiated from healthy ones, nor young from old unless whole sections of the farm are affected. If a grove of younger trees has been planted on a separate part of the farm, these can be counted and divided as a unit with older trees being divided separately.

Since the Wadigo live in village compounds and sons now build their houses near their father's home, land adjacent to the village is usually fully occupied. If a farmer wishes to expand his holdings by clearing vacant bush areas, his "bush farm" will often be a considerable distance from the land he inherited. The problem of distance is not an important consideration when allotting land among children, but it does become an issue within a polygynous household. Wives may show marked dissatisfaction if husbands give them a farm very far from the compound, since this effectively increases her work time and prevents her from having easy access to foodstuffs on days she does not need to do regular farm work. If she has a plot of cassava near the compound she can quickly harvest a few roots without having to walk to and from a distant farm. Wives also tend to prefer relatively consolidated farms, since this too reduces the

amount of time they must devote to farm labor.

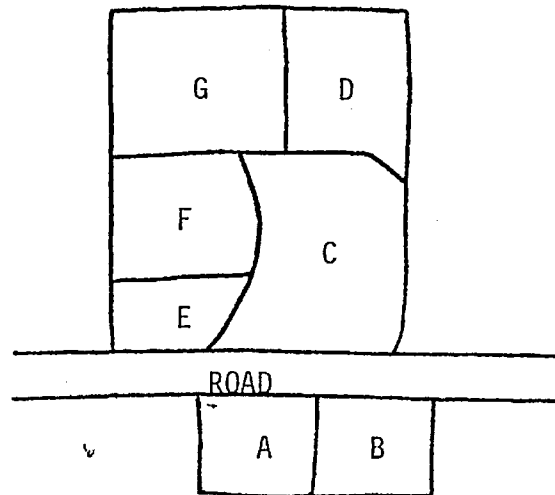
In Map 2 the actual division of a farm is shown. Ali, the father in this case (the name is fictional), died in 1969. He had married five wives, two of whom (his third and fifth wives) were living at the time of his death but his third wife also died in 1969. He had twenty-one surviving children. In Table 19 each wife is listed with her children. The status of each of these children is given for the number of times married, number of times divorced, and number of living children. (The names given are fictional.)

In looking at Map 2 and Table 19 it can be seen that only three sons received independent rights to farms. Two of these three sons also shared rights to an additional farm with their full siblings. Joint ownership of a farm was allocated to all children of the last three wives, while four of the five children of the first two wives received no land at all from their father. The explanation for this lies in marital status, number of grandchildren, and sex of the father's own children. There is less concern with providing daughters with land if they are not married. If there are many grandchildren to be considered, land will be allocated to those families before childless families.

Ali's first wife had only one daughter, who is married but has no children. Her husband has provided her adequately with land, and if he should die his brother or uncles would care for her. Since Mwanasha is childless, there would be no heir to follow her; if Ali had left her a farm, it would revert to his father's ukoo upon Mwanasha's death and that land would be lost to Ali's grandchildren.

## MAP 2

## Division of Ali's Land



- |                               |                              |
|-------------------------------|------------------------------|
| A. 1st son of 3rd wife.       | Given by Ali before he died. |
| B. 3rd son of 3rd wife.       | Given by Ali before he died. |
| C. Ali's brother.             | <u>Ukoo</u> land.            |
| D. 1st son of 2nd wife.       | Given by Ali before he died. |
| E. 4 daughters of 4th wife.   | Inherited jointly.           |
| F. 6 children of 3rd wife.    | Inherited jointly.           |
| G. 5th wife & her 6 children. | Inherited jointly.           |

TABLE 19

## Ali's Wives and Children

Wives	Children *	Times Married	Times Divorced	# Living Children	Land Allocated
1st Wife	0 Mwanasha	2	1	0	None
2nd Wife	0 Mariamu	1	0	1	None
	+ Bakkari	3	1	8	1 farm
	0 Asha	4	3	0	None
	+ Saidi	1	1	0	None
3rd Wife	+ Suleman	3	1	3	1 farm + joint farm
	0 Fatuma	1	0	7	Joint farm
	0 Rukia	1	0	8	Joint farm
	+ Omari	1	1	0	Joint farm
	+ Hussein	1	0	4	1 farm + joint farm
	0 Mwanapili	1	0	4	Joint farm
4th Wife	0 Mwanakombo	1	0	0	Joint farm
	0 Biasha	2	2	1	Joint farm
	0 Halima	2	1	3	Joint farm
	0 Mwanamisi	1	0	2	Joint farm
5th Wife	0 Fatuma	1	0	3	Joint farm
	0 Saumu	1	0	3	Joint farm
	0 Mwanau Lu	2	1	1	Joint farm
	0 Zainabu	-	-	-	Joint farm
	0 Amina	-	-	-	Joint farm
	+ Hassan	-	-	-	Joint farm
	21	29	12	48	

\* Children: 0 = female  
+ = male



The second wife had two daughters and two sons. The elder son has two wives (he divorced a third wife) and eight children. This son was given a farm before Ali's death. The younger son is no longer married and has no children. The eldest daughter is married and has one child, but her husband provides her with sufficient land and her child will inherit land from his father. The younger daughter has been divorced three times and has no children. Since she has been married for a fourth time she is currently provided with land by her husband.

Ali's third wife had three sons and three daughters. Of these six children only Omari is not married and has no children of his own. He is the only son of this group who was not given land before his father died. None of the daughters has been divorced and they have many children--7, 8, and 4 respectively. When Ali died, all the children of his third wife were given joint ownership of one farm.

The fourth wife had four daughters, three of whom are married and three have children. These four women were given joint ownership of a farm partly because their mother had a right to land which passes to her children even if she had no sons. Since these daughters have children of their own, the land will be passed on to Ali's grandchildren unless his ukoo contests it.

Ali's fifth wife is still living and she has remained with her children in her husband's compound. Her three oldest daughters are married and have children, while the other three are still too young to marry. The fifth wife shares the rights to one farm with her six children even though it is legally registered in her only son's

name (Hassan is approximately fourteen years old). Since three of the children are still young, the mother needs access to land in order to contribute to their support; otherwise, Ali's brother or uncle would be entirely responsible for providing them with food. It is quite possible that Hassan will receive the entire farm when he is ready to marry if all of his sisters are married.

The remaining section of land was inherited by Ali's brother-- i.e., that portion reverted to Ali's ukoo and did not go to his children or grandchildren who belong to their mothers' ukoo.

The distribution of Ali's land, both before and after his death, follows the basic principles described earlier: sons are given farms when they are ready to marry and/or show an interest in farming; a divorced daughter (in this case only Biasha, second daughter of Ali's fourth wife) is provided land by her father; daughters who have no full brothers inherit land from their father; one quarter of the land goes back to the father's ukoo. Nonetheless, not all Ali's children received land; those who did did not receive equal shares. Before his death Ali gave his first son a larger farm than those given to his two younger sons. It is apparently quite common to favor the first son. The three farms inherited jointly after Ali's death are somewhat proportionate to the number of people who are sharing ownership (4, 6, and 7 people for E, F, and G respectively). This may be because three of the five wives were already deceased and were unable to support their children's claims, or a proportionate allocation may have been agreeable to those involved. In any case, the overall result of this distribution was to

give more land to those who had more people to support. (The eldest son has eight children compared to three and four children of his half brothers who received smaller individual farms; but the eldest son received his farm before he had children, so this congruence between farm size and family size should be interpreted as favoring the eldest son.) By excluding the barren daughter of Ali's first wife, as well as the two childless children of his second wife, the amount of land available to his other patrilineal heirs was maximized and provided at least some protection against uncontested reversion to Ali's ukoo.

## APPENDIX D

### DIGO AGRICULTURE

Agriculture in the Kikoneni area is extremely complex, both in the variety of enterprises and in relation to the broader market economy. There are more than twenty different crops and animal husbandry adds a further set of possibilities. Farmers are engaged in production of subsistence crops, cash crops, and those which can be used either for subsistence or for cash.

Digo farmers take this diversity of crops and work them into an agricultural system, bringing separate crops into controlled interrelationships, moving and mixing them to suit their own purposes. The system will only work if allowance is made for the various peculiarities of different plants and soils, but even then, the process is susceptible to many risks that Digo farmers do not control.

Despite the latitude for individual variations presented by the range of potential crop combinations, Digo agriculture is a patterned process. The source of patterning lies in the characteristics of a shared technology as it relates to regularities existing within the natural environment. The principal source of randomness, in terms of productive output, lies in the set of risks which fall outside the control capacities of Digo technology.

### A. A Model.

In order to explicate the system and bring patterns into focus, an abstraction of the Digo system will be constructed, ignoring for the moment the variation inherent in individual cases.

The dynamics of Digo agriculture is largely explained by the interaction of three processes: intercropping, rotation and fallowing. These processes are fundamental elements of local technology and systematically organize and reorganize the crops, i.e., discrete units within the production system. The movements of these units are restricted by their unique ecological characteristics. With respect to intercropping and rotation, a basic ecological dimension is what I shall call "mixing capacity." Below, twenty crops are classified into different categories of mixing capacity.

Maize is taken as the base crop because it is the foundation to which other things are added. Crops which are regularly interplanted with maize are designated "mixers." Cassava is a mixer, but since it plays a special role in rotation, it has been categorized separately as a "base mixer." Tree crops and some perennials are dispersed through the maize fields forming small islands of their own and are not fully interplanted; these are termed "spaced mixers" since they can be planted at intervals in the same field. "Non-mixers" are those crops which require their own plots. Sugarcane has been classified as a non-mixer, but when first planted it is often mixed with maize since maize grows more rapidly and will be harvested long before the plant crop of sugar is ready to harvest.

In succeeding years, i.e., for four to seven years, the cane will be left as a pure stand. Since the length of time cane requires its own plot exceeds the period when it can be mixed, it was classified as a non-mixer.

BASE CROP:	Maize
<hr/>	
BASE MIXER:	Cassava
<hr/>	
MIXERS:	Cowpeas Green grams Sesame Chillies
<hr/>	
SPACED MIXERS:	Coconuts Cashews Oranges Limes Lemons Grapefruit Mangoes Pidgeon peas Bananas Pineapples Pawpaws
<hr/>	
NON-MIXERS:	Rice Sweet potatoes Sugarcane

If an imaginary farm is divided into three fields, it is possible to show the interaction of intercropping, rotation and fallow through the two rainy seasons (LR = long rains; SR = short rains) and over several years. The two basic units of rotation are 1) maize + cassava (M + C); and 2) maize + other mixer (M + O). Since spaced mixers are perennial, they will remain in the same place and not affect the rotational cycle. When that field is left fallow (F), farmers should cut the bush in the immediate vicinity

of these spaced mixers, especially permanent trees. If a non-mixer is to be planted, one part of the field will have to be exclusively devoted to that crop. To simplify the presentation of the model, spaced mixers and non-mixers are not shown. When a field is planted with maize + cassava, the cassava will remain after the maize harvest (cassava alone being indicated by C).

		FIELD 1	FIELD 2	FIELD 3
Year 1	LR	F	M + O	M + C
	SR	F	M + O	C
Year 2	LR	F	M + O	C
	SR	F	M + O	C
Year 3	LR	M + C	F	M + O
	SR	C	F	M + O
Year 4	LR	C	F	M + O
	SR	C	F	M + O
Year 5	LR	M + O	M + C	F
	SR	M + O	C	F
Year 6	LR	M + O	C	F
	SR	M + O	C	F

There are important alternatives of this model. If the soil is relatively fertile, cassava may be used as a cover crop to rest the soil and be followed immediately by maize and other mixers-- i.e., complete fallowing is deleted. Cassava may be left in one

field for four to five years rather than only two, and as sections of the cassava are harvested, it can be planted with more cassava or with maize + other.

If a farmer suffers from a shortage of land, he can replant maize in a field of cassava or chillies by cutting the stems of the latter crops a short distance above the ground. The remaining portion of the stems will produce new leaves, but not before the maize has gained enough height to avoid being shaded.

A man who is not interested in cassava will plant other mixers with maize (e.g., sesame, green grams, chillies) for as many years as the production level remains adequate and then fallow that field. Thus, he drops the M + C, C, C, C sequence but may extend the M + O combination beyond two years.

#### B. Resource Availability.<sup>1</sup>

1. Land. Land is relatively abundant and does not currently act as a significant restraint on production, although this applies more to Digo than to Kamba farmers since Wakamba have access to land only on the basis of cash purchases. Virtually all Digo farmers in the survey claimed to own more land than they could cultivate and this was corroborated by the case studies as shown in Table 20. It can be seen from Table 20 that two of the three Kamba households have significantly lower ratios of land owned/ land

---

1. Data on Kamba farms are used as a comparison since Kamba farmers are widely considered to be more progressive than Digo farmers.



TABLE 20  
 RATIOS OF OWNED TO CULTIVATED LAND AREAS  
 (hectares)

Farm	Owned*	Cultivated**	Owned/ Cultivated
Digo Farms			
1	7.7	1.4	5.5
2	7.3	.8	9.1
3	8.5	1.4	6.1
4	4.6	.5	9.2
5	NA	2.3	NA
7	8.2	2.9	2.8
8	28.3	2.7	10.5
Kamba Farms			
11	3.8	2.5	1.5
13	4.2	.5	8.4
14	3.2	2.3	1.4

\* Hectares owned are based on total hectarage registered to each household at the Kwale District offices.

\*\* Hectares cultivated are my own measurements of cultivated area.

cultivated compared to the majority of Digo households. It can also be seen that the Digo ratios are still generally large enough to permit fallowing and crop rotation.

2. Labor. If labor availability is restricted to working family members, the average number of adult laborers is 2.7 for twenty-seven Digo households and also 2.7 for thirteen Kamba households. The average ratio of dependents/ working family member is 3.1 for twenty-seven Digo households and 2.3 for thirteen Kamba households.

Family labor availability acts as an important restraint on production, but it can be augmented by hired labor within the limits of a household's ability to pay for it. Of the twenty-seven Digo households, twenty-two hired some labor, and twelve of the thirteen Kamba households reported hiring labor. Farmers generally felt that they would be able to find laborers willing to be hired if and when they had the financial resources to pay them. Ability to pay workers therefore seems to be a greater restraint on the amount of hired labor inputs than the availability of laborers. In only one interview did a Digo farmer say that he was unable to find enough laborers and he was in the very unusual circumstance of hiring forty-five laborers during peak labor seasons. (The next highest number of laborers hired at one time was ten for Kamba farms and eight for Digo farms.)

3. Capital. The availability of capital can be analyzed as income remaining after necessary expenses. Table 21 shows net

income after all expenses except farm inputs for ten case studies.

TABLE 21

## INCOME AVAILABLE FOR FARM INPUTS

Digo Farms		Kamba Farms	
Farm #	Excess Income (KSh)	Farm #	Excess Income (KSh)
1	915.40	11	1,057.05
2	445.25	13	1,623.25
3	-429.50	14	1,261.80
4	572.10		
5	-428.15		
7	4,640.25		
8	-1,560.15		

### C. Resource Use.<sup>1</sup>

1. Land. Neither Digo nor Kamba farmers cultivate all the land they own. Most Digo farmers seem to be in a better position to fallow land and practice crop rotation than Kamba farmers (see Table 20) even though part of the uncultivated land area is occupied by tree crops.

Cropping patterns for the cultivated areas of each farm were highly variable. Table 22 shows the percentage of cultivated area devoted to subsistence and cash crops reported for 1973 in the initial surveys of forty households.

1. For investment in farming see Chapter VI.

TABLE 22

## PERCENT OF ACREAGE DEVOTED TO SUBSISTENCE AND CASH CROPS\*

27 Digo Farms			13 Kamba Farms		
Survey No.	Subsistence Crops	Cash Crops	Survey No.	Subsistence Crops	Cash Crops
30	13	87	19	16	84
31	18	82	37	35	65
23	18	82	14	38	62
25	26	74	33	39	61
5	31	69	15	48	52
12	47	53	22	72	28
9	48	52	36	73	27
29	52	48	41	76	24
8	54	46	39	77	23
35	56	44	16	82	18
43	56	44	20	85	15
38	59	41	4	98	2
24	61	39	34	100	0
27	63	37			
26	64	36			
17	71	29			
40	72	28			
10	73	27			
42	73	27			
21	79	21			
6	80	20			
7	91	9			
2	96	4			
32	96	4			
3	100	0			
18	100	0			
28	100	0			
Average:	63%	37%	Average:	64%	36%

\* Cash crops in this table do not include tree crops, bixa, bananas, pawpaws or pineapples but they are computed to include whatever proportions of food crops were sold (e.g., maize, cassava, cowpeas).

The percentage is based on the sum of acreages reported for each crop. This exceeds total cultivated acreage since most crops are interplanted.

Despite the wide range of variation, on the average there is no significant difference in the proportion of acreage devoted to cash crops on Digo farms compared to Kamba farms.

2. Labor. Table 23 shows that the Wadigo compare less favorably with the Wakamba in terms of investing in hired labor. On the average, Kamba farmers hire one third again as much labor as Digo farmers. This may be related to the greater tendency of Kamba farmers to employ permanent laborers (42% of the Kamba households surveyed compared to 15% of the Digo households). It may also be related to the greater emphasis placed on formal education among the Wakamba, since this leads to the expectation that older children will not be able to contribute as much farm labor during the years they are attending school.

Although Digo farmers have a lower average for employing hired labor, it is important to emphasize the great range of variation tabulated in Table 23. The highest index for hired labor is held by a Digo household and nearly one quarter of the Digo households have an index of fifty or more. A significant proportion of Digo farmers are at least as progressive as Kamba farmers with respect to investing in hired laborers. Furthermore, two of the Digo farmers who reported no hired labor were in their late sixties and considered themselves too old to make investments in their farms. Instead, they relied on mature tree crops to provide most of their cash requirements. They did hire labor in their younger years. Thus, at least some of the low indexes for Digo farmers are due

TABLE 23

## HIRED LABOR INPUTS

Digo Farms			Kamba Farms		
Survey #	Hired Labor	Index*	Survey #	Hired Labor	Index*
35	NA	NA	14	NA	NA
12	0	0	20	1 for 2 days	.4
17	0	0	15	2 for 1 week	2
18	0	0	41	4 for 1 week	4
28	0	0	39	5 for 1 week	5
9	1 for 1 week	1	22	4 for 2 weeks	8
40	1 for 1 week	1	19	8 for 2 weeks;	
42	1 for 1 week	1		4 for 1 week	20
29	2 for 1 week	2	36	10 for 2 weeks	20
38	2 for 1 week	2	34	1 permanent	50
6	2 for 2 weeks	4	37	1 permanent	50
32	4 for 1 week	4	16	1 permanent;	
3	2 for 4 weeks	8		5 for 6 weeks	80
7	4 for 2 weeks	8	4	2 permanent	100
8	1 for 8 weeks	8	33	3 permanent	150
31	8 for 1 week	8			
21	2 for 6 weeks	12			
26	3 for 4 weeks	12			
23	4 for 4 weeks	16			
24	5 for 4 weeks	20			
43	8 for 2 weeks;				
	4 for 3 weeks	28			
5	1 permanent	50			
10	5 for 12 weeks	60			
2	1 permanent;				
	2 for 6 weeks	62			
27	1 permanent;				
	5 for 4 weeks	70			
25	3 permanent	150			
30	45 for 4 weeks	180			
Average for 26 farms = 27.2			Average for 12 farms = 40.8		

\* Index based on 1 = 1 laborer working for 1 week

to the semi-retirement of some of the household head included in the survey. Kamba farmers, on the other hand, are newly arrived settlers trying to build their farms (six of the thirteen households do not yet have trees which are producing compared to only one Digo household that reported having no producing trees).

A more detailed analysis of farm labor management can be constructed on the sub-sample of ten households. Several issues will be investigated using these data: 1) how do actual labor inputs compare with potential inputs? 2) what crops demand the most labor? 3) what tasks are done by hired labor?

Table 24 shows the actual number of days recorded by each household followed by the potential work days for a 5-day week and a 6-day week. Potential work days were computed on the basis of the differing religious beliefs of the various households. Having adopted Islam, the Wadigo regard Fridays as a religious day of rest; all three Kamba households are Christian but two observe Sundays as the day of worship while the third family belongs to a Seventh Day Adventist church and worships on Saturdays. Potential work days reflect these differences, deleting the appropriate days of the week according to each family's religious practices. Table 25 is then based on the numbers shown in Table 24, giving the degree to which each working household member achieved a five or six day work week and the average number of hours of farm labor for the number of days they did work.

There are many factors which contribute to explaining the

TABLE 24  
POTENTIAL WORK DAYS

Farm No.	Days Recorded	Potential Work Days	
		5-Day Week	6-Day Week
Digo Farms			
1	297	213	255
2	296	212	254
3	286	205	246
4	232	166	199
5	281	201	241
7	226	162	194
8	286	204	245
Kamba Farms			
11	297	213	255
13	272	196	234
14	267	191	229



TABLE 25

## AVERAGE FARM LABOR INPUTS

Farm	Person	# Days Worked	% of 5 Day Wk.	% of 6 Day Wk.	Total Hrs. Worked	Average Hrs. Per Day Worked
1	Husband	192	90	75	1105	5.76
1	Wife	105	49	41	434	4.13
2	Husband	177	84	70	736	4.16
2	Wife	142	67	56	514	3.62
3	Husband	127	62	52	390	3.07
3	Wife	181	88	74	506	2.80
3	Son A	106	52	43	355	3.35
3	Son B	123	60	50	356	2.89
4	Husband	137	83	69	681	4.97
4	Wife	115	69	58	489	4.25
4	Son	84	51	42	244	2.90
5	Husband	215	107	89	951	4.42
5	Wife	239	119	99	856	3.58
7	Husband	162	100	84	979	6.04
7	Wife	152	94	78	901	5.93
7	Son A	165	102	85	958	5.81
7	Son B	103	64	53	548	5.32
7	Dau A	111	69	57	508	4.58
7	Dau B	89	55	46	392	4.40
8	Husband	88	4	3	21	2.63
8	Wife A	190	93	78	743	3.91
8	Wife B	170	83	69	709	4.17
8	Wife C	74	36	30	309	4.18
8	Wife D	166	81	68	643	3.87
11	Husband	141	66	55	512	3.63
11	Wife	159	75	62	493	3.10
11	Son	72	34	28	171	2.38
13	Husband	112	57	48	309	2.76
13	Wife	116	59	50	288	2.48
14	Husband	55	29	24	215	3.91
14	Wife	181	95	79	768	4.24
14	Son	129	68	56	327	2.53

degree to which various household members approach contributing a 5-day work week. For example:

- Wife, Farm 1 -- had an operation, unable to do heavy work for six months.
- Wife, Farm 4 -- had an injured hand.
- Son A, Farm 7 -- is married but maintains good working relationship with his father; highly motivated.
- Son B, Farm 7 -- attends Standard 7 at the government school.
- Husband, Farm 8 -- has a business and hires labor for his farm.
- Wife, Farm 13 -- returned to her father's home for three months until her husband could pay additional bridewealth.
- Husband, Farm 14 -- became a wage laborer and lived in another town for five months of 1975.

In addition to individual factors, the severity of the dry season dried up the river supplying the SRDP water project which forced women to spend additional hours getting water. The wife on Farm 13 was regularly arising at four o'clock in the morning to go to a spring and did not usually return until eight or nine o'clock in the morning with one bucket of water. While the scarcity of water affected everyone, it created greater hardship for those most distant from alternative sources of water. Although some women had never used water project outlets and continued to obtain water from springs, even they spent much more time trying to coax tiny rivulets into small depressions in order to get a single small gourd of water and then waiting for the depression to refill once more until they had even a minimum amount of water needed for cooking and washing.

As a basis for comparison, the average hours per day worked has the advantage of eliminating from consideration certain factors

affecting individuals such as severe illness or absence due to business or other activities. It also avoids comparing different households in terms of total hours worked which is very misleading since some households reported their labor inputs for as much as two months longer than some other households. In light of the attitudes held by both Wakamba and extension personnel concerning the relative laziness of the Digo people, it is extremely interesting to note that the average hours/day worked for twenty-four Wadigo was 4.20 hours compared to 3.13 hours for eight Wakamba. Computing the average hours/day during the peak month of family labor inputs further underlines Digo willingness to work long days on their farms--during their respective peak labor months, four Wadigo averaged more than 8 hours per day for a five-day week while the highest average for an Mkamba was 6.27 hours/day followed by 5.91 hours/day. Averages mask the number of days some Digo farmers spend ten hours or more doing agricultural tasks. Farms 5 and 7 are particularly noteworthy for the high level of family labor inputs (see especially % of 5-day week in Table 25 for these farms).

The proportion of total family labor devoted to different crops is one measure of the relative importance of various crops. Table 26 shows the distribution of labor according to crop.

Digo households devoted 70% of their family labor to three staple crops (maize, rice and cassava) and 26% to four principal cash crops (cashews, sugarcane, sesame and chillies). All other crops together received only 4% of family labor.

TABLE 26

## DISTRIBUTION OF FAMILY LABOR BY CROP

Crop	Digo Family Labor* (percent)	Crop	Kamba Family Labor** (percent)
Maize	54.99	Maize	59.63
Cashews	11.59	Bixa	16.05
Rice	9.59	Beans	3.92
Cassava	5.69	Cashews	3.88
Sugarcane	5.00	Cowpeas	3.56
Sesame	4.94	Cassava	3.28
Chillies	4.16	Sesame	1.91
Cowpeas	1.79	Cotton	1.75
Cotton	1.30	Potatoes	1.56
Mangoes	.29	Sugarcane	1.31
Citrus	.24	Pawpaws	1.15
Beans	.10	Bananas	.92
Pawpaws	.08	Chillies	.35
Vegetables	.07	Pidgeon peas	.32
Green grams	.05	Vegetables	.16
Bananas	.05	Citrus	.13
Potatoes	.03	Mangoes	.06
Groundnuts	.02	Pineapples	.06
Coconuts	.02		100.00%
	100.00%		

\* Seven Digo households.

\*\* Three Kamba households.

Kamba households distributed 72% of family labor to five staple food crops (maize, beans, cowpeas, cassava, and sweet potatoes) and 24% to four cash crops (bixa, cashews, sesame and cotton), leaving 4% for all other crops.

The contrast between Kamba and Digo labor distributions reflects dietary differences as well as differences in cash-cropping strategies. Wakamba regularly eat a mixture of maize and beans which is not a dish cooked by the Wadigo. Potatoes and cowpeas are also more important in Kamba diets. Since Kamba farmers are operating newly established farms, their cash-cropping strategies are more heavily geared to crops which are rapidly productive such as bixa and sesame, both of which can be harvested after a few months. Tree crops take time to establish and sugarcane requires substantial inputs both in terms of labor and cash. Cotton is not yet an important cash crop among the Wakamba -- only one of the three case study farmers had planted cotton on what was essentially an experimental basis.

The distribution of hired labor is shown from three perspectives in Tables 27, 28, and 29. Table 27 shows that Digo farmers allocate 62% of their hired labor to two staple food crops (maize and cassava) and nearly 33% on a single cash crop (sugarcane). The remaining 5% of hired labor is distributed among cashews, coconuts, citrus and sesame (all cash crops). Kamba farmers allocate 85% of hired labor to three staple food crops (maize, cassava and cowpeas) while the greatest proportion devoted to cash crops goes to cashews (9%). The remaining 6% of hired labor is distributed among sugar-

cane, sesame, cotton and bixa.

TABLE 27  
HIRED LABOR ACTIVITIES BY CROP

Crop	7 Digo Farms		3 Kamba Farms	
	Hours	%	Hours	%
Maize	1015	56.45	251	63.55
Cassava	102	5.67	29	7.34
Cowpeas	--	--	55	13.92
Cashews	26	1.45	37	9.37
Coconuts	10	.56	--	--
Citrus	4	.22	--	--
Sugarcane	583	32.42	4	1.01
Sesame	58	3.23	5	1.27
Cotton	--	--	10	2.53
Bixa	--	--	4	1.01
TOTAL	1798	100.00	395	100.00

In terms of operation (see Table 28), both Digo and Kamba farmers assign a great proportion of hired labor to land preparation and weeding (66% for Digo farmers; 70% for Kamba farmers). The larger proportion given to harvesting on Digo farms is due to the importance of hired labor for harvesting sugarcane, while the larger proportion for processing on Kamba farms is due to cashews.

TABLE 28  
HIRED LABOR ACTIVITIES BY OPERATION

Operation	7 Digo Farms		3 Kamba Farms	
	Hours	%	Hours	%
Land prep.	525	29.20	146	36.96
Planting	146	8.12	33	8.36
Weeding	653	36.32	132	33.42
Harvesting	473	26.31	64	16.20
Processing	1	.05	20	5.06
TOTAL	1798	100.00	395	100.00

Since crops differ dramatically in the amount of labor required for their production, Table 27 distorts the significance of hired labor relative to each crop. Table 29 corrects this distortion by showing the proportion of total labor (family + hired) that is accounted for by hired labor. Thus, although only .56% of all hired labor on Digo farms is devoted to coconuts, it accounts for 83% of the total amount of labor given to this crop. From Table 29 the crops for which hired labor is most important among the Wadigo are coconuts and sugarcane; among Wakamba they are cowpeas, cashews and cassava.

TABLE 29

HIRED LABOR ACTIVITIES BY CROP  
AS PERCENTAGE OF TOTAL FOR EACH CROP

Crop	7 Digo Farms Hours of Labor Family + Hired	% Hired Labor	3 Kamba Farms Hours of Labor Family + Hired	% Hired Labor
Maize	8942	11	2124	12
Cassava	922	11	132	22
Cowpeas	259	--	167	33
Cashews	1697	2	159	23
Coconuts	12	83	--	--
Citrus	38	11	4	--
Sugarcane	1304	45	45	9
Sesame	771	8	65	8
Cotton	188	--	65	15
Bixa	--	--	508	.8

In terms of food crops, Digo and Kamba farmers show virtually identical proportions of hired labor involved in maize production, but the Wakamba show double the Digo proportion for cassava. Digo farmers use only family labor for cowpeas while one-third of all

labor for this crop is hired on Kamba farms. Overall, the Wakamba tend to employ more hired labor on food crops, but they also tend to sell a greater proportion of maize and cassava so these are not strictly food crops on Kamba farms.

In terms of food crops, several factors account for the differences between Digo and Kamba farms seen in Table 29: 1) the Wadigo do not produce bixa and the Wakamba do not yet produce coconuts; 2) citrus trees do not yet impose significant labor demands on the Kamba farms; 3) sugarcane is not a major commercial enterprise for the Wakamba (they produce native varieties of sugarcane on a small scale and do not sell to the Ramisi sugar factory). Cotton is being jointly produced by two Digo families (Farms 1 and 2) and by one Kamba family (Farm 11) -- in both instances the venture is regarded as experimental. The use of hired labor for cotton on the Kamba farm is consistent with this farmer's heavy reliance on hired labor (he hired a total of 372 hours compared to a combined total of 36 hours for Farms 1 and 2).

The only remaining difference is in the proportion shown for cashews. This difference is best understood by viewing cashews in relation to bixa. Bixa is the most important cash crops in terms of demands on family labor among the Kamba farmers while cashews are most important among the Wadigo (see Table 26). The two crops are rather like counterparts in this respect, and also in that they impose heavy labor demands at the same time. Since Digo farmers do not cultivate bixa, their households are able to devote their labor time almost exclusively to cashews. Kamba households, on the other



hand, are heavily involved in harvesting and processing bixa and therefore meet a greater proportion of the labor requirements for cashews by hiring labor. It should be pointed out that cashews are still a minor source of income on the Kamba farms when compared to bixa (KSh 210.00 for cashews vs. KSh 1115.35 for bixa). It is interesting that hired labor accounts for such a small proportion of total labor inputs for each group's most demanding cash crop: hired labor accounts for only 1.6% of the labor for cashews among the Wadigo and for only 0.8% for bixa among the Wakamba.

3. Capital. In carrying out agricultural tasks, Digo farmers use very little capital equipment. The principal tools are the jembe (hoe) and the panga (broad-bladed, short-handled knife; known as a machete in Latin America). The traditional Digo jembe is short-handled, usually between one and a half and two and a half feet in length. It is still the preferred implement, especially among women, most of whom refuse to use a long-handled jembe. They claim the long jembe strains muscles in the back or on the side and is very uncomfortable to use. Nonetheless, many households have long jembes, and men and boys use them for certain tasks--especially land preparation. Women explain this acceptance on the basis of differences in strength or simply as being a matter of individual choice. Some women do use long jembes; they are not specifically reserved for men nor necessarily defined as masculine, and men do not seem to object to women using them. For most weeding operations both men and women prefer the short jembe because it can be maneu-

vered around plants more easily. Even in the event that a family should use only long jembes, it is thought that a short jembe should be kept in the house out of respect for the past.

A panga is the tool used for clearing bush and small to medium sized trees, cutting grasses and harvesting sugarcane. Because of the heavier nature of some tasks performed with a panga, men tend to use this implement more often than women, but women own pangas and can assist in most of the various tasks for which they are used.

For cutting down large trees, and for chopping firewood, an ax is used if one can be obtained--there are usually only three or four axes in any one village.

Ox-plowing is not a traditional practice among the Wadigo and several factors inhibit its introduction. First, cattle are not kept in Digo villages and there is no desire to take up cattle keeping. If cattle are owned, they are kept by a Duruma. Second, ownership of cattle is a means of hoarding wealth secretly. Using oxen on farms near the villages would display such ownership. Third, Digo men do not know how to train oxen for plowing and at present, at least, would very likely have to depend on Wakamba for such training. The mutual antipathy between these two groups would make it socially awkward. Fourth, tractors are considered far superior to ox-plowing and are much preferred.

Other capital equipment used in farming includes baskets, mats, small utility knives, and usually a roofed shelter (kibanda) built in the fields which is used as a shaded place to rest and cook

meals but is also important for drying some produce.

#### D. Division of Labor.

The Digo people discuss division of labor along the axis of subsistence versus cash crops, the former being strongly associated with women and the latter with men. My preliminary analysis of short rains labor inputs were overwhelmingly supportive of this dichotomy, as was the heavy responsibility for women to devote time to rice production at the outset of the long rains while men spent their time on maize production (an area which would subsequently be interplanted with cash crops such as sesame). But not all Digo farms have soils appropriate for cultivating rice, and as the long rains proceeded, it became clear that Digo women do contribute significant amounts of labor to the production of important cash crops.

Table 30 shows the distribution of male and female labor inputs for the major crops. The influence of a sexual division of labor can still be seen in this table, but it is far from an absolute dichotomy. The strongest differences remain with tree crops --coconuts and mangoes seem to be exclusively male crops and citrus crops are nearly so. Cashews, on the other hand, are approaching an equal division of labor. This is certainly related to the types of tasks involved in the production of cashews, including many hours of collecting beneath the trees and later cutting off the stem from each individual nut. Unlike the other tree crops, no climbing is required to harvest and process cashewnuts.

TABLE 30  
SEXUAL DIVISION OF LABOR BY CROP\*

Crop	Men and Sons % of Family Labor	Women and Daughters % of Family Labor
Maize	52.9	47.1
Cassava	17.6	82.4
Rice	30.0	70.0
Cowpeas	30.5	69.5
Sesame	45.4	54.6
Cashews	57.2	42.8
Coconuts	100.0	--
Citrus	97.1	2.9
Mangoes	100.0	--
Bananas	33.3	66.6
Chillies	71.0	29.0
Sugarcane	70.7	29.3
Cotton	93.6	6.4

\* For seven Digo farms.

Basic food crops are still dominated by women--especially cassava, rice, cowpeas and bananas; while some cash crops are still dominated by men--especially cotton, chillies and sugarcane. Nonetheless, many of these crops receive nearly one-third of the necessary labor from the non-dominant sexual group, making it difficult to argue for a strict division of labor.

In addition to cashews, maize is also approaching equal labor inputs for males and females while the women in this sample actually exceeded men in the amount of labor spent on sesame (which can only be classified as an important cash crop). If Digo divisions of labor were ever rigidly defined on the basis of sex, the only remaining rigidity exists with respect to tree crops which require climbing in order to harvest them. The only other crop which even approaches the same degree of sexual division is cotton, and I strongly suspect that this is because it is a relatively new cash crop in the Kikoneni area. The dominance of men over cotton may be significant in showing that unlike some systems of peasant agriculture, new crops must first be introduced to men rather than women among the Wadigo. Digo men strongly identify themselves as agriculturalists; they are not warriors or hunters, retired from these occupations by intruding pressures. While women are essentially partners, men generally direct agricultural enterprises and seldom leave women to run their farms while they pursue other opportunities (a pattern fairly common among the Wakamba).

A sexual division of labor does not generally occur on the

basis of operation either, as can be seen from Table 31. There is a slight tendency for males to contribute more to land preparation, weeding and harvesting while females contribute somewhat more to planting and processing, but in aggregate form these differences are not significant. There are divisions at the level of individual crops: women do not prepare land for sugarcane and men do not prepare land for rice (although two sons helped their mothers very briefly with this task). It is divisions such as these which still maintain the relative dominance of men over cash crops and women over food crops seen in Table 30, but farming operation alone does not serve as a basis for dividing labor between males and females.

#### E. Risk and Uncertainty.

Farm management in the Kikoneni area is subject to a number of specific risks and uncertainties. Local farmers almost invariably identify poor rainfall, wild animals and fire as the principal dangers (Table 32 shows the relative susceptibility of different crops to these risks).

Since farming depends on human labor, poor health is an additional uncertainty that can impede effective farm management. Table 33 tabulates the number of days each working member of nine case study households reported not feeling well. Although I have no explanation to offer, an important feature of these data is the higher frequency of illness among wives compared to husbands. Only on Farm 5 does the wife seem to be as healthy as her spouse, although the wife on Farm 13 is only slightly less healthy than her

TABLE 31  
SEXUAL DIVISION OF LABOR BY OPERATION\*

Operation	Men and Sons (Hours)	Women and Daughters (Hours)
Land Preparation	1434	1165
Planting	1215	1447
Weeding	2991	2829
Harvesting	1307	1164
Processing	386	475
TOTAL	7333	7080

\* For seven Digo farms.

TABLE 32

## CROP SUSCEPTIBILITY TO SOME RISKS

Crop	Risk			
	Fire	Baboons, Monkeys	Wild Pigs	Poor Rainfall (Heat)
Maize	dies	eaten	eaten	susceptible
Cassava	resistant	eaten	eaten	resistant except ESG*
Rice	harvested before dry season	eaten	trampled	susceptible
Cowpeas	dies	eaten	eaten	susceptible
Pidgeon peas	dies in strong fire	eaten	no	susceptible
Green grams	dies	eaten	eaten	susceptible
Sweet potatoes	resistant	eaten	eaten	resistant except ESG*
Bananas	resistant except ESG*	eaten	stem broken for water	susceptible
Pineapples	dies	eaten	eaten	susceptible
Pawpaws	dies	eaten	stem broken for water during ESG*	susceptible
Coconuts	resistant except ESG*	<u>madafu</u> ** eaten	young seeds & nuts eaten	susceptible
Cashews	resistant except ESG*	eaten	no	susceptible
Citrus	resistant except ESG*	eaten	no	susceptible
Mangoes	resistant except ESG*	eaten	no	susceptible



TABLE 32 (continued)

## CROP SUSCEPTIBILITY TO SOME RISKS

Crop	Risk			
	Fire	Baboons, Monkeys	Wild Pigs	Poor Rainfall (Heat)
Sesame	dies	eaten	destroyed by rooting	susceptible
Chillies	dies in strong fire	branches broken	no	susceptible
Sugarcane	resistant except ESG*	eaten	eaten	susceptible
Bixa	resistant except ESG*	branches broken	no	resistant except ESG*

\* ESG = early stages of growth.

\*\* madafu = young coconut used for drinking the juice.

Source: interviews with Digo farmers.

TABLE 33  
FREQUENCY OF ILLNESS

Farm Person		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total	% of All Days Re-ported
1	Husband	0	0	0	0	0	0	6	8	2	0	16	5%
1	Wife	2	1	3	16	31	22	1	0	0	0	76	26%
2	Husband	0	0	1	0	0	0	0	0	0	0	1	0.3%
2	Wife	20	1	1	1	1	0	0	9	7	4	44	15%
3	Husband	0	1	0	1	0	0	0	0	5	1	8	3%
3	Wife	1	3	7	4	5	0	0	0	6	3	29	10%
3	Son A	0	2	2	5	6	9	3	0	2	2	31	11%
3	Son B	0	7	3	0	0	4	1	0	1	1	17	6%
4	Husband	NA	NA	3	1	0	0	2	8	0	8	22	9%
4	Wife	NA	NA	23	28	20	0	3	2	0	0	76	33%
4	Son	NA	NA	1	4	4	2	0	0	3	0	14	6%
5	Husband	0	0	0	0	0	0	1	0	0	0	1	0.4%
5	Wife	0	0	1	0	0	0	0	0	0	0	1	0.4%
7	Husband	NA	NA	0	0	0	0	0	0	0	0	0	0
7	Wife	NA	NA	0	0	5	2	1	0	0	0	8	4%
7	Son A	NA	NA	0	0	0	0	0	0	0	0	0	0
7	Son B	NA	NA	NA	NA	0	0	0	0	0	0	0	0
7	Dau A	NA	NA	NA	NA	0	0	0	0	0	0	0	0
7	Dau B	NA	NA	NA	NA	0	0	0	0	0	0	0	0
11	Husband	0	7	3	4	2	3	0	1	0	0	20	7%
11	Wife	4	9	3	1	12	4	0	1	1	0	35	12%
11	Son	2	1	0	0	NA	0	2	2	1	1	9	4%
13	Husband	0	3	2	2	1	7	7	5	8	8	43	16%
13	Wife	6	1	13	0	0	NA	0	9	2	0	31	17%
14	Husband	1	0	0	0	0	NA	NA	NA	NA	NA	1	0.8%
14	Wife	1	1	2	0	5	7	3	2	6	1	28	10%
14	Son	0	0	0	0	2	3	0	0	0	2	7	3%

husband. Among the other households, the proportion of sick days for wives exceeds that of their husbands over a range of four to twenty-four percentage points. It may be significant that healing ceremonies (kayamba) are most often conducted for women. There seems to be a greater expectation that women will suffer from illness, but this could be nothing more than differences in the expectations of how men and women should respectively respond to illness.

The highest frequencies of illness were reported by the wives on Farms 1 and 4. The wife on Farm 1 had an operation in Mombasa during February and was recuperating for the following two months. Her doctor advised her not to do heavy work for a period of six months. Her illness subtracted a substantial amount of labor during the peak labor period of land preparation before the long rains as well as the planting and weeding of maize. The wife on Farm 4 had a very badly swollen right hand when I first met her in January and the problem persisted until past the middle of March. She was unable to do farm labor for that entire period of 71 days.

The most common reported illness was fever. Other illnesses included diarrhea, vomiting, colds, coughs, headaches, stomach aches, toothaches, sore throats and sore joints. Only one person suffered an injury--the husband on Farm 4 accidentally struck his foot with a jembe in August, resulting in a severe cut and he suffered from a fever for the following seven days.

The nine households included in Table 33 lost an average of

of 7.5% of potential family labor time due to illness (i.e., 518 of 6886 days). These same nine households paid KSh 835.25 for a total of 890 hours of hired labor; assuming a five-hour work day, this would be only 178 days--i.e., time lost due to illness was nearly three times the amount of labor hired.

Loss of production due to poor rainfall, sometimes associated with excessive heat and insolation, varies according to a crop's capacity to resist drought conditions. In general, all crops are more susceptible to drought immediately after planting and during the early stages of growth. The most drought resistant crops are cassava, bixa and sweet potatoes--all others are susceptible in varying degrees and production is reduced accordingly. (The seriousness and frequency of poor rainfall are discussed in Chapter III).

The principal wild animal populations that pose a threat to crops in the Kikoneni area are baboons, monkeys and wild pigs, but the category should also include rodents and birds. In the recent past, elephants and lions inhabited the region, but these animals have ceased to be a problem since they no longer range through the area.

Baboons and monkeys pose a danger to virtually all crops (see Table 32) since they have a diet similar in its variety to that of humans and also because they can climb trees. Chillies and bixa are not palatable to these primates, but their branches can be broken as troops move through a farm. While mature coconuts are

usually too hard to be susceptible to these animals, immature plants and young nuts (madafu) are susceptible. Other permanent trees and all of the food crops are at risk. When troops move through maize and cassava fields, they seldom eat an entire ear of corn or root of cassava; instead, they eat only a portion, discarding the rest and selecting another. Consequently, crop destruction greatly exceeds the amount actually consumed.

Wild pigs forage at night. Like baboons and monkeys, they travel in fairly large groups, destroying more than they eat. Being unable to climb, pigs do not damage as wide a range of crops as primates, but they can root out young seedlings or eat fruit that has fallen to the ground. Aside from these losses, most permanent trees are not disturbed by pigs. Chillies, pidgeon peas and bixa are also relatively insusceptible to damage. Banana plants and young pawpaws are sometimes broken because the high water content in the stems attracts pigs. Most of the food crops are highly susceptible (see Table 32).

Rodents eat newly planted maize seeds in great numbers and birds frequently destroy young seedlings. If planted early enough, rodents pose a minimal problem, but losses can be heavy if seeds are planted late. Clearing a field by burning it probably reduces the rodent population until after the rains begin when vegetation once again provides food and shelter. Early planting gives maize sufficient time to become established before the rodent population reaches sizeable numbers. If the initial rains are adequate, maize seed-

lings will grow quickly and therefore be less susceptible to attack from birds. Even so, all farmers reported some losses to birds. Children are often sent to guard newly planted maize, but adults will also perform this task if the problem is severe. Since losses to rodents and birds occur early in the growing season, hills that have been destroyed will usually be replanted.

Fire is regularly used as a method of land clearing during the dry season just prior to the long rains. Because vegetation is dry during this period, the danger of fires getting out of control is high. Since the peak period for fires occurs when most annual crops have been harvested, the major losses are sustained by permanent trees and perennials. Well established trees and some mature perennials (especially bananas and sugarcane, but also chillies and pidgeon peas) will suffer damage but will not be destroyed--they produce new shoots or leaves after the fire. (Burnt sugarcane sells for only KSh 10.00 less than the regular price per ton, but burnt cane also weighs less, so the total loss must be multiplied by this factor.) Chillies and pidgeon peas will not survive a strong fire and pidgeon peas require rainfall within a short period in order to recover. Root crops are fairly resistant to fire damage.

In addition to poor rainfall, wild animals and fire, the Wadigo recognize witchcraft as a major risk to farming. In one sense witchcraft poses the most important threat, for all other risks can be due to witchcraft or the action of evil forces. A witch can bring disease to particular crops, set fires, or transform into a wild

animal at night and destroy a harvest. Delay and/or reduction of rainfall can be the consequence of misdeeds within the community. The greed and jealousy of neighbors, acted out in witchcraft, are perceived as threatening a farmer's prosperity and security as profoundly as drought or fire or wild animals. In many respects, human enemies are more to be feared than natural ones.

While "natural" risks can be due to witchcraft, Digo farmers do not assume that witchcraft is always the cause of disaster. If wild pigs destroy a person's crop, it may simply be pigs or it may be witchcraft. In order to determine whether or not it is witchcraft, the person will buy "medicine" (dawa)--if the destruction stops, it will be interpreted as witchcraft; if the destruction continues, the person can either seek more effective medicine or conclude that it is really due to pigs.

Broadly defined, technology can be viewed as including those techniques which serve as a means for counteracting conditions of risk and uncertainty. Digo farmers employ a range of such techniques, some of which are integrally related to a cosmology that contains specific concepts regarding chieftainship, relations with dead ancestors, and the power of witchcraft. The rain ceremony, involving the sacrificial offering of a cow and, in the past, normally performed by the Kubo, is the principal means of bringing rain when it is late. Engaging an mganga (local doctor) and purchasing prescribed medicines is the antidote for witchcraft. An alternative solution is to move away from the old village and

establish a new farm. Poor rainfall and witchcraft are the two dangers most intimately related to beliefs concerning the supernatural. To the extent that fires and wild animals are perceived as witchcraft, these too become entwined in supernatural forces. But other aspects of Digo technology are concerned only with natural phenomena. Hunting parties attempt to reduce wild animal populations. (The government now requires hunters to obtain permission from the chief's office to hunt. Although there is some resentment over this policy, a hunting party was organized in 1974 to kill wild pigs.) Crops are guarded against birds and primates during the day and against wild pigs at night. Some farmers construct rather elaborate devices in their fields to scare animals, including long ropes attached to bits of metal that extend over a fair distance and can be jangled while sitting comfortably under the kibanda (roofed shelter). Most men claim they go out at least two or three times a night and beat tin plates when maize is nearly ready for harvest to frighten off wild pigs. (Having been awakened several times, I can attest to the performance of this activity in the field behind my house, but I suspect that some men exaggerate the number of times they actually go out.) Fire fighting is the responsibility of threatened household clusters. Rapidly clearing fire-breaks and beating the fire are the basic techniques used; unfortunately these methods are inadequate if there are high winds or areas of heavy bush. Another technique used to keep rodents and pigs away from a farm is to sprinkle the boundaries with a



strong-smelling disinfectant (dawa ya choo). Some seem to believe that the smell itself is the effective agent, but it is likely that an mganga once prescribed this against witchcraft and introduced the idea by this means.

Although traditional Digo technology provides active methods for dealing with the uncertainties of rainfall, wild animals, fire and witchcraft, it offers a relatively low level of effectiveness in removing these problems: rainfall will continue to be inadequate for some proportion of years and this proportion may even be increasing; it is possible that wild pigs are increasing their populations now that lions no longer inhabit the area; as long as burning continues to be a major means of land clearing, fires will remain a threat; and the belief that witchcraft can endanger farming enterprises is sufficient to maintain this as a perceived problem despite the countervailing belief in the efficacy of medicines. (As I noted elsewhere, many people in Kikoneni believe that witchcraft is increasing and that too many medicines are not effective.)

It may be useful at this point to present the principal recommendations for counteracting these same uncertainties (excluding witchcraft) offered under scientific technology:

Poor rainfall: development of irrigation (not presently regarded as feasible in this area); use of drought-resistant plant varieties.

Wild animals: clearing of all bush; substitution of fertilizers for fallowing.

Fire: careful fire control--permits required and inspection of fields by an agricultural extension staff member before fires can be set.

Given current conditions, do these scientific techniques really offer a higher level of effectiveness in reducing uncertainty? Irrigation is not feasible given local hydrology. Inspection of fields by extension agents before burning, although a formal requirement, is seldom done simply because farmers would have to walk in to notify the staff members who, in turn, would be walking all over the countryside to reach dozens of farms. Transport and communications are severely limiting factors on such a program. Clearing all bush to reduce the threat of wild animals is an immense undertaking and probably is not feasible given the current population density. Furthermore, there are forest reserves, protected by the government, in close proximity to farming areas which provide ample habitats for maintaining wild animal populations. Given the relative abundance of land, most Digo farmers are unable to weed or clear all the land they own. The substitution of fertilizers for fallowing could only be effective as a technique for reducing wild animal populations if clearing all bush were already feasible. It would make little sense for farmers to use only a small proportion of their land intensively with the continuous expense of adding purchased fertilizers while the rest of their property reverted to dense bush and tall trees. The one remaining recommendation (use of drought-resistant varieties) is the only technique which seems to

offer increased effectiveness under current conditions, but there may be serious drawbacks even here: do the drought-resistant varieties produce less in years of good rainfall? Do they require purchased inputs such as insecticides or fertilizers in order to produce well? In sum, scientific technology probably cannot significantly reduce the uncertainties in Digo farming over the short run; and over the long run greater effectiveness will rely heavily on purchased inputs requiring a high rate of cash investment.

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