THE RECEPTION TO NEW AGRICULTURAL PRACTICES BY THE ETHIOPIAN FARMER, AS VIEWED BY SELECTED CHANGE AGENTS OF OKLAHOMA STATE UNIVERSITY

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CHAPTER I

INTRODUCTION

In 1953 by invitation of His Majesty Haile Selassie of Ethiopia, Dr. H. G. Bennett, President of Oklahoma State University, and the Director of the Point-4 Program, made a contract in which Oklahoma State University agreed to cooperate and participate in the agricultural development of Ethiopia under three divisions: Resident college instruction of Ethiopian students in the Imperial Ethiopian College of Mechanical and Agricultural Arts, to be established by personnel of Oklahoma State University; an agricultural extension service to be established throughout the Empire; and a research program to investigate, develop and promote the natural agricultural resources of Ethiopia.

1. The Problem and Purpose of the Study

The study was formulated to investigate the Ethiopian farmer's acceptances of new and modified farm practices as introduced by the Oklahoma State University faculty, or change agents as they are called in this study. It was believed that the existing cultural system of the farmer would affect his reactions to the introduction of any new idea, item, or innovation into his agricultural practices. The establishment of the relationship between the reaction of the farmers in specified areas to a practice and the traditional culture or societal organization was the chief purpose of the study.

2. The Scope of the Study

The scope of the study focused on the change agent's views on the receptivity of the two principal groups with whom the program is in contact, the Amhara and the Galla. The program contacted various other groups, but the agents felt that they had established only minor relationships with them at the time, and that they had spent the greatest amount of time with and acquired the most knowledge about the Amhara and Galla tribal groups.

There was no attempt to obtain a quantitative analysis or item count of the exact traits or practices introduced to the farmer, nor of reasons given for acceptance or rejection of these practices. No information was available for the former, and the latter would be only a subjective interpretation of the change agent's views of the reason for the farmer's reaction. To explain or interpret the change agent's views on receptivity, it was necessary to review literature (1) on technical change theory and its effect on developing agricultural societies, and (2) on the cultures of the Galla and Amhara.

Numerous studies on culture change brought about by technological change introduced to a society have shown that various areas of the pre-existing culture exert a direct influence on whether a given item and its use pattern are accepted, rejected, or modified, to fit the established cultural milieu. Traditional areas of culture that can be examined in this light are social and political values and organization, family and kinship roles, religious beliefs and practices, belief in the supernatural, property rights, land tenure systems, and many others.

3. Sources of Data

There were two principal sources of information, or data, for this study. The first was a group of nine individuals, which included some present, as well as former, participants in the Ethiopian program, either in the administrative, instructional, research, or extension divisions. The number was limited to personnel available at the time of the study. Supplemental contacts were made with two Ethiopian graduate students at Oklahoma State University.

Literature discussing the farmer of Ethiopia and his culture served as another source. The amount of published material for this is not great. The number of ethnographic studies is limited, and some of them are concerned with groups not directly in contact to any degree with the program. Since the program is relatively new, cultural descriptions do not include this particular aspect of culture change. While much information is available on Ethiopian peoples, the individual writers may be from various fields, academic or otherwise. Oftentimes, assumptions are made about culture change on what appears to be too limited a background of information, which restricted the search to only those sources reflecting sociological or anthropological culture study techniques.

Recent theories on agricultural-technological culture change, specific findings of current agricultural development programs in areas similar to Ethiopia in agricultural technology, and data supplied from the reports of Oklahoma State University faculty served to give basic background for the study.

4. Methodology and Procedure

The open-ended questionnaire-interview method was employed to approach and answer the problems involved in this study. Following this technique included the necessity of gathering as much information as possible from a limited supply of informants. Since little information was available on the Ethiopian Galla and Amhara farmer's reaction to agricultural innovations, other types of questionnaires seemed to limit the possibilities of gathering pertinent information that arises spontaneously in the open-end techniques in which there is a minimum of limitation on response. Avenues of information can be followed with "probe questions" asked to obtain further information about points that the questioner may have thought irrelevant and which, when pursued, may have the greatest value in analyzing the interaction of individuals in as yet unstructured new contact situations.

Several revisions of the questionnaire occurred in order to produce logical sequence and clarification of questions. Review of the questionnaire by several individuals other than the respondents aided the process of its preparation. In its final form it sought to elicit information in the following sequence: (Appendix C)

Questions 1-9. General information about the respondent's job in Ethiopia, his length of tenure there, the type and length of contacts with farmers, the area known best, and the groups of farmers to be discussed in the interview.

Questions 10-17. Information the respondent volunteered concerning the skills of the specific group, their family and community organization, socio-economic differences within the group, and types of farmers who participated in the various events sponsored by the Program.

Questions 18-29. Information concerning the respondent's view on the receptivity of the farmers to various ideas and practices; the types of farmers that seemed to adopt new ideas, changes observed in the culture since adoption, and the respondent's ideas about his role as a change agent.

A map of Ethiopia was included as part of the interview. (Appendix A) Each respondent marked those areas of the Empire with which he was most familiar in terms of his working experiences with the people. (Areas visited casually for such purposes as lion and crocodile hunts, etc., were not included, though much of this type of information ended up on tape when it gave data about other less known groups in Ethiopia.) The tribal names of the groups were written on the map if the respondent knew them. In this way it was hoped that any misnamed groups might be detected.

Another page of the interview described and listed the various types of Ethiopians the respondent might encounter in the contact situation. (Appendix B). Blanks in front of each listing were filled in by the respondent in rank order of importance of contact, i.e., in knowing, working with and understanding of the people of his region. Those individuals listed included: Student; Ethiopian staff members; co-workers or assistants; Officials of the Ethiopian governments; Ethiopian farmers; and Ethiopian friends. One space was marked "Others". At this point it will be mentioned that all respondents marked <u>farmers</u> as First, Second, or Third in the list of nine choices.

The nine respondents were all the personnel who could be contacted and were on the Oklahoma State University campus during the period of data gathering. These individuals were the only sources of information

in regard to the program. Each participant seemingly responded as fully as he could to the questions. All respondents either had filled slightly different roles, or had occupied the same roles in different cultural areas, which exerted corresponding influences upon their respective viewpoints. The informants included two former presidents of the College in Ethiopia, two Directors of the Extension Services, a research farm manager, a research instructor, two instructors, one at Alemaya and one at Jimma, and a Director of Research.

Each respondent was interviewed in separate session which had been preceded by a telephone or personal contact explaining the nature of the questionnaire. The interview was tape-recorded to insure the greatest accuracy in transcription of response. During the session informal questions were interspersed to clarify points and to obtain additional or supplementary information.

The interview time varied from forty-five minutes to four hours, depending on the expansiveness of the respondent. In the latter cases, it was found necessary to divide the interview into two sessions.

After transcription of the interview from the tape (1) the questions and answers used were treated separately, i.e. each respondent's answers were tabulated under each question, then (2) the information was summarized for each respondent, and (3) all of the respondents' responses for each question were compiled under it.

5. Literature on Methodology

The questionnaire is a valuable basis for the interview for it has standardized both the wording and the order of questions which insures some uniformity and comparability of data collected. Jahoda and associates observe that the open-end interview and questionnaire is designed

to allow "a free response from the subject rather than one limited to stated alternatives. The respondent is allowed to answer in his own terms and in his own frame of reference."[1] The interviewer is allowed to encourage the respondent to talk freely and fully in response to a stated question. Additional questions can be asked to supplement the answers. Goode and Hatt suggest the use of the cross check question, "that is, a general question is checked by specific references."[2] These references may be obtained from written sources as check on the "cliche" answer, or they may be found by approaching the area from another direction. Questions can also be asked that can be checked against records, and other reliable or valid sources.

Open-end interviews have the following advantages:

1. The subjects' responses give a more detailed picture of attitudes, a picture which is less subject to misinterpretation than response to a forced choice question in which it is possible any choice may not be the one desired by the respondent.

2. The open-end questionnaire interview, by not suggesting responses, allows the subject to respond in terms of his own experience and "provides an indication of the factors which are prominent in the thinking of the individual about a given issue."[3]

3. In open-end questionnaire interview technique, misinterpretation of the meaning of the question can be detected by the interviewer, and

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[1]Marie Jahoda, Morton Deutsch and Stuart Cook, Research Methods in Social Relations. New York, The Dryden Press, 1951, Volume I, p. 173.

[2]William J. Goode and Paul K. Hatt, Methods in Social Research, New York, McGraw Hill Book Company, Inc., 1952; pp. 162-163.

[3]Jahoda, et al., ibid., p. 173.

corrected by further questioning.

4. Respondents often prefer to talk freely rather than be limited by choices.

6. Limitations on the Method Used

However, open-end interviews have certain disadvantages. "They are more demanding in time and cooperation from the subject than are poll-type interviews or questionnaires. This drawback is particularly serious with regard to questionnaires, and it limits the use of open-end questionnaires to rather highly literate persons with strong motivation to cooperate in a particular study,"[4] according to Jahoda and associates.

Other limitations of the questionnaire-interview technique are that good questionnaire formation is difficult, and good interviewing technique is not quickly acquired. Even under the best of conditions the interviewer may let a fortuitous opportunity slip by for gaining useful information because he does not grasp, at the time, the significance of a statement. Only after the completion of the transcription are the lacunae noted, and then it may be impossible to reinterview, to clarify, or add to the information. Unwittingly a questioner can bias or lead the interview toward the responses hoped for to prove the hypothesis. It is possible to interrupt at either the wrong time or not at the right time and not to pursue a necessary point, or to follow an irrelevant one. Hence, it is necessary to exert rigorous care during the interview to obviate dangers of error from these causes.

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[4]Jahoda, et al., ibid., p. 174.

Where such techniques as forced choice, etc., are not employed, such as in the open-end questionnaire, a vast amount of information can be acquired. This brings up various problems in handling the data. It is necessary to weed and prune to get at the significances sought. In this study many of the questions were of the "limited answer" type, but others, involving subjective analysis on the part of the respondent, were more difficult to handle because of the possibility of reading the opinion and interpreting it, and restating it, with the personal bias of the interviewer.[5] Danger lies in condensing wide-ranging answers so as to state exactly what was intended by the respondent.

7. Hypothesis

The hypothesis of this study can be stated thus: Certain values, attitudes, and behaviors in the existing culture of the Ethiopian farmer affect his receptivity to innovations or modifications in farm practices introduced by the change agent.

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[5]W. J. Goode and P. K. Hatt, ibid., p. 166.

CHAPTER II

REVIEW OF LITERATURE

This section of the study will consider the literature pertaining to three separate areas: general theory on acculturation, particularly that of agricultural-technological change; two studies on agricultural change in India and the Philippines; and culture studies of the Galla and Amhara tribal groups of Ethiopia.

1. General Theory on Acculturation

Many studies and much thought have centered on the description of the factors influencing acceptance of new traits and techniques into the cultures of non-western societies. As cultural contacts have increased between societies, whether through such means as earlier colonialization, or technical assistance programs in the present era, many theories describing the mechanisms of receptivity have emerged.

The first section delineates some general theoretical assumptions about the process of acculturation and diffusion, primarily as it occurs between cultures having different levels of technological achievement. The first level comprises the highly developed technology of the "western" society, and the second is that of the traditional, slowly changing technology of the "folk society."[1]

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[1]Robert Redfield, Peasant Society and Culture. Chicago, University of Chicago Press, 1956, pp. 12-13.

The second part of the discussion outlines some of the literature concerning information on the type of technological change found in the technical assistance experience of various individuals connected with these programs. The third part summarizes the results of some field-work investigations of agricultural innovations, and studies illustrating the theories described in the first section.

When introduced to change, non-literate people do what most human groups do when confronted with a new idea. They respond in terms of their experience, accepting what appears to be positively useful or beneficial, and rejecting what they deem to be of negative value in that it is unworkable or disadvantageous, according to Herskovits.[2] He maintains also that certain conditions are obviously more propitious than others for the occurence and acceptance of new ideas. Favorable and unfavorable conditions have, moreover, social as well as personal determinants.

Herskovits calls one social condition "the conservatism of the traditionally oriented peasant society." There is a need for the maintenance of cultural stability by proven techniques, established habit patterns which are more comfortable, particularly among the older generation, who are most often the arbiters of change. Older members of a culture often express hostility to change, perhaps because of the long term mental and physical habits reflected in the universal belief in the ways of thinking and doing that result from early socialization in their society. Resistance to change thus can result from disbelief in the efficacy of the "new," particularly when the "old," in the majority of experiences, has proved to be satisfactory in the traditional frames of reference.

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[2]Melville J. Herskovits, Cultural Anthropology. New York, Alfred J. Knopf Company, p. 445.

Nevertheless, change does occur in all societies, but at differing rates of speed. In western societies technological improvement, efficiency in production, and the appeal of the new are valued. With this constellation of factors, among others, change is rapid and expected. Particularly in non-literate or the underdeveloped societies, change may be barely perceptible, and this may be often an innovation within the culture.[3] This change occurs as a result of internal disharmonies in the structure being rebalanced by the mechanisms within the structural organization. Factors causing such imbalance momentarily or for longer periods could be gradual or rapid changes in the physical environment, such as prolonged drought, or technological innovation, among many items.

Herskovits states, in agreement with others too numerous for separate mention, that change occurs in the material as well as in the non-material world of the society. This is of particular interest, for as he says, "Among many peoples material inventions may be of paramount value, among others this creative drive will manifest itself in art, or religion, or social or political institutions rather than in technological change, with concrete items resulting from the change rather than ideological or artistic changes."[4] This is connected in theory with the factor of "need." What one culture feels is necessary, another may find valueless. In technical change, the change agent may feel an item is tremendously important, the impacted culture may see no need or value in it whatsoever.

This type of change desired by an outside group for another, or

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[3]Pitirim Sorokin, Social and Cultural Dynamics, Boston: Porter Sargent Publisher, 1957.

[4]Herskovits, ibid., p. 457.

invited from the outside by the indigenous society may meet resistance, as Heskovits points out, for "imposition of the institutions and standards of a dominant group on dependent peoples having different cultures may serve to rally them to forbidden early ways, and result in those contracculturative movements that often mark the course of foreign rule."[5] A change in recognized procedures of a society, a new concept, a reorientation of a point of view, can only come when people agree on the desirability of change. It is the result of discussion, of consideration by individuals who must alter their modes of thought and action if it is accepted, or argue preference for established custom in rejecting it. The aspects of culture that are transmitted, or the transfer of sanction of an older custom to a new cultural form are the result of particular historical circumstances which influence the psychological motivations underlying the selectivity that comes into play.[6] What then is taken over and what is rejected is determined by the pre-existing culture and the circumstances of the contact by which the item or idea is introduced into the culture.

In 1953, the Social Science Research Council held a seminar on acculturation. Members of the council included H. G. Barnett, Leonard Broom, Bernard J. Siegel, Evon Z. Vogt and James B. Watson. Their views were compiled in an article called "Acculturation: An Exploratory Formulation."[7] Some of the ideas relevant to the thesis of this study

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[5]Herskovits, ibid., p. 453.

[6]Herskovits, ibid., p. 482.

[7]H. G. Barnett, L. Broom, B. J. Siegel, E. Z. Vogt, and J. B. Watson, "Acculturation: An Exploratory Formulation," American Anthropologist, Vol. 56, No. 6, Part 1, Dec. 1954, pp. 973-1002.

are summarized in the following paragraphs.

In the consideration of what the authors call "intercultural transmission" two statements can be made: (1) that the patterns and values of the receiving culture seem to function as selective screens in a manner that results in the enthusiastic acceptance of some elements, and the firm rejection of other elements; and (2) that the elements which are transmitted undergo transformation in the receiving culture systems, and may also undergo transformations within the intercultural network while in the process of being transmitted. At any rate these transformations are also probably intimately related to the value systems of receptor cultures. The authors contrast the value system to gyroscopes that tend to keep the system going in certain directions, controlling and accepting those items that if ingested will continue the course of the culture, and rejecting those items that tend to throw the cultural balance off course.

When two cultural systems are in contact tendencies develop that may be called disintegrative in that a number of alternative means of reaching goals are presented to the society. These may be described as the old and the new. In this situation partisan committment to either may occur that will bring up factional differences. Generational differences based on age, a factor mentioned by Herskovits, are called here in the Seminar discussion, "conservative" and "progressive" factors. It is not necessarily a difference in the age characteristic, but this is usually so. The youth of a society represent the "progressive," desiring change, and the mature or elderly advocating rejection of the new, and maintenance of the old. Differences along these lines may arise among classes within a system, the vested interest may often resist change if it threatens their status position and the benefits that are

derived from this position.

Any system is capable of indefinite growth as long as it can maintain its internal controls. There are probably variable tolerances for growth, assuming that other factors such as rate and force of presentation of new ideas can be held constant. If this internal balance is threatened by too rapid rate of change, a system may respond belligerently (if the change is forced) and a process called "reactive adaptation" may occur. In this, withdrawal and "encysting" of indigenous values will become reaffirmed and reinforced, often with greater committment than before.

Different areas of culture change at differing rates, technological aspects changing more readily than others, such as religion or family organization in culture contact situations. But even in such areas as religion, as well as technology, new objects will be accepted more readily than new ideas or values. "Items may be integrated as long as they enhance prevailing security and orientation functions. But even in the absence of coercion in culture contact, clearly efficient implements have been rejected or ignored when perceived to interfere with basic cultural understanding."[8] Items may be accepted on an individual basis, while ideas such as a change in the marriage system will involve more than one individual or group and will be less easily accepted by the society.

Speaking of values again, the authors continue with the idea that the more generalized values are, or the more integrated rather than isolated, the more resistant they are to change. What might be called the basic premises of a people regarding the nature of man and the

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[8]Barnett, et al., p. 991.

universe can go unchanged despite considerable change or modification of the technology. It has been suggested that the greatest resistance to change and reorganization will occur in certain universal categories of cultural adaptation: maintenance systems, communications systems, and security systems. These are strongly supported by moral judgments of what is right and wrong, desirable and undesirable. Less resistant aspects would include luxury products, such as ornamentation, art and leisure activity in so far as they are not symbolic or deeply held values.[9]

2. Literature on Technological Agricultural Change

Another source used for information about the mechanism of acceptance and rejection that occur between cultures in contact, specifically those occurring between societies one of which is bringing directed technological change, is a book sponsored by UNESCO, Cultural Patterns and Technical Change. Margaret Mead states in the Introduction, "How can technical change be introduced with such regard for the culture patterns that human values are preserved?" One section of this reference is devoted to aspect of technical change in the field of agriculture. "Technical change in agriculture is directed at the resources available for cultivation, at methods of production, and at the organization of production. These three factors are interrelated, and whether we deal with water control, the improvement of land or seed, or livestock, basic to all is the work of man, his division of labor, his groupings, his traditional procedures, his relationships to the land. His survival, and often also the reason why he wants to survive, depend on these.

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[9]Keesing, F. Unpublished M.S. "Cultural Dynamics and Administration." Prepared for Seventh Pacific Science Congress, 1949. Stanford University Library.

He will be the instrument of change; and all change, even in techniques and tools used, will affect his ways of life, and his relations with others."[10]

Man's relationship to the land he farms is a very important one in agricultural societies. This relationship can be defined under two categories; tenure and the activity patterns that are utilized by the farmer in his technology. In many societies the importance of the land far exceeds its economic worth to the individual. It is part of his way of life as much as his religion is. "It figures strongly in many traditions and is the object of strong emotional attachment."[11] The ownership or tenure categories have many forms. Land may be assigned and used on an individual, family, band, clan, or tribal basis. The decision of land use may rest in the hands of the individual or the group. The amount of land for use, the type of land, and what crop and when to plant it, all represent decision making group activity in many cultures. Absentee ownership and varying types of tenant-owner relationships, such as cash rent, sharecropping and all other arrangements of rights and uses form part of the tenure picture.

The second part of the relationship is the activity of the farmer upon the land, or what he does to produce his sustenance. The relationship of the man to the soil may be of deep emotional significance to the individual. On his land the spirits of his ancestors may reside; this soil may be the dwelling place of his gods. Both of these, ancestors

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[10]Margaret Read, "Native Standards of Living and African Culture Change," International Inst. of African Languages and Cultures Memorandum, No. 16, Oxford University Press, London, 1938.

[11]Margaret Mead, Cultural Patterns and Technical Change, UNESCO, 1957, p. 177.

and gods, or spirits, may have originated in the folk myths of his cultural injunctions for the use and maintenance of his land. The crops that spring from the sacred soil may be part of a reciprocal relationship between himself and the indwelling spirits of the soil. Religion may be closely intertwined with every act that takes place in his agricultural activity.

Another factor involved in technical change is the cooperation patterns that exist within the agricultural community. In instigating change it may be expected that cooperation among indigenous groups will be a part of the behavior necessary to produce the change. However, the required size of or for the efficient introduction of the new item may be larger or smaller than the traditional cooperation unit. The behavior unit may be of a type which is entirely new to the group, and which may conflict with the leadership-follower patterns, or with the democratic, mutual decision making functions of the group. The new technique to be introduced may call for meeting goals which have little value for the group, since it may call for long range goals which are not important to the group, or it may conflict with long established group ritual.

Farming may be done by different group types: father-sons; entire nuclear family cooperation, including roles for women; brothers, or extended family patterns of cooperation; generations groups; clan groups; village and neighbor groups, all depending on the residence patterns and the traditional work patterns of the society. The latter may include individual land ownership or communal land ownership depending on the tenure system. Of the many ways that it can be done, the working of the land involves not the simple ends of obtaining a crop, but the social ritual of working together in reciprocal relationships involving both primary and secondary relationships.

In a section called "Acceptance" the following statements are made; "In many parts of the world we find the belief that man has no causal effect upon his future or the future of the land. God, not man, can improve man's lot."[12] If a society holds this view, attitudes toward acceptance of change will be often minimized. Where this belief is held, man is only the agent, and the success or failure of his efforts upon his land lies or rests in the hands of the gods. Similarly, a belief held by some groups is that making-do with what is placed in the environment, rather than changing it, or coping with difficult situations rather than modifying them is preferable to change. In groups holding these traditional views, fatalism may be an important value to the survival of the group. Some years are to be good, some are to be poor. The Biblical expression, "seven years of plenty and seven years of famine," may have been derived from such a philosophy based on experience. Often in a critical situation where there is just enough crop, or not enough in some years, the mood for experimentation cannot be present. One dare not take on new techniques and risk failure. "Most of the farmers of the world are not motivated by abstract ends or speculative results."[13] In this respect, seeing is believing. A demonstration is needed to prove the claims of the new technique before the attempt at urging acceptance can be instigated. For this reason demonstration plots are a part of most technical change programs in agriculture.

What the people specifically value in material needs should be considered in invoking change. This may range around the particular crop

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[12]Margaret Mead, ibid., p. 185.

[13]Margaret Mead, ibid., p. 186.

preference, for example. In this instance the color, flavor, texture, and size may be of real importance for reasons never given nor explained by the receptors. Any change, not nearly duplicating all or some of these characteristics to a high degree probably will not be countenanced. Any aspect of agricultural introductions, animals, poultry, and plants may meet resistance for seemingly trivial reasons, which may reflect the above reasons. Refusal to utilize certain plants for religious reasons is a well known characteristic of all cultures. Attempts to introduce certain nutritionally good foodstuffs must take this into consideration.

That cattle are of value for various reasons other than as a food, hide, and bone source is known. They sometimes have religious significance, or they may be an indication of wealth. In the latter instance, quantity, or size of herd is more important than are the quality characteristics that "western" culture deems important in its cattle. In some cultures cattle are considered almost as members of the family, and men are named after them. Cattle birthdays may be celebrated. Removal of the aged or infirm beasts from a herd would not be regarded favorably in a society holding any of these views.

Turning to the value placed upon time and its use, the authors note that various cultures have different points of view. Much time may be needed and spent on ritual of religious or magical significance. This may either relate to non-agricultural aspects of life such as marriage, birth or death ceremonies, or to the rites of agriculture itself. Agricultural fertility gods can be traced to the inception of agriculture as a way of life thousands of years ago. The authors state that "areas of religion and agriculture are not compartmentalized, but a part and

parcel of each other."[14] The rate of speed of working, or the lengths of time spent, the hours of the day utilized, or the times of the year all may have different emphasis and significance from culture to culture and affect receptivity to new practices.

In the final section on "Agriculture" the authors discuss each of the main areas in which change from the traditional may be encouraged or introduced. Some of the pre-existing beliefs that can be encountered in transmitting change are outlined here.

Soil Conservation

1. Landmarks such as stones, trees, and streams often may have sacred significance, and removal or changing positions will meet with resistance.
2. Patterns of plowing are often traditionally sanctioned. Such introduced practices as contour plowing around a hill will involve problems in reeducation when the approved pattern as first taught by the ancients was plowing up and down the hill.
3. Overgrazing is difficult to manage in a society in which the value is primarily upon the number of cattle owned and not upon the conservation of the soil.
4. The constant use of forests is often necessary for a people who have no other source of fuel for warmth or cooking. As populations increase deforestation increases. Where the only cash crop may be firewood, deforestation will continue. Reforestation projects are difficult under these conditions, as also is the popularization in some areas of goals which will not come to fruition for twenty to thirty years.

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[14] M. Mead, ibid., p. 188.

Improvement of Yield

1. Pest control is an attempt to control loss in the fields or in the harvested product. The latter is the more acceptable in some cases because it can be an individual effort. However, control in field crops may be difficult if it calls for other than traditional group efforts. The control of locusts when different tribal areas may be invaded calls for cooperative efforts between traditionally aloof groups, which may be difficult or impossible to obtain.

2. Fertilization is one method of increasing the productivity of the land unit. Two considerations for its non-use are: (1) in some areas dried dung may be the only fuel source, and (2) that it may be available only in areas remote from the cultivated land. This is true in societies where the grazing is done communally in areas remote from the village or farmlands.

3. Improved seed use increases crop yields. Resistance to change in seed may come from a belief that the old type is the best for the land. In some cultures varieties of seed have been inherited from generation to generation as an integral part of the religious, economic, totemic tradition of the family. In this case, the farmer will believe that no other seed than his own will grow upon his land. Such practical reasons as the cost of new seeds, fear of failure, size, and color also may enter into the picture of receptivity.

4. Resistance to crop rotation, or change in rotation, is prevalent in many cultures. Technicians have found that many societies have used their own rotations systems supported by religious and other sanctions for countless centuries. A definite crop-fallow sequence may be a trait of any agricultural society.

Livestock Improvement

"It would be utterly destructive or useless to attempt the introduction of different kinds of livestock where the present kinds incorporate the values of the society."[15] In this respect different animals do not have the same roles from society to society. An animal used as a draft animal in one culture may be a pack animal or riding animal in another. Milk or meat may or may not be used in a given culture. What may be the ideal conformation of an animal in one culture may not be in another. Breeding for pure lines may be of no value, and may be actively resisted, since it may involve introduction of animals from outside sources who may contain alien spirits that may inflict harm upon the native herd.

3. Agricultural Change Studies in Pakistan and the Philippines

The Role of Community Leaders in Innovation

The importance of leaders in accepting or resisting change has been a topic studied by various workers in the field. Since some of the studies have been in foreign agricultural settings, two of them will be reviewed here. The first is study of an agricultural adoptation practices in Pakistan. In the adoptive process "a person passes through several mental stages before he finally adopts a practice."[16] These are:

1. Awareness Stage

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[15] Ibid., p. 190.

[16] S. A. Rahim, "Diffusion and Adoption of Agricultural Practices," Technical Publication No. 7, Pakistan Academy for Village Development; Comilla, Pakistan, 1961, p. 2.

2. Interest Stage

3. Evaluation Stage

4. Trial Stage

5. Adoption Stage

In bringing about change during these stages, the author studied the farmer's access to information about the innovations. Since the amount and type of communication among individuals is important in inducing change, the manner in which this occurred was an object of study. The means of communication were extension booklets, demonstrations, farmer visits to the agricultural offices, contacts with agents, and discussion among the farmers themselves.

The results showed that the early innovators were high in communication source use, as mentioned above, compared to non-adopters. Other characteristics indicated that the early innovators were men of influence in the community. They were considered good farmers and owned more land than the average. Age or education did not seem to be of great selective importance. Income and general prestige in their group were high, and other farmers tended to watch and observe what they did, and to follow their example in acceptance of innovations.

The second study reviewed is "Predicting Receptivity to Community Development Innovations."[17] This work is from an agricultural village in the Philippines. The variables tested were the factors underlying openmindedness to innovation. The most highly receptive persons had more schooling than the average, incomes as high as or higher than the

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[17]F. C. Madigan, S. J., "Predicting Receptivity to Community Development Innovation," Social Science Research Institute of Xavier University, the Philippine Islands, 1962.

average, owned or rented lands of five hectares or more, had greater crop production than their neighbors, and had held local village offices more than once.

Personal factors also affected the receptivity toward innovation. Individuals who were most receptive to change in practices favored democratic type leadership in the work group, were popular among their fellows, were chosen leaders in task forces, and were interested in maintaining a neat home and yard.

4. The Galla and Amhara Cultures of Ethiopia

The review of the literature for this section cannot give a complete ethnographic description of the two tribal groups about which the study centers: the Amhara and the Galla farmers of Ethiopia. However desirable, sufficient authentic information is not available on the groups in contact with the agricultural program. It is necessary, therefore, to give only a brief sketch to create a setting for the analysis of the reactions of these farmers to different aspects of the program.

Murdock classifies the Amhara as mostly of Caucasoid extraction.[18] Their language, Amharic, is of Semitic derivation. They trace their descent from the union of Solomon and Sheba, the legendary Queen of Ethiopia. Amharas are located throughout Ethiopia, either as landowners, farmers, or government officials, principally. The greatest concentration of Amharic people is in the provinces of Shoa, Begemder and Gojam. Traditionally, the Amharic groups have been the ruling class of Ethiopia since the establishment of the Empire. This position has tended to give

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[18]George P. Murdock, Africa. New York: McGraw Hill Book Company, Inc., 1962, pp. 184-186.

them a feeling of higher status in relation to other ethnic groups in the country. The religion of the Amhara is Coptic Christianity.

The Galla are said to be the largest ethnic group in Ethiopia.[19] Lewis believes that they came from the southwest of Ethiopia, "the region of Borano, south of Lake Chamo,"[20] traveling in a series of migrations to the east and north. Some Galla went into Harar and Arussi; others traveled into Wollo and Shoa, Wollega, Illababor and the Gibe River region over a period of 400 years. At one time ancient Galla kingdoms were located in the present province of Kafa in the southwest of Ethiopia. The Jimma Agriculture and Technical School is located in this area today. The religion of the Galla can be either, Moslem, Christian, or indigenous, depending on various factors, including residence area.

Family Life

Certain similarities such as patrilineality, a tendency toward patrilocality, and patriarchality exist between the Galla and Amhara. In many provinces the Amhara are the large landowners, which conveys status privilege of political and social rank. If the family owns land, the son may receive an area to farm by his father. In some cases where there is no land ownership, i.e., the father is a tenant, the son will apply to some large land owner in the area for land to farm as a tenant. In this case, the son may live near the father, but possibly his residence may be some distance away. Typically, a young Amhara couple lives near the groom's father's residence for at least a year in some areas.

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[19]George A. Lipsky, Ethiopia, New Haven: Human Relation Area File Press, 1962, pp. 34-35.

[20]Herbert Lewis, "Historical Problems in Ethiopia and the Horn of Africa," Annals of the New York Academy of Sciences, Vol. 96, Article 2, pp. 504-511, January 20, 1962.

The nuclear family unit consists of the father, mother, and unmarried sons and daughters. Living nearby are the married children, where land is available. The kin unit, called the zamad, is interdependent, and according to an Amharic proverb, "for relatives and medicine in days of trouble seek them."[21] Married, or affinal, relatives called wagan (literally, helping or cooperative relatives) living nearby are made part of the cooperative group. Marriages are arranged in conservative traditional families. This involves a gift exchange between the families, according to wealth, with cows often an important item of exchange. The chief reason for marriage is to produce heirs to the land, as well as to protect the economic and social interests of the family. When a father dies his son plays an important ritual role in assisting the father's spirit into heaven.

Respect for the wisdom, knowledge, and authority of the elders is part of the Amharic socialization of its youth. This respect and deference continues until the age of 40 or so, or until the death of the elder member. The value of aggressiveness appears within, not between, generations. Aptness for successful physical and verbal competition with one's peers is valued behavior.

The Galla social structure originally emphasized the male age-grade system. In the gada system, as it was called, males were grouped by age and assigned various political, religious and military functions with individual power and prestige resulting from activities in the gada age group, and also from the social status of the family. Today, in a few areas the gada system may hold the importance it once had, but the pressures of the nationalized state have removed much of its former

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[21]George Lipsky, op. cit., p. 83.

function, as the Galla become a part of the larger political unit.

Nowadays, Gallas appear in all levels of the social stratification system of Ethiopia from the nobility to the tenant farmer. The majority of them are farmers. Within the various subtribal groupings are the ironworkers, tanners, day laborers, potters, and others. These may form endogamous castes between which there is no intermarriage. The farmer, Galla or Amharic, tends to look down upon these occupations.

The Galla Family shows greater diversity than that of the Amhara due to its greater religious heterogeneity: Christian, Moslem and indigenous belief. The Christian Galla practice monogamous marriage, while to the Moslem and indigenous sects polygyny is acceptable.

The Galla have greater interdependence among their community and kinship groupings than do the Amhara, according to Lipsky. The Amhara tend to develop individualism among their members to a greater extent than do the Galla, where greater cooperation is expected within the family, kin group, and community. An example of this is the gosa organization which will be explained in detail in later pages. The Galla family can consist of both nuclear residential groups or extended family residential groups, always patrilocal. To what extent or in what specific areas is not known.

Residence appears to be nuclear in the sense that each dwelling is inhabited by a single family, but in the cases of the polygynous groups, residences may be congruent. In the monogamous groups, sons and their families live in the area of the father, but not necessarily on the same land for the reasons given for the Amhara. At the time of marriage, which is kin group arranged, a bride price is customarily paid which may be in cattle, money, or other wealth. In the poorer groups, where wealth is not

obtainable, the boy may give suitor service to his father-in-law until the equivalent of the bride price has been paid.

As in the case of the Amhara, children are desired. The emphasis here may center on the role of the child in the economic functions of the family, i.e. his contribution to the efforts of farming, herding, water and fuel hauling. The role of the child is changing in many areas, however, as the building of schools, and the value of education makes itself known to the rural people. "The child is brought up in a large family unit and soon feels himself to be part of the entire communal or tribal settlement. He is openly and freely given love and affection and, unlike the Amhara child, keeps this relationship even after he reaches the age of responsibility. Through the daily contacts of living he learns that just as he is responsible to his family, particularly to his father, so the family as a unit is responsible to the community. He participates in cooperative activity with others, and is obedient and sensitive to community opinion."[22]

Community Organization of Galla

The gosa is the name for a Galla mutual aid-adjudicatory body organized on the subtribal level among the Galla.[23] The particular group in this description are the Kottu Galla of Harar province who inhabit the areas contiguous to the Imperial Ethiopian College of Mechanical and Agricultural Arts. The gosa association is of extreme importance for the amount of social control that it exerts upon its membership. All gosa

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[22]George Lipsky, op. cit., p. 86.

[23]Million Tesfaye, "Mutual Aid Associations among the Kottu Galla of Harar," University College of Addis Ababa, Ethnological Society Bulletin, Vol. II, No. 1, July-December, 1961, p. 71.

are mutually interrelated through the tribal belief in descent from a common legendary ancestor, Barento. The Kottus are divided into two sections, the Anninyya and the Kallo. The Moslem Kallo are sedentary farmers; the Anninyya are pastoralists, following the indigenous religion, although there are adherents to the Moslem faith among them.

Within the Kallo are two levels of subtribal groupings. The first level consists of five groups, some of which are further subdivided into the second level of sub-sub tribes. Each of the sub-tribes has its chief called a damina, who "wears a turban, rides a mule or a horse, and is followed by two or three servants or members of a gosa."[24] The role of a damina in the gosa is to act primarily as its patron and guardian, and secondarily as a tax collector for the central government, and as a maintainer of order in the village and surrounding areas.

At one time the gosa included only members of the same sub-tribes. Now, gosa membership may consist of a variety of cultural and linguistic groups. For example, the Oroma subtribal gosa of Harar includes Kottu, Somali, and Amharic affiliations.

The objectives of the gosa are to aid members in such crises as illness, disaster, and death. The funeral is an important rite, involving compulsory attendance of the membership. Severe penalties follow failure to attend.

If a natural catastrophe occurs, such as the loss of cattle, which is considered due to supernatural causes, the gosa decides on what type of assistance is needed, and which portion of the membership will aid the suffering member. If it is a small loss, the help may be assessed

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[24]Million Tesfaye, ibid., p. 80.

from only the local members. A larger loss entails assistance from more distant gosa membership.

Other mutual aid functions of the gosa are to help orphans and to assist those who cannot obtain the necessary brideprice for marriage. An additional role is adjudication on the village-rural level. This type of adjudication was observed by Parkyns in his Life in Abbysinia in 1853. Today the participants in the settlement of disputes include the male members, the younger men acting as a jury and the older men administering justice by "virtue of their greater knowledge of law, greater experience, their reputation as wise men and greater respect accorded them." The damina may be present.

Disputes may arise over marriage negotiations, quarrels between kinsmen, pieces of land, damages due to livestock, and others.

Exclusion from the gosa for any cause may bring about ostracism by the village of the ex-member. His cattle will not be allowed to herd with the others, his children cannot play with other children, and his wife cannot participate in the everyday reciprocity of the village life. In case of death in his family, the village will not attend nor help in the ritual. Ostracism can result for various nonconformities to the expectations of the gosa.

An Amhara Community Study

In a community near Debre Berhan, an area reached by the Oklahoma State University program, Yilna Workneh reports on life in the province of Shoa.[25] Debre Berhan is the market center for a series of small outlying villages. The study gives a description of some of the ways of life

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[25]Yilna Workneh, "An Essay on Community Life," University College of Addis Ababa, Ethnological Society Bulletin, Vol. II, No. 1, July-December, 1961, p. 82.

of the different social classes of Amharic farmers in the area.

Within this area the land holdings vary in size from very small to large sections of land. Continued divided inheritance has tended to reduce the size of the individual land holdings in the family groups so that the smallness of farms has reduced many farmers to poverty. In some cases the farms are no larger than about two or three massa, which is equivalent to about seven acres, or slightly less. Some individuals may own several small pieces of land scattered throughout the community. "Despite the fact that the land which they have inherited from their fathers or grandfathers is very small, and may be even useless, they do not sell it, or leave it to others."[26] Ownership and allegiance to the ancestral land is considered one of the main values of the Amhara culture.

The author contrasts Amharic farm family life in two different geographic localities: the cold area, called the daga, and the warm area called the kolla, which are contiguous, with altitude differentiating them. The contrast in the labor roles of the kolla and daga farmers is sharp. In the kolla area teff is the main grain crop. Teff cultivation takes a tremendous amount of time, in contrast with many other field crops. It is favored for making the basic Amharic food, injera. "Teff receives better care than perhaps any other cereal in Ethiopia; the preparation of fields for teff is better, the weeding more thorough, and the harvest carried out more carefully."[27] In this particular teff growing area, the wife, although responsible for many house duties, is as important as her husband in the field work. The work of the man is

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[26]Yilna Workneh, ibid., p. 83.

[27]Frederick J. Simoons, Northwest Ethiopia, Peoples and Economy, University of Wisconsin Press, Madison, 1961, p. 102.

to farm, dig, weed, harvest and build the dwelling. The work of the wife is as follows: weeding, harvesting, preparing food, collecting and selling dung and wood for fuel, and "walking sometimes 10 kilometers to town two or three times a week." If the husband carries wood to town, it is usually just once a week.

The kolla is the most productive in crops and prices obtained, while in the colder daga opposite conditions exist. Barley is the chief crop in the higher altitudes. In this area the wife generally has a far less heavy work load than the kolla wife has. She does not assist her husband to any great extent in the field work, but confines her labor to the house area. The daga farmer often works as a day laborer in the towns of the area to supplement his low income.

The Village Market

At this point it is needful to note briefly the importance of the market in the lives of the agriculturists of Ethiopia. In its universal form, it is usually held in a town or village at least one day a week. It draws from an area usually limited to the distance that can be traveled comfortably in one day, either by foot or by animal conveyance. The time must include that spent in the market for the usual buying, selling, and visiting. Each participant can bring his small surplus of crops, animals, or handmade articles to barter or sell for items that he himself does not produce. The market day has the important function of serving as a clearing house of information for the inhabitants of the area. In areas of low mass media despersion, it is often the only connecting link in the communications chain for its population.

In some of the larger Ethiopian towns, such as Gondar and Debre Tabor, market days may be held more often than once a week. A small daily market may operate in larger towns. Typically, "the daily town

markets and the small back country markets, on an average have perhaps two hundred people attending, whereas, the most popular markets in Gondar attract as many as seven thousand people."[28]

Communal Work Patterns among the Oroma Galla of Shoa and Wollega

One of the more important aspects of the agricultural life of a farming people in many parts of the world is the communal work patterns that have evolved throughout time to accomplish through mutual reciprocity, the onerous and difficult jobs that cannot be done alone, but that are more easily done with the sociability that kin or neighbors bring in the work effort. Such is found in Ethiopia among the Galla and other groups. The following description was written by an Ethiopian about an area touched by the program. The mutual work efforts will be described under the Galla names.

(1) Gege.[29] This is the name of a specialized type of assistance given by the son-in-law to his father-in-law. The types of work done by the working group are the gathering of crops, the repairing and building of houses, the preparing of a piece of land for farming. The number of people utilized at a gege varies according to the wealth and popularity of the son-in-law. The number varies from 50 to 180. The author states, "Every year this type of help is declining, for modernization is increasing rapidly among the people."

(2) Dabo. This type of mutual assistance is given to any Oroma in any circumstance whatsoever. A given farmer and his wife plan the work that needs more than their own efforts to be accomplished. The wife's chief

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[28]Frederick J. Simoons, op. cit., p. 196.

[29]Gobena, Temesgien, Univ. College of Addis Ababa, Ethnological Society Bulletin No. 7, 1957, pp. 65-76.

function is to prepare the food for the two meals that will be eaten on the farm. Some days before the man goes around asking his neighbors, men and women, too, if the work is light, to help him on the appointed day. "It is well to understand here that any man among the Oroma is given help according to his agreeable manners, love of friends, generosity and sociability. Thus a poor man who possesses these quantities may get more people to help him than a rich man." After the job is completed and the supper is eaten, a communal sing begins. Various types of songs are offered on such subjects as love, war, happiness, conquest of poverty, praises to God. These may be sung as solos, duets, or choruses in the group.

(3) Dado. This includes any type of aid in which people help each other in turns. The customary rules are strict. Latecomers are punished by working while others rest. If a person is absent he is expelled and looses the assistance of the others. Dado lasts about two months during harvest and weeding times. It involves from 6 to 28 people.

(4) Korre. As its name suggests in Gallinyan this is aid given early on harvest mornings between 6:30 and 9:30 a.m. The average number of people is 12 or 13.

(5) Galgale. This assistance is given in the late hours of the day between 3 p.m. and nightfall during harvest time. It can also include the work of clearing land, digging ground, preparing seed beds, planting coffee trees, and chasing monkeys, baboons, etc. and threshing grain with oxen. After the work is done, dabbo, (bread) and coffee are served.

(6) Sai. This type of labor is also known by two other names, beki and adiri. It is help given a person who has lost a relative. Among the farmers help is given as work or money. The author notes in conclusion

that the Galla welcome modernization, so each year the number of people working at such communal labors is decreased.[30] (This view may be realistic or idealistic, and confined to a small area of the author's experience.)

Role of Supernatural in Agricultural Practices

The relationship is close between agricultural practices and the farmers' beliefs in the supernatural in many parts of the world. The supernatural, whether it be an anthropomorphized god or an animistic spirit is believed to play a controlling role in the success or failure of agricultural effort. It is not unusual, even in western culture, to hear of planting by the light of the moon, etc. In the underdeveloped areas of the world where tradition is strong and belief in the supernatural is unquestioned, this particular aspect of the cultural milieu bears discussion to illustrate the relationship and its importance.

A few examples of beliefs of the Amhara and the Galla will serve the purposes of this study. The practices described here arose from earlier indigenous beliefs which in some cases function separately from Christianity and Islamic belief, and in other instances are either incorporated loosely within, or at least seemingly, do not conflict with the newer dogma in the minds of the believers.

Atete is a spirit, or a series of spirits believed in by Galla and Amharic peoples in certain provinces of Ethiopia. The belief and ritual varies from area to area. It seems to have diffused from the Galla to the Amhara. According to Maskal,"The Amhara, like the Galla, conceive Atete as something which has a supernatural power and which shapes the

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[30]Gobena, T., op. cit., p. 74.

individual's destiny. They say all sorts of misfortune, such as a series of bereavements in a family, poor harvest, loss of fortune, or a general failure in health is ordained by this spirit."[31] Certain feast days are set aside each year, usually during September, June, and July to propitiate the goddess. It is interesting to note the different agricultural products that are introduced at varying points in the involved ritual that accompanies the ceremonies. They are: (1) carefully selected white barley; (2) fresh butter, for ointment use; (3) eight pairs of coffee beans, used for divining the future; (4) various grasses; (4) durra, wheat, beans, and peas. Each of these plays a role in the ceremonies that are conducted chiefly by women.

The author describes the ceremonies and does not attempt to give significance to either their original or present meanings. Originally, there must have been a great deal of significance in the use of the agricultural products mentioned, and there may still be. Atete in one of her original meanings may well have been the goddess of fertility as Huntingford suggests.[32] At the present time she appears to be equated with the Mother Mary in the Coptic belief. Animal sacrifices were made a part of the original ceremonies among the Galla, in which a leading elder played important roles. The present day appeals to Atete seem to be declining in number in the areas studied.

Beliefs Concerned with Animals

The Arsi, Tulama, and Maca Galla of western Ethiopia have retained a

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[31]Maskal, F. H., "Atete," University College of Addis Ababa, Ethnological Society Bulletin No. 9, p. 45.

[32]G. W. B. Huntingford, "The Galla of Ethiopia, The Kingdoms of Kafa and Janjero," Ethnographic Survey of Africa, International African Institute, London, 1955, p. 76.

part of their original beliefs in cattle culture. These groups often divide their cows into two groups; the fanso are the ordinary cows that can be bought and sold, but the others, the saa-atete are sacred and belong to Atete. No one may buy or sell either the sacred cows themselves, nor any products, such as butter or milk from them.[33]

One rite performed for these cows is the "saa-Dabacu" of the Wollega Galla. It occurs three or four weeks after a cow has calved. Libations of milk are poured over the backs of the cow and calf, a goat is sacrificed, prayers are given, and a small feast offered for the neighbors. In the areas near Gimbe and Nago every cow undergoes the rite.

The cow and calf are kept apart in a special enclosure to protect them from the dortu, a person with an evil eye, until a pure blood Oromo can come and split the ears of the calf. During this time the woman pours the milk on the backs of the cow and calf, and they are fed some of the buna kala. The cow then having finished her "Rite de passage" rejoins the herd in the fields.

After this a second phase of the ceremony occurs in which the man of the family plays the primary role. Invited guests are given some food and prayers are offered. "O Sabbath, father of the bull and the keeper, we stay and give to you, we fill and give to you, pass from us." Buna Kala is then passed to the guests.

On Sunday the most important part of the ritual occurs. During this ceremony, the goat or sheep purchased for the occasion is slaughtered. The blood is used to mark the foreheads and "adams apple" of the guests.

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[33]Tesmesgien Gobena, University College of Addis Ababa, Ethnological Society Bulletin No. 8, 1958, p. 93.

Certain parts of the sacrificed animal are stored, others are cooked and consumed at a feast. Before the feast, however, it is necessary to appease the spirits of the interior of the house, as well as those of the exterior living around the dwelling. Small pieces of the ceremonial animal are thrown to them. Thus, other supernatural beings enter into the ritual life of the Galla.

A great deal of ritual and symbolism is present in the ceremony, much of which this condensed description omits. Sufficient to say it illustrates that cattle, sheep, and goats are symbolic for more than food and hide sources, and indicators of wealth.

The Amharic Ceremony of Genbat Ledata

The name of this ceremony means "Birthday of Mary." However, in current practices the Christian religious significance intertwines with the spirit beliefs present in the provinces of Shoa and Begemder. Originally, a porridge of wheat, beans, and chick peas was prepared and eaten outside the house on the day of celebration of Mary's birthday in early May. Added to this, was the slaughtering of a sheep, goat, or chicken, and the frying of kolo (barley, wheat, and peas). "The choice of the colour of the sheep, goats or chickens varied from individual to individual, and from family to family. The choice depended on the person's wakabi (guardian spirit) which sometimes, when the person it guards dies, is believed to move to the closest relative of the dead. For example, an individual or head of a family who had the wakabi called Sartan, had to kill a goat which had the colour of a lion."[34]

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[34]Yoftahie Kebede, "Genbat Ledata," University College of Addis Ababa, Ethnological Society Bulletin No. 8, 1958, p. 77.

All of the ritual involving sacrifice was to gain the protection of the Wakabiwoc, spirits in the physical, geographic habitat. Nowadays one rich Amharic family or several poor families may carry out the ceremony. In the latter cases, each family supplies one of the necessary ceremonial food items, such as wheat, peas, butter, peppers, spices, linseed, salt, popcorn, nug, honey, etc. In some areas a black sheep with a little white on the forehead is slaughtered. Frankincense and herbs are also utilized during the ceremonies.

"Then the oldest man, or the oldest woman, when there is no male, takes a small amount from all the food and coffee prepared and throws them away facing east, west, north and south in turn, and at the same time uttering words to the spirits asking them to give health, fertility, and prosperity to the community. If a person eats before this is done, it is believed that the adbaroc (spirits) will make him ill. This is because the food is purposely prepared for them, to eat before them is an abuse of their rights to eat first, as a result the adborac may avenge themselves."[35] The duty of the adbar of the house is to guard the family inside the house. Various other portions of the ceremony are omitted here, but the author says in conclusion, "It can be seen, therefore, that there are three significances attached to this practice: three different customs are combined. First the feast to celebrate the birthday of St. Mary, second, to gain the favours and protection of the wakabiwoc, and third, to drive away malevolent adborac."[36]

Soothsayers and diviners play a role in the lives of the agricultural

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[35]Yoftahie Kebede, ibid., p. 79.

[36]Yoftahie Kebede, ibid., p. 81.

population. A study of the degree of influence has not been made, but for one example, among the Amhara near Debre Berhan, "well-to-do farmers will ask wizards the colour of the sheep or chickens they should kill at a specific time in order to save their cattle or their crop from being destroyed by disease and hail."[37]

The foregoing search of literature, limited as it is, describes the climate of this study, indicating some of the ways of life of the Galla and Amhara farmer, from which it seems apparent that traditional beliefs and practices play a tremendous part in the life of the people concerned. There are many ancient beliefs about animals, about crops, and the spirits that control them and the man who operates in relationship to them.

Man has not only organized his supernatural world in context with his agriculture, but he has organized the social structure in certain ways to insure the production of crops and animals. A description of some of the mutual aid organizations, and the integrated village labor patterns illustrated this point. On the family level traditional ways of doing things have been described, though only partially here.

Leadership patterns among all peoples exist, and this is true among the Galla and the Amhara. A well established political heirarchy from the Emperor to the farmer fits all individuals into some status in the stratification. Against this background this study will describe the reactions of the farmers to certain innovations and modifications of the preexisting way of life, as it concerns agriculture, the main activity in which they are employed.

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[37]Yilna Workneh, ibid., p. 84.

CHAPTER III

DISCUSSION OF RESPONDENT OBSERVATION

The analysis of the questionnaire information is in two parts. The first part contains material on the Galla and Amhara cultures offered by the respondents. This will serve to supplement the more authoritative material in Chapter II on the social, political, religious, and economic organization of the farmers and also will be used to analyze reasons for receptivity. The second part analyzes the respondent's impressions of the Ethiopian farmer's response to the program, which the respondents introduced into Ethiopia.

1. The Cultural Organization of the Galla and Amhara Farmers as Viewed by the Change Agents

Most of the respondents' Ethiopian contacts were with the Amhara and Galla farmers. There were other groups mentioned during the interviews, such as the Guraghe, who are predominantly false banana horticulturists, and the Somali, who are nomadic herdsmen from whom some cattle were purchased. The Anuaks of western Ethiopia were also mentioned, but only in reference to some of the customs viewed while on trips indirectly related to the purpose of this study. Tigre farmers were also mentioned in passing. Thus the greater part of the information pertained to the first mentioned groups, the Amhara and the Galla.

Occupational Description

Consensus among the respondents and the literature stated that from 90 to 95% of the Ethiopian people are farmers. The largest number are full time farmers, whose agricultural behavior includes not only tilling of the soil, planting, cultivating, harvesting, and storing, but aspects of manufacturing and repairing of tools, building and repairing of dwellings and other structures such as granaries, caring for cattle, mules, sheep, goats, and poultry, and bartering and selling at market of different agricultural or crafted items produced either on his farm or in his area. These duties can be carried out individually or in conjunction with others in the community. All respondents knew about communal weeding, planting, harvesting and herding practices, which agrees with the literature.

The type of farmer within a community ranged from the small to large landowner, and the tenant farmer. The landowner might be resident or absentee. It was mentioned that the Emperor was an agriculturist in the sense that he indirectly operated large royal estates. Many of the higher governmental officials could be classified as absentee landowners in that they hold office in the national capital, Addis Ababa, and visit and supervise their agricultural holdings from time to time. In the provinces the large landowner does not actively work his land, but tenant farmers do it under varying reciprocal arrangements. Crops are planted according to agreement with the landowner, who may supply seed and oxen. Or, again, this may be the tenant's responsibility. Crop division between owner and tenant varies by areas. Cash rent was noted in one instance, rather than crop rent.

Part-time farmers play a limited role in the agriculture of the

country mostly around towns and villages where they work as day laborers, construction and road workers, servants and so forth. The literature confirmed this opinion in reference to the farmer-day laborer near Debre Berhan, as also did the respondents in regard to those living near Alemaya, Jimma, Debre Zeit and Gondar.

Some farmers are craftsmen, making baskets, pots, beehives, cloth, fiber products, such as rugs and rope which are sold in the area markets.

The majority of the respondent's contacts were with the full-time farmer whether he was a landowner or a tenant. Some respondents stated that the majority of those they knew were tenant farmers rather than large landowners who comprise a minority of the population.

Socio-economic Stratification

Stratification of the farming society exists within both the Amharic and Galla communities based on social, political and economic factors. The first observation concerns the role that the physical environment plays in setting up economic differences. Farmers considered as "poor" often resided in areas where low rainfall and poor soil conditions limited the amount of subsistence gained from the labor expenditure. In other areas where climatic and soil conditions were optimum the farmers were considered "better-off" than the first mentioned.

Differing tithe, rent, and tax rates play an important part in stratifying the farming population from area to area. Also, the amount of land controlled or owned by an individual is a marker of status position in any community. Land possession is an especially important value in Ethiopia. The man who owns much land in comparison to his neighbors, is usually looked up to, and in many cases is the political and authoritarian figure in the community. He is often appointed to be an official by the central government, or he may be the hereditary, or chosen

chief, of a certain area. The number of tenants whom a man has working the land that he owns is another marker of status. A land owner who serves in a supervisory capacity, rather than in actual farming, has high status.

Some of the respondents observed that the ownership of chattels and tangible personal property is indicative of difference of wealth in various areas. A very wealthy man rides a mule, or a horse, with several servants following on foot, one of whom may be carrying some of the man's possessions. Wealthy farmers ride mules to the College Field Days, and their servants care for them while the farmers observe the demonstrations.

Clothing differences are sometimes apparent. Formerly, only the more affluent farmer wore shoes, but this distinction is disappearing according to many of the respondents. In the matter of housing, the wealthy man has a better tukul or residence than the poor man.

The respondents noted that the polygynous individual is a wealthy man in most instances, having more and better dwellings to house his family than the poor man.

One important criterion that does not share equal importance in all sections, but which is generally a sign of wealth, is the number of cattle owned. The size of the "rich" man's herd differs from area to area, depending on the degree of emphasis on agriculture or herding.[1] Some regions are not as good cattle areas as others. Where conditions are favorable, agriculture may stress crop rather then animal production, as in the coffee producing areas in Kaffa province. In the interviews

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[1]Arega Worku, personal communication, August 1962.

exact numbers of cattle per area were not given as indicators of wealth. However, the general statement was made that the number of cattle owned in comparison to others indicates a man's wealth.

Several respondents stated that superficial appearances did not always indicate the degree of wealth or poverty. Wealthy farmers often dressed with a noticeable lack of ostentation. This was attributed to the farmer's fear of robbery, taxation, or of appearing better than one's fellows.

Economic differences between individuals may arise as a result of the degree of motivation toward farming. Some farmers appeared to be harder workers, more interested in farming, and, consequently, slightly more affluent than less motivated individuals exerting less effort. This was amended to say that all Ethiopian farmers are hard workers. In a largely subsistence economy one cannot afford to be otherwise, but some did appear to work harder and take greater interest in farming.

In summary the difference in the social stratification of farmers was attributed to: environmental or habitat types of conditions, which limited or aided the acquisition of wealth; land ownership, whether land was held in small or large amounts, and whether one had tenant farmers or was a tenant farmer; ownership of material goods, such as cattle, servants, and other forms of wealth, the type and appearance of the dwelling and its surroundings; the attitude about or motivation toward farming; and political power positions of farmers, who owned land and wealth.

Traditional Skills of the Ethiopian Farmer

In order to differentiate between innovations and modifications in agricultural practices and the traditional agriculture patterns of the farmer, the respondents were asked to suggest traditional skills of the groups with whom they were in contact. All of the respondents held great

respect for the farmer's skills. Through the use of traditional methods the fertility of the soil had been maintained and the amount of erosion kept at a minimum for countless centuries in many areas. A list of skills observed in various parts of the Empire must include:

Farming

Expert use of the oxen and plow
Threshing with oxen or flail
Winnowing with shovels and sieves
Stacking artistically various types of grain
Erosion prevention measures
Terracing of land
Rotation of crops, traditional systems
Leaving ground fallow for specified periods
Sod breaking techniques
Multiple crop types in same field
Use of small, irregular shaped fields, and rock fences to keep soil on mountain sides
Irrigation, and expert techniques for controlling water flow on mountain or hillsides

Herding

Great interest in cattle
Ability to know own unmarked cattle in large group
Good shepherds

Home construction

Making of tukul
Making of granaries
Making of fences

Crafts

Building of furniture, i.e., tukul stools
Construction and repair of traditional wooden plow and other tools
Making of household implements such as grinders, lamps, bowls, etc.
Weaving of rugs, bags, mats of fiber
Beehive construction
Pottery making
Weaving of cloth on looms

Metallurgy

Smelting of iron
Smithing of plow points, etc.
Construction of iron tools from scrap metal

Stonework

Hewing and shaping of stone for walls, bridges, buildings

Tool Use

Plow, hoes, ax, grinders, flails, digging sticks, ox whip for guiding and control

Fish trapping and bird snaring

Communal working patterns in weeding, digging, harvesting, etc.

Family and Community Organization

The respondents were asked to comment on the family, community and tribal organization of the area they were specifically discussing. All had some information on each category. The amount of information acquired depended upon various factors including the type of position held, i.e., extension or administration; the amount of time available to visit the communities, the necessary time spent in the communities in relation to the job; the total time spent in Ethiopia, which varied from two to nine years; and the interest in the particular group. All respondents had keen interests in the people and had some information on many traditional ways of life. Some of the information was recorded by the respondents as "hearsay" and other as "direct observation."

For the purposes of the study it is not necessary to list here in detail all of the data given in the interviews. Instead, a list of items that were mentioned follows without attempts to note how many respondents commented on each.

Knowledge of Different Cultural Aspects Known by Majority of Respondents

Tribal name
Residence pattern of group
Marriage and family system
Average number of inhabitants per family unit
Daily schedule of family members
Routine role of landowner, role and behavior of tenants

Property holdings of tribe, community and family, i.e., communal and individual
Political system status positions: Emperor, governors, subgovernors, ballabats, ras, Abba, Koro, chief, elders
Village or farm house descriptions, household items, tools
Religious ceremony, marriage and funeral rites

Not all of the respondents had information on all items listed above. Continued probing probably would have elicited more information on the different areas, but it was not thought to be necessary for the purposes of this study. This information was to serve mainly to illumine possible reasons for the reaction of the farmers to different aspects of the agricultural program.

2. The Program

In 1952 a contract between Ethiopia and Oklahoma Agricultural and Mechanical College (now Oklahoma State University) under the Point-4 Program stated that the College would assist the Government of Ethiopia in the establishment and operation of a College of Agriculture there. At that time the Emperor, His Majesty, Haile Selassie, stated in announcing the contract, "Ethiopia is endowed with an abundance of rich natural resources, but it does not have the large number of trained people required to develop these resources. In its plan for the country's social and economic development, the Imperial Ethiopian Government is therefore placing great emphasis on the expanding of educational opportunities for its people."[2]

The Imperial Ethiopian College of Agriculture and Mechanical Arts and the Jimma Agricultural and Technical School were organized by

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[2]Case Reports on ICA Projects in Twelve Countries, USAID - Point Four Mission, Stanley Andrews.

personnel from Oklahoma State University. To reach the goals set in the original planning these institutions formed the focal point for three types of activities: resident instruction to secondary and college students, research and development programs, and extension services throughout the Empire.

Various types of activities have been developed to reach the Ethiopian farmer. These activities originate from or occur at the two school sites, Alemaya and Jimma, at the different research and experimental farms and stations, or at the extension "posts" scattered throughout the country. The extension agents are Ethiopians trained either in the OSU facilities or others in the country.

Events scheduled throughout the year in various areas include Field Days, Corn Shows, Horticultural Exhibits, Extension Demonstrations at the local posts, and others. The purpose of these varying techniques is to introduce new ideas or modifications of the old, and to recognize those farmers who have accepted the new techniques and are using them to produce improved farm products.

Farmer Participants

One of the questions asked the respondent to comment on the characteristics of farmer participants at any of the events in which the respondent had participated, or observed. The information sought was: (1) type of farmer who visited the events; characteristics such as age, and social and economic status were sought here; and (2) the type of farmer who did not attend the event.

Farmers observed were from the areas near Jimma, Alemaya, Debre Zeit, Wolleta and Gondar. All groups were predominately Amhara or Galla, according to the respondents. In response to the question as to whether

the farmers at the events were typical of all the farmers of a given area, the answers varied. It was indicated that the types of farmer depended upon the particular event. In some cases attendance was open to all. In other cases, a specially invited group of farmers attended, such as the leaders of the community. In other instances, in a remote area the local chief summoned the village, and everyone came, men, women, and children. If it were an open event, then it appeared that the visitors were "typical area farmers."

Age distribution brought the following comments:

"mature adults"
"younger than is usual"
"adults, 40 to 60 years of age"
"all ages, youngsters to older farmers"
"younger farmers come, and also older experienced farmers"
"some young, some middle aged and up"
"age varied, difficult to say, but not all old farmers"

Several respondents prefaced their estimates with the remark that it was difficult to guess the ages and that it was a subjective guess.

The respondents were asked to comment on whether the attendants at the events were lower, middle, or upper class farmers according to their estimation based on their experience. The following comments were made:

1. "Typical of general economic level of farmers in area, but it is difficult to tell who was wealthy since there is not a great display of wealth."
2. "middle class farmer"
3. "middle class, but some larger land owners attend"
4. "all socio-economic levels attend"
5. "upper and middle socio-economic class, picked by agents to attend"
6. "ranged from lower, middle, to upper class. The largest percentage would be middle, with the smaller percentages being lower, and upper class farmers."

7. "mostly middle, some upper, some lower"
8. "it would be difficult to say"
9. "mostly average"

In asking this question there was no thought of attempting to establish any rank order of socio-economic class in the varied regions, since there would be available little information to check the ranking. The usefulness of the total question is doubtful, except that it revealed some important information: that there was a control of the participants involved where the events were invitational. It was pointed out in these cases that a definite segment of the people became involved because it was known that they comprised a certain group. They were leaders in their communities and were in the middle or upper classes. (The characteristics of leaders are discussed in another section.)

Program Use of Existing Community Organizations

Where extension agents utilize the market day for demonstration, the opposite condition for exposure to ideas results. In this case, anyone especially interested or not could be reached. As Simoons pointed out, the market is a hub of communication where farmers, village tradesmen, and officials can participate. Since market day is an ancient institution it is interesting to note that this part of the social system is being utilized to introduce new ideas.

The following discussion of a meeting in a Galla area is an example of the program's use of the functioning social organization in reaching the people of a community.

> "Whenever this leader called a meeting, it was my observation that all the people were there. Could be wrong. We tried to work into our meeting something that would be of interest, that would fit all. And we never start a meeting--we may wait two hours for the ballabat, or governor, to come. We never start until he arrives. That is respect for

> him. After he has made his talk, they transact any business they might have. Sometimes I would be called on to say something through an interpreter. Usually these communities were small, and they can go out on a hilltop and blow a horn and all the farmers in the area will come. Any time the governor, or the ballabat, of the community calls a meeting they leave their oxen in the fields with the boys to watch them, and they come from every direction. That is a custom. You go out to this meeting, and there won't be anybody there. A man will blow a steer horn, or send a boy up on the hill to blow the horn, and in 30 minutes you may have 200 people there. They sit around or stand around and are very attentive while the speaking is going on. Then afterwards, they discuss it among themselves....."

One of the most important findings of this study came indirectly through this particular questionnaire section. This is to say that the program came into the country under the aegis of the Emperor and the central government. Cooperation was given to the respondents, and they in turn responded by use of the system as protocol demanded. This might be described as "working through channels" already established from the central government down into the village structure itself.

If a college field day was to be planned, the local governor was notified, and he made the necessary proper arrangements with the local, village or tribal officials. If a group wanted to buy cattle or travel into an area to observe, the governmental structure helped them to accomplish their purpose as is described here by one of the respondents:

> "Anytime we wanted to do something we would have to go through a leader, and then the people pretty well followed him or what his wishes were. Of course, they had their own minds. They would in a group all ask questions. They necessarily would not have to go through him. But anything we wanted we usually went through the chief. At one time we wanted to buy cattle. This was quite a way from Harar. About 50 miles or a little over. But when we wanted to buy those animals, we first went to the government official, who was an Amhara. Then he would get in touch with the chief of this whole area. And then we worked through him. Then he would tell his subchiefs. Then at the time we wanted to buy cattle on the certain date, they would have all their animals ready there for us to select. These were Somalis... but it is pretty much the same all over. Any time you go into a village, you usually go to the ballabat, or chief, first...."

It appears that with this cooperation and use of the local political figures that the amount of resistance would be much less than if there was antagonism on the part of the vested interests. If there is much of this it was not indicated. The impression gathered from all respondents was that cooperation and willingness was the usual response to the initial introduction of ideas to any group. So it might be said that the stage and the audience are already set for reception of new ideas by the cooperation of the existing political structure.

In response to the query concerning those farmers who did not attend field days, etc., the answers indicated that non-attendance could be attributed to the following factors:

1. Poor communication, not knowing about the event
2. Length of distance to travel too great for customary foot travel. Some visitors walk as far as 12 miles according to one respondent.
3. Some farmers are just not interested, as yet. They feel their own techniques are sufficient.
4. They come to those events that interest them, and do not attend those that don't. If a man doesn't have sheep, he probably won't attend a meeting on sheep shearing.
5. Some were not invited because of the difficulty of handling large numbers in limited space.

One important fact about meeting attendance was the change in attitude noticed by various respondents. A change has occurred from one of casual to keen interest in the program. Greater numbers of farmers voluntarily make contact with the Program on other than special event days. They come in for advice on problems and to invite the personnel to their farms "to look the situation over."

Role of Community Leader

One of the purposes of the study was to ascertain the role of the leader in the formulation and acceptance of the ideas which the O.S.U. program hoped to make a functioning part of the agricultural system. The importance of the leader has been discussed in the preceding section on literature. It was assumed that such leaders existed and that some of their characteristics could be ascertained.

All respondents noted that the traditional, authoritarian system of Ethiopia gave the leader, regardless of rank, either on a national or village level, tremendous influence on the people. Tribally oriented societies following traditionally conservative ways usually have within their structure either hereditary or chosen individuals of charismatic characteristic. The highest charismatic leader in Ethiopia is, of course, the Emperor. His continuing example of interest in and favor for the development of the agricultural resources of his country have disseminated down the hierarchial structure to the village level, though at this point in the structure it is not as positively felt except on those occasions in which he visits the college, the farms, or other demonstrations, and sets the example for the leaders of the area by his acceptance of the Program and its personnel.

Examples given by the respondents can best illustrate the role of the leader on the local level.

1. Ato W. was a wealthy land and cattle owner of the province, who volunteered for the early attempts to place improved poultry on his farm. He wished also to use improved wheat seed. He was happy with the results and helped the respondent to distribute poultry and seed to other farmers who looked up to and respected him. He did not farm all of his land, but

assigned some of it to tenants, who leased oxen from him for farming. His influential position in the community thus encouraged others of equal status to cooperate with the program. He told the respondents that some of his tenants were slow to accept the new, but "he was still trying when I left Ethiopia."

2. The following is an example of leadership shown at a formal meeting of an Extension Service Field Day. According to one respondent a Galla farmer of the area got up to discuss one of the improved practices. He made a long, impressive speech. As it was translated to the respondent he gathered that the farmer was telling the others how well pleased he was with the improved product. He continued, also, that the Americans were not there to make money, were not there for their own good, but that they had left their homes and families to come and help the farmers of Ethiopia, and those who did not listen would be missing something important.

3. Ato D. was given as a good example of the leader of a community. Other farmers whom the respondent knew told him that if it was alright with Ato D. they would go ahead with an idea or the work. The respondent did not know if Ato D. held any tribal rank, but he was very cooperative with the respondent's program. He was about 45 to 50 years of age. He had contacts enough with the program so that he understood it, and "Consequently we were able to get something done through him, not only on his farm, but in the farms in the immediate vicinity." The respondent did not know how much land Ato D. utilized, except that he had three different areas to cultivate. He, apparently, operated them by himself with the help of his family. He was considered the best farmer in the area and through him the respondent became acquainted with other farmers.

4. One respondent in commenting on the tendency for the farmers to look to their leaders for guidance added the fact that this leadership was present, but if it were contrary to their thinking they might contest it. An example of this occurred at a Corn Show. The judging had been completed and the local governor was about to give out the awards for prize winning corn, when one farmer let it be known that he was not particularly pleased with the outcome. The respondent felt that he was a leader of the local community, because he got up to declare that the judging was not exactly as he thought it should be. They asked him to please refrain from commenting, but he said that he was there to participate in the meeting, and he was going to contribute. He then stated his objections and everybody discussed them. The judging was not changed, but at least he looked pleased that he had stated his feelings.

In discussing the various characteristics that would be found in local leaders several points emerged as being significant in determining leader position. They are listed below with the number of respondents who felt the characteristic was important:

Characteristic	Respondents Recognizing
Landowner	4
Good farmer	6
Elderly or wise	6
Political leader	6
High motivation toward new idea trial	8
Tenant employer	2
Surplus producer	1
Seeks out aid from college	1
Interest in community welfare	2
Religious leader	1

In describing how the leaders of a community aided the program, responses indicated that the leader helped the program more than any one person. "They were usually persons who were intelligent, although illiterate in many cases, but when they saw something was a better thing for their people, they wanted it for them." Another respondent said that most officials of the Ethiopian government are interested in their people's welfare. They are interested in agriculture and anxious to assist the farmer increase his income. Another cited the need to know the leadership of a community because "they can be gone to for support, and to get their thinking on what should be done, and to get their advice in getting a program that particularly suits the community." Working with the leadership within the community was a necessary factor in operating the program successfully.

Indicators of the Spread of Program Ideas in Ethiopia

At the time of the study no measurements of the spread and acceptance of the ideas introduced had been devised, but the respondents listed the following as means of detecting the acceptance and use of various ideas and projects.

1. Personal observations, such as visits to the farmers' homes, and survey trips of longer duration.
2. Increase in requests for agricultural information from the farmers at the college or extension posts.
3. Increased yearly attendance at the various meetings already mentioned.
4. The demand on the part of more farmers to be included as demonstrators of new techniques, from 25 to 100 requests in three years in one area, as one example.
5. Demand for more extension posts, from none to 77 in less than ten years.
6. The appearance of an item far from the original point of introduction. This applies particularly to the vast spread of the improved poultry across Ethiopia. Jimma hatchery chicks have been asked for as far as the Sudan border. One respondent also reported having seen the improved

type on the Red Sea Plain, "that the farmer had ordered them sent from Alemaya." One farmer rode a mule to the college, and then had the chicks sent air freight to his distant home.

7. Difficulty in filling all requests for improved seed in various areas.

8. Increased requests for bulletins that explain how to do things, such as Bulletin No. 7, "An Improved Chika Poultry House" among others.

9. The development of a rapidly increasing agricultural youth club membership. This group modeled after the 4-H clubs in American has over 7,000 members with poultry projects, garden projects, etc.

In response to the question, "Did you observe any traditional farm practices of the Ethiopian farmer which struck you as being highly valuable, given the circumstances under which he lives and farms?" It was the consensus that there were many techniques which were beneficial. Not only were the techniques valuable at the present time, but they had been instrumental in conserving the land of Ethiopia for many centuries past.

Valuable Traditional Agricultural Practices of Ethiopian Farmers as Indicated by Selected Change Agents

1. Mixed farming - Many crops in the same field, some are perennial, some are annual. Harvesting is done at different times. Several strains of the same crop in the same field. If one strain should fail, then others may survive. This is assurance against failure which the subsistance farmer cannot afford.

2. Crop type - They use the crops that are acclimated to their area. Many of the strains are ideal for the particular area. They picked types for various uses. Tall stalks for building and fuel purposes as well as grain content.

3. Plowing techniques - They do not plow deeply. This has conserved the soil in all areas, but chiefly in slope areas. They leave the soil in large clods rather than in small ones. The traditional plow leaves the land with millions of different little terraces to cut down on the soil erosion. The use of the ox and the plow is the only possible technique on some of the grades where mechanization would be impossible and uneconomical.

4. Terracing - Using a shovel to terrace around a hill is a means of water conservation. Terracing with rocks in Harar. Baffles and ridges well constructed without the use of engineering tools. "They study the lay of the land, and with the plow and oxen develop a terrace. If it is not just right, they will use a shovel to modify it. Accurate design so that water flow rate is controlled."

5. Field size - Use of small sized, angled fields to conserve water and soil.

6. Preparation of new ground - Use of the two or three pronged stick (mendongoria) to break the sod. A group of men lift the sod, about the area of a desk top, by sliding the mendongoria under it and turning it over. This type of sod is too thick to be turned by the traditional plow. Sometimes the sod is piled around the field, dried, and set afire. When it has burned down, it is spread around the field. After this the field is plowed four or five times in different directions. When it rains the burned material goes into the soil. (Each respondent discussed the good and bad aspects of sod burning, it might be noted.)

7. Fallowing practice - After a certain number of years of cropping, the land is left to rest and to sod over. Resting periods and cropping periods vary from region to region.

8. Crop rotation - Sequences of crops planted are observed. Beans of various types are recognized as holding up the cropping ability of the land. Rotation sequence varies from area to area. Not much information given on this.

9. Animal use - Oxen are used for plowing, and mules and donkeys are used for riding and pack animals. The latter can pack loads in areas where there are few roads and where wagons and other vehicles could not operate.

10. Skill with all tools that are used in farming, such as plows, axes, digging stick, hoes, spades, flails, sickles, etc. In Bulletin No. 5 of the Imperial Ethiopian College, Experiment Station, over fourteen handcrafted farming tools are described and illustrated.

11. Storage techniques - The use of the elevated tukul-like small granaries. Pit granaries built under the floor of the tukul (house).[3]

The attitude of respect for the Ethiopian farmer and his techniques very possibly affects the degree of rapport that is formed between the change agent and the farmer. It appears that this attitude would be a positive force in that, knowing that his ways are respected and not condemned, criticized, or treated as inferior, an aura of acceptance and reciprocity is possible between the change agent and the farmer. This attitude on the part of the change agent and perceived by

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[3]Comment: Building on these traditional ways rather than making drastic changes seemed to be the thinking of the total group of respondents. A step by step evolution of practices on the traditional base, rather than revolutionary introduction seemed the best approach.

the farmer would seem to add to the possibilities of acceptance of modification of traditional ways.

Respondents Observations on Farmer Receptivity

The following section is concerned with the main hypothesis of the study, which is to determine through respondent's observations what particular items and practices the Ethiopia farmers of various regions have accepted; what types of farmer accepts these ideas most readily; what resistance and reverting is encountered; what rejection was noticed, and reasons for it.

Previous discussion has indicated that the basis of the thinking of the change agent is the desire to modify and build on the traditional practices of the culture, rather than to endeavor to recreate the agricultural system in the image of the culture from which the change agents have come. All respondents indicated a respect for the traditional acumen of the Ethiopian agriculturist. And, they stated emphatically that time, patience, and understanding of the people were prime considerations in the introduction of agricultural techniques that in the long run would bring about the objectives of the Program.

Specific modifications of either traditional ways or innovations actually being used by the farmer must be viewed from a regional rather than an empire-wide point of view. There is great diversity in climatic and geographic factors in Ethiopia. There are also cultural differences to be considered. The combination of these factors has produced different agricultural systems within the Empire, varying from the coffee growing areas of the southwest to the colder, higher barley, wheat and teff areas of the highlands to the north. Therefore, the program development is directed toward the different needs of the Empire, and the

modifications and innovations discussed will reflect this.

Items Accepted in Different Regions

Innovations which certain Ethiopian farmers accepted with relative ease include:

1. Improved poultry
2. Improved coffee cultivation and processing techniques
3. Improved seed use
4. Modified tools or innovations in tools
5. Better handling of hides
6. Row planting of one crop fields, i.e. Jimma corn program, for one example
7. Introduction of mule draft power in certain areas
8. Use of variety of garden seeds in home vegetable gardens

Actual figures on numbers of farmers accepting and using the above items are lacking, and, as indicated previously, no direct measures of the spread of new ideas are available. As the program develops, greater amounts of statistical data of this type may become available.

On a wide scale the coffee program is the most successful as a joint effort of the Ethiopian government, the Oklahoma State University, A.I.D., Point-4 Program, the Ethiopian farmer, and others. Within a comparatively short time, the complete program of cultivation, planting, harvesting, drying, grading and marketing was reorganized to better the final product and"place Ethiopian coffee"high in the world market types of preferred coffee. Farmers in the coffee growing areas accepted and used the modified, or changed, techniques so that conformity with new procedures resulted in a better product.

Over 1,000 farmers are participating in the program at the time of the study, and over 300,000 coffee plants were to be distributed in 1962.

The farmers accepted the new procedures and standards for several reasons: first, they could use old techniques with modifications; second, very little capital was needed to change to the new standardized techniques; and third, they received immediate rewards in knowing that standardized, modified procedures brought higher prices than those produced by the old methods, e.g., drying the coffee beans on the ground.

Many areas have accepted improved wheat, corn, teff, and other seed varieties readily. Farmer demonstrators have been instrumental in introducing by the instigation of the change agents, new programs for greater yields with modified techniques.

Near Gondar a pilot program in the use of improved seed and its associated practices was described by a respondent as follows: In using the pilot farm method, the agent locates men who are already successful grain farmers, and asks for their cooperation. Those who agree go to one of the participant's farm. Here the agent gives a land preparation demonstration, after which he goes and helps the others prepare their land correctly. At seeding time they all meet again at the initial demonstrator's farm for a planting demonstration. If the seeds have not already been distributed, this is done at once and the agent helps the participants to plant their crop. If it is corn that has been planted, there is a later demonstration on cultivating between the rows, which is a new technique in Ethiopia where tradition dictates broadcast planting. When tasseling time arrives there is a corn tour for the participants. Finally the corn is gathered and the farmers meet at the pilot farm to weigh the corn gathered there. A demonstration is given on how to select seed corn for next year. The governor or some other official comes and gives each of the participating pilot demonstration farmers a certificate of achievement and recognition. "It all works very well," according to the respondent.

As observed previously, to choose the demonstrators from the community leaders is, apparently, a successful technique in Ethiopia. Each year increasing numbers of leading farmers wish to participate in the various demonstration programs in the country. In the Jimma corn growing area over one-hundred farmers volunteered for the program in 1962.

The desire for improved seed sometimes taxes the resources of the distributing agencies, according to one respondent. To offset this, he explained, each farmer returns to the distributing center an amount of grain equal to the seed borrowed, as soon as he harvests his initial crop. This replenishes the seed supply needed, dispels the idea of charity, and carries out the cultural value of reciprocity noted earlier which is an important community value in the Galla and Amhara cultures.

Farmer Field Days in which competition plays a role are part of the program. Those who produce the best grain, corn, vegetables, etc., receive prizes and certificates. This is significant, since competition as a type of social interaction seemingly would not be a valued form of behavior in a traditionally subsistence-oriented culture. However, the participants may be that segment of the farming group classified as "middle class" who may have a surplus economy in the sense that they live in good farming areas, or are landowners who gain their surplus from tenant rents. Further information is needed to confirm this. It is possible that recognition from authority in the form of praise and certificates may be valued behavior transferred from earlier tribal periods in which the tribal leader conferred such favors for outstanding military etc., prowess.

Modifications in the forms of the traditional tools have been accepted in some areas. The steel-shared plow is one example. It plows a wider

furrow than does the traditional plow, and this advantage was evidently accepted as of value. The simple pole harrow dragged behind the oxen is used in some areas, as well as the box type planter in the Jimma area, and others for corn planting.

According to all respondents, the Ethiopian farmer has accepted the poultry program more widely, and it has had more impact on the agriculture of the country, than any other innovation in the animal husbandry program. Several reasons account for this: first, poultry requires a relatively low investment; second, it has a rapid production cycle, with readily visible results; and third, poultry and poultry products have been an important part of the diet of the people. Instances have already been cited of the distances from the points of distribution that the program has diffused.

A similar technique that is used in seed distribution is also utilized in poultry upgrading. A cockerel is exchanged for one of the farmer's indigenous breed in order to improve the grade of the flock. Hatcheries are maintained at the different program sites to distribute baby chicks throughout the Empire, often via the extension post agent and the rural youth clubs.

Conditions Leading to Positive Receptivity on the Part of the Ethiopian Farmer

The respondents were asked to give opinions on the receptivity of the Ethiopian farmer to new ideas and practices. Several respondents mentioned that certain programs were very new and had not had time to show any conclusive evidence of reception. But, speaking generally, the Galla and Amhara farmer's attitudes and responses, as viewed by the change agents, are as listed:

1. The Ethiopian farmer is often ready to change his ways. Some respondents reported that the farmers in some areas seemed eager to improve their ways of life and their levels and standards of living. Demonstrations always attract some farmers who ask many questions and are extremely interested in the new or modified technique. The agent or change agent finds out who they are, and they often become the individuals who are demonstrators for improved practices in their communities.

   Another respondent commented that the farmer appreciates help more than anybody in the world, and if they can see that one single farm practice is improved, they never forget it and "begin to grow with it." Another said that once the farmer is convinced that a practice is beneficial, he accepts and retains it.

2. The farmer must comprehend the idea. He must understand how the item works, and why it would be better than his own methods. For this reason comparative method techniques are used in teaching and demonstrating. Using the "old" and the "new" planting methods, and showing the different rates of yield are very effective devices used to convince farmers, as pointed out in previously cited literature.

3. The Ethiopian farmer must be able to see rather immediate benefits from the use of the item or the adaptation of the new techniques. Long range planning is not a traditional way of thinking in Ethiopia or other areas having an agriculture subsistence economy. Poultry and seed improvement programs have thus been easily accepted on the short range benefit basis. It was observed that for this reason, livestock breeding programs will require a much longer time for adoption.

4. If the item is a tool, such as a plow, harrow, planter, etc., the farmer, in most cases, feels he must be able to duplicate it or repair it in his own village or on the farm by his own efforts. Complicated machinery calling for cast parts, or intricate designs, are not introduced, for the farmer cannot make the item, nor can he replace the part, if broken. A lost nut or bolt is often irreplaceable, since it may be an imported item sold only in places remote from the farm.

   The weight of the item is important also. If it is a device that is too heavy for the oxen to pull for a certain length of time, or if it is too heavy for the farmer to carry to and from the field, it will not be accepted.

5. An innovation that is "one-step" up from where the farmer is, either in concept or technique, has a greater chance of being permanently accepted. Since poultry husbandry was already a trait in the culture, only two new concepts were needed, the feeding of a ration, and providing drinking facilities for the chickens. Traditionally, chickens are self-feeding and watering in many areas. These new ideas have not always been maintained, although the improved poultry has been kept.

6. Like many subsistence or small surplus agriculturists, the Ethiopian farmer is a jack-of-all trades in the true sense of the word, with of course, the help of the traditional family or village cooperative groups. Traditionally, the farmer carries out the entire agricultural cycle himself, from planting, to harvesting, to use of the final product. If it is necessary in introducing an innovation or modification for another agency to be part of this cycle, a difficulty in acceptance may occur.

7. If community leaders accept and use a new practice, their neighbors tend to be receptive toward the idea. The Ethiopia leaders are most often the landowners, not the subsistence farmers. These owners have some margin of economic safety in a surplus acquired as shares from the tenant farmer. With this margin it is possible that they can try new ideas on a risk basis. This seemed to be the case in certain areas of Ethiopia. Tenants, as in the report of Ato D., can be thus introduced to a new or modified practice through the auspices of the landowner. Well-respected tenant farmers are also participants in the demonstration programs.

Cultural Patterns Influencing the Resistance of Ethiopian Farmers to Innovations or Modifications as Viewed by Selected Change Agents

The respondents learned from previous understanding and experience with Galla and Amhara culture patterns where they might meet certain resistances in the introduction of innovations and modifications of agricultural practices. The respondent interpreted some cases of resistance from his knowledge of the culture, and in other cases where the reason for the resistance could not be related directly to the culture, he indicated that some cultural conflict probably explained the reason for passivity or negative receptivity.

The list of probable contributing factors to resistance to change in traditional ways, as noted by the study's respondents, appears in the following list with illustrations or examples.

1. The dyed-in-the-wool traditionalist farmer. He was described as one who is satisfied with his present farm operation. He is conservative, and does not readily investigate new ideas. The explanation of his behavior by various respondents emphasized that in many cases he knows what he is doing, what he plants, and how he plants it will bring some

degree of success, since it always has. If he is a subsistence farmer, as so many are, he cannot afford to gamble by trying new techniques, for fear of crop failure and consequent hunger for his family. This view by the respondents concurred with Herskovits' ideas stated in the previous section.

2. Conflicts of the new technique with pre-existing religious, supernatural, or related beliefs can lead to rejection or resistance to a new idea. This is a frequent and familiar observation in technical assistance program literature, as cited in Herskovits, Mead, and others. This area is difficult to assess adquately where little culture study has been done, and the change agent is uninformed of these basic value-laden systems' importance to the individual and the society. It was known in Ethiopia that many of the people, such as certain Galla groups, were Moslem adherents, which precluded the introduction of swine breeding and husbandry techniques.

The well-known resistance to herd improvement has been described in many areas of the world. The respondents mentioned that in Ethiopia the value of cattle was not in quality of the animal, as we define it, but in the numbers of cattle, or quantity. In many areas this interferes with quality improvement, for such characteristics as pure blood lines and conformation standards are not important, if acquiring them checks the increase or reduces numbers of cattle. Cattle are capital in those groups having this form of dowry price.

The need for greater draft power is related to the total agricultural output and the building of agricultural surpluses. This need commands such thought in Ethiopia. However, one respondent hesitated to introduce a plan which he thought might motivate farmers to want and to develop

stronger oxen. It would have initiated pulling contests to evoke the competitive spirit, previously effective in other ways, to bring about change. Nevertheless, he felt that there was a "taboo" against taking the family ox too far from the farm. He was not sure about it, but felt that possibly there might be fear of disease or evil spirits. He planned to investigate the prevailing attitudes before attempting to introduce the contest.

One respondent noted difficulty in purchasing certain animals from the herds of the region, even with the motivation of a good price. It is possible, perhaps, that these animals were "saa-atete," as described earlier. In any case, there was definite resistance to selling certain animals, but none with regard to selling others.

Opposition arose against selling or disposing of certain cattle brought in as experimental herd animals from distant areas. One of the animals was white. Regardless of the different attempts to sell or almost give the animals away, failure was met, although this type of resistance had never been recorded before. The respondent felt that some "superstition" lay beneath the refusal to have anything to do with these particular animals. The color of an animal can be of great importance. In the description of the Genbot Ledata ceremony it was shown that the Wakabi, or Guardian Spirit prefers animals of a certain color for the ceremonial feast, and if this color is not chosen the guardian spirit will leave the individual. In the white animal mentioned above, an alien or evil spirit may have dwelt, or there may been various other explanations for the farmers not wanting the animals in their herds.

In one area of Ethiopia, a respondent noticed that crops were planted on a hillside in an interesting pattern. Having good rapport with one

of the farmers prompted him to question the unusual design. He learned that it had been planted in that manner to prevent damage from the "evil eye." If the "evil eye" were cast on the field, then, only a part of the crop would be damaged. No further details were related, but this type of practice could have definite implications of resistance if other methods of planted were suggested to this farmer or others who follow the belief that designs in planting prevent the "evil eye's" damage.

3. "Work saving devices" are not met with universal enthusiasm throughout the world, as a western enculturated individual often wrongly supposes. As Chapter II of this study shows, work saving items and techniques can often disrupt vitally important work-group patterns, which have evolved to meet certain social needs. Also they may threaten the economic system by inducing mass unemployment.

In Ethiopia we find such group work systems as gege, dabo, korre, dado, galgale, and sai. Several of these are harvesting groups. As reported by Harlan,[4] harvest time is an important social time. If "automation" is introduced too rapidly, the comradeship and reciprocity of community relationships will be affected and resistance met. Several respondents explained that one of the important reasons for the Field Day and Seminar type farmer meetings is to obtain on-the-spot group reaction to new practices and work patterns. After an item has been demonstrated, the participants try it out themselves, and discuss it "pro" and "con." In the words of one respondent, "we had fashioned a harrow that they liked very much. It was triangular, made from eucalyptus wood, and had long spikes. These they decided they could make in the village, and that

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[4]Jack Harlan, Agricultural Perspectives, Oklahoma State University, Stillwater, 1961, p. 9.

it could be used for any of the general food crops such as teff, corn or sorghum. On the other hand the disc plow was demonstrated and discarded because they decided it was not easy to repair."

4. In some instances an item or technique has been accepted by the farmer, then rejected at a later time. Or if the item is not rejected, the practices involved with its use may be modified, and with good reasons according to the respondent who gave the following example. In the case of poultry ration feeding, the time of the year may come in which there is not enough grain left in the granary to share with the poultry. Obviously, the human need will precede the animal needs in the minds of the farmer. Likewise, if water becomes scarce during the dry season and must be carried many kilometers on the human back, the farmer can give little consideration for watering his poultry, and must leave them to fend for themselves.

5. "Practical reasons" may account for resistance to change. One example of this is that a farmer disliked the color of the Rhode Island Red chickens that have been so successfully introduced in the Empire. He claimed that the dogs would get them. Nor did he approve of the White Leghorns because the birds could see them from the air. The native chickens are mixed colors, and this had survival value as far as this farmer was concerned.

6. Animal roles. The roles that animals have is clearly defined in all cultures. The dog may be a draft animal in Holland where he can be seen pulling the small milk cart. The cow, the horse, the mule, the ox play various roles in all cultures. In Ethiopia for untold centuries the ox has been the only draft animal, and the mule has been the riding or packing animal. Yet, if the total agricultural output of the Empire

is to increase above the subsistence level utilizing the items, i.e., animals, in the culture, how can this be done when the animal role behavior is fixed by tradition? This problem faces the present program in Ethiopia. Experiments have established that the mule will do a greater amount of work in less time than the ox, and consequently more land could be cultivated in the same amount of time as with oxen use. On the other hand, at the present time, the mule is more costly. Another consideration is that at the time the ox becomes too old for field work one can consume it for food, and either sell or use its hide in some way. Traditional beliefs forbid the use of the aged mule in these ways.

Recently in Kafa province there has been a gradual acceptance of the mule as a draft animal. In one instance the change was motivated by an unusual incident, all the oxen in a certain area appeared to be stricken in some manner, and it became imperative that some other animal be substituted. The mule was accepted and used, but if the use has continued to the present time could not be determined.

CHAPTER IV

CONCLUSIONS

1. Discussion

The hypothesis of the study stated that the cultural values and behaviors of the farmers of Ethiopia would affect their receptivity toward new or modified items or practices in agriculture. To test this statement interviews from nine change agents, former or present personnel of the Oklahoma State University - A.I.D.-Point Four Program furnished information of the farmer's reaction to specific items and methods introduced into the Ethiopian culture. A limited number of authoritative culture studies on two specific groups, the Amhara and the Galla tribes, supplemented this information, by giving additional background of the family and community structure, political, economic and religious organization.

Analysis of the respondents' answers in the questionnaire-interview data indicated that the response of the farmer is directly a reflection of the culture which he represents and which motivates and delineates his behavior. Certain basic cultural areas: political organization, religious beliefs, and social and economic factors influence his reaction to different innovations.

The political organization of the society in Ethiopia appears to aid and not impede the introduction and acceptance of ideas on most levels. The Emperor, Haile Selassie, initiated the program, and set

the example for the entire political heirarchy by his positive attitude and encouragement. The people, or the farmers in this case, specifically value authority expressed through charismatic leadership, and respond to the fact that their leaders for the most part are in favor of the new trends in the agricultural development of the country. This is not always so, particularly on the village level where the crucial test of acceptance or rejection occurs. The voice of the people is heard here in the discussion of the farmers, and the decisions by the formal and informal leaders of this level. The program is organized so that any new idea or practice is demonstrated first in a small way to get the opinion of the farmer leaders as to its utility in practice. These leaders are usually hereditary, or chosen tribal elders, owners of land or respected tenant farmers, who have a positive attitude toward new ideas, and want better way of living for their people. The program has been successful in that it has worked always through the governmental structure, whether on the national or local level to gain cooperation and advice about what leadership felt was needed for the farming community.

The religious and supernatural beliefs of the farmer seem to play a definite role in receptivity. The respondents did not have extensive information of the specific reasons for certain resistance or acceptance on this basis, but the literature on the Galla and Amhara culture indicated that certain beliefs would definitely affect adoptions particularly in animal husbandry. Before they became settled agriculturists many of the Galla were pastoralists with traditional beliefs woven into their social structure about cattle, sheep and goats. Many of these were associated with their religious beliefs and appear to

remain a part of their present beliefs system entering into their every day life, as well as into their ceremonial activities. This is also true of the Amhara, but seemingly to a lesser extent, although this cannot be stated definitely at this time.

In many cultures beliefs in magic and the supernatural world are deeply entrenched for the very existence of the individual in his world may depend upon his following certain ritual to insure survival of himself, his family or clan, or village, he believes. Certain ceremonies at certain times propitiate the gods or spirits, and insure continued maintenance of the society. Certain proscriptions of behavior in relation to his fellow men and to his physical environment are part of his religious behavior.

The closer the relationship between man and his environment, the more directly dependent he is upon it for his sustenance, the greater his range of belief in the spirits of that environment that need to be respected and ritualized. Trees, rocks, lakes, the earth and the animals of the environment may all have indwelling spirits. Such seems to have been the indigenous religious beliefs of the Galla and the pre-Christian Amhara. Atete, the earth goddess, the Wakabi, and the adboroc are a few of the original beliefs that show manifestation in agricultural life today. Cattle in some areas are called saa-atete, cattle of Atete, as has been mentioned in the literature. Although the respondents made no note of this belief, if it is held in areas in which they are in contact, it is certain that it would affect the farmers reaction to any attempt by the change agent to introduce breeding practices, or herd culling by removal of certain aged or unfit animals.

Insufficient information on the reaction of farmers to animal husbandry programs to date prevent conclusion on the real significance of the religious beliefs connected with domesticated animals. The fact that the poultry program was rapidly and widely accepted throughout Ethiopia might suggest that on this basis the chicken has never had attached to it the religious or supernatural connotations that the larger mammals have had.

No other agricultural practice, such as tilling of the soil, planting of the seed, etc., indicated religious or magical significance to the respondents except for the one example of the patterned planting to mitigate the force of the evil eye. Undoubtedly a wide range of beliefs exist for each area contacted by the Program but it was not revealed in this study what they might be except for a few inferences given in the previous chapter.

The kinship organization and the village organization of the Galla and Amhara farmer is functionally integrated with roles for family members in field preparation, planting, weeding, picking, scything, flailing, stacking, building, repairing, herding, slaughtering, feasting and all activities in which the members individually and collectively participate. Secondary social groups, such as the goza of the Galla and ikub (credit organization) of the Amhara are closely defined community units which require patterned role behavior. These interdependent groups with specified individual responsibilities trace their origins to the need for survival of the unit by multipersonal obligations in harsh and demanding ecological conditions which continue to exist in certain areas, or if the environmental pressures have lessened, the patterns exist as survivals which may be presently based on psychological rather than direct physiological survival needs.

The typical culture pattern of village elder discussion of ideas and plans concerning the needs of the people has been transferred to and utilized by the Program as mentioned before. The College Field Days and demonstrations are arranged so that the leaders and others of the community can inspect, use, criticise, suggest changes, etc., for all new ideas that tentatively are thought to have possible use for the farmer. Objects introduced in this manner appear to be received favorably by the farmer once they have passed through the traditional channels of the village leader or rural leader acceptance by discussion.

Pilot farm programs are successful techniques for introducing new practices to the farmers. They use the social organization in the following ways: (1) Leading farmers initiate and demonstrate the new ideas, such as row planting of corn. (2) Their acceptance and use of an idea motivates other farmers to investigate the practice. (3) Rewards for participation are given by governmental or tribal leaders. This may motivate participation because it resembles an earlier culture pattern in which prestige gained from service to a chief or ruler was awarded in certain ways. The items accepted by the Ethiopian farmer, such as improved plows, harrows, seeds, and poultry are objects that apparently do not interfer with any pre-established work patterns of groups, nor do they entail radical new learning patterns for the individual, so that they can be fitted into the pre-established labor habits. Plowing, planting, and some other endeavors are individual not group operations, and the greatest number of items accepted seem to be those which are used by one individual. Attempts failed to introduce a simple hand thresher that called for the cooperative

efforts of two or three men. The constant attention that was needed to work the machine properly apparently eliminated much of the sociability and regular pace that had been associated with the threshing process using flailing techniques or the ox and the threshing floor. The fear of difficulty of repair, while not mentioned by the respondents, may also have caused the rejection of the hand thresher in the area in which it was experimentally introduced.

Farmer's cooperatives are being introduced at the moment in Ethiopia. The use of organizations similar to those already present in the culture, such as the frequently mentioned goza, may operate very effectively if it complements and does not compete with the established groups. The form and the function of a farmer's cooperative in some ways already discussed is very like the goza in that both call for planning for community goals, reciprocity of efforts, and consensus of opinion or majority opinion for group action. The success of the introduction of this new practice remains to be seen.

Economic factors necessarily influence the decision to innovate or reject. Respondents pointed out frequently that many farmers had no capital, or very little, to risk, or to invest without careful appraisal of the item's worth. Better farm management, using the items at hand or modifications of practices, is suggested as the means of improving yields without outlays of capital at the present time in Ethiopia for large segments of the farm population.

Barter and loan techniques have been used to overcome the lack of capital among the farmers. To aid farmers who wished to use new seed types agreements were made to return the same amount of loaned grain from the initial harvest of the new type. Exchange of an improved type

of cockerel for native bred cockerels improved the flocks of numerous farmers wishing to participate in the program, but who did not have the financial resources to buy the new types.

Items which the farmers could duplicate in the village were often accepted, but those which local citizens could not make, or had to purchase from the outside, were not always successfully introduced. This is not universal, for in one area, twenty improved plows were sold on the spot, and orders for others taken by the change agents. As part of the Program, the College can make small repairs for the farmers that call for techniques or machines not present on the farm or village level. This expedites, somewhat, the introduction of innovations.

In discussing economic factors affecting change in Ethiopia, an Ethiopian graduate student at Oklahoma State University indicated that as transportation facilities increase so that province areas remote from market centers can be reached, the desire to produce disposable surpluses will increase among the farmers. Previously, in remote areas very little motivation could exist for the acceptance of innovations to increase agricultural output, when markets were either lacking or of difficult access. This informant mentioned that one tribal group has financed the building of a road into its area, which reflects a value change, inasmuch as, by a traditional hostility toward outsiders, formerly the group had been opposed to facilitating communication by these means.

2. Summary

Nine respondents, all former or present members of the agricultural development program sponsored by the Ethiopian government, Oklahoma State University, Agency for International Development, Point Four Program, gave interviews indicating their opinions on the receptivity of the Ethiopian farmer. This information reported (1) agricultural items and practices accepted by the farmer as introduced by the respondents through the Program, (2) the conditions leading to or controlling the acceptance or rejection of these ideas by the farmer.

The limited literature on the Galla and Amhara farmer of Ethiopia gave supplemental information to explain some of the cultural values that might influence the acceptance or rejection of particular items mentioned by the respondents.

The conclusions reached by the study were that the social, political, religious and economic organization of the society largely determines which items and practices will be accepted by the farmer:

(1) No changes in the existing agricultural system will be accepted that conflict with basic values and established behaviors of the above mentioned areas.

(2) Changes that are instituted result from organization of the Program to minimize conflict with the foregoing cultural aspects, and to utilize the present social organization for the introduction and gradual acceptance of innovations and modifications in Ethiopian agriculture.

3. Limitations of Study

One limitation in the present study was the sample size of respondents, there being only nine, available for interviewing. This

greatly limited the number of responses and, hence, the opportunities to obtain greater detail about the types of innovations and the reasons for the acceptance or rejection of introduced items. The fewness of respondents magnified both the importance of each individual testimony and of any possible bias in his observation. In this respect, several respondents mentioned that if they had had time to remember before the interview, that they could "think of things" they had forgotten. Allowing the respondent to make lists of items by having a copy of some of the questions before the interview would have increased the amount of information acquired for this study. This was especially true of those respondents who had been removed from thinking in terms of the Program for a few years. Those working in the Program at the time, or who had just returned from Ethiopia, were able to respond more fully than those who had terminated their contacts several years prior to the interview.

Another area of limitation is the scarcity of present era culture studies on the regions contacted by the program. Without substantiated information, there is no cross check on the respondents' views for acceptance or rejection. In this study the two sources, respondents' views and culture studies available, were used to supplement each other, but with the foreknowledge that the reasons or conclusions for farmer reaction to specific items could be only tentative assumptions at this time. A field study of actual conditions using accepted field technique and data handling procedures would make these assumed findings have a greater degree of validity than they have in this study.

4. Applications of the Study

In its present form the study presents a beginning only for a more intensive search of that portion of the acculturative process represented by agricultural change in Ethiopia.

The theory that states the importance of a culture's value system acting as a screen for acceptances and rejections of introduced or diffused items has been indicated here only superficially. A more thorough study based on the tentative, exploratory ideas of receptivity could:

(1) Describe all innovations introduced to Ethiopian agriculture.

(2) Gather personal reactions directly from farmers rather than secondary sources.

(3) Study in far greater detail those aspects of the farmer's cultures that would indicate the political, social, economic and religious effects on the problem of receptivity.

(4) Predict from the above what items, as to type and complexity, could be introduced into the culture as change occurs in the values of the farmer, and the economy of the country among other possible changes.

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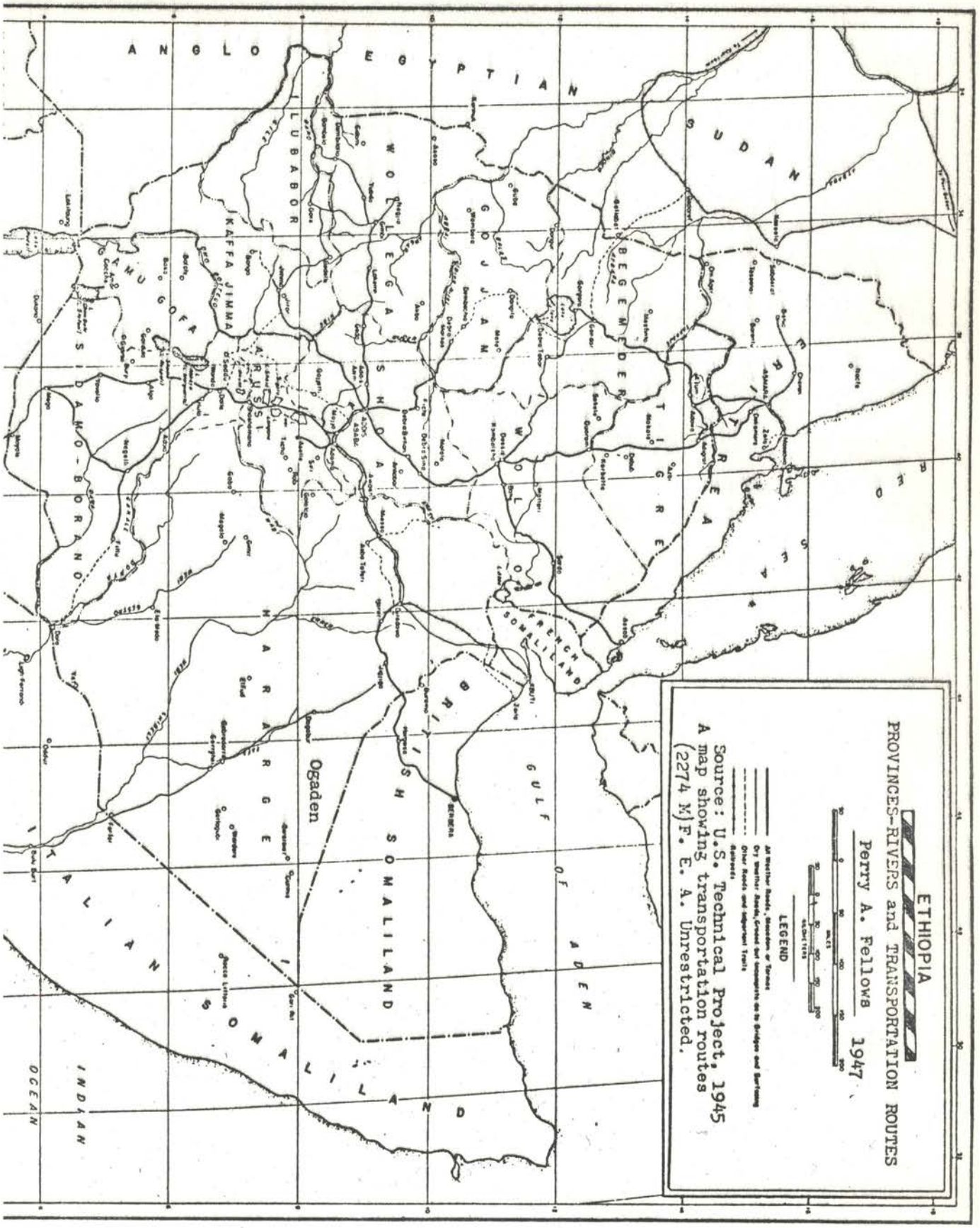
ETHIOPIA
PROVINCES-RIVERS and TRANSPORTATION ROUTES
Perry A. Fellows 1947
LEGEND
Source: U.S. Technical Project, 1945
A map showing transportation routes
(2274 M)F. E. A. Unrestricted.
ANGLO EGYPTIAN SUDAN
ITALIAN SOMALILAND
FRENCH SOMALILAND
GULF OF ADEN
INDIAN OCEAN
Ogaden

Appendix B

Interview_____

Would you check in the list below the types of contacts you feel were the most meaningful in terms of your own experience. Please rank in order of importance, omitting those with which you had not meaningful contact.

_____ Contacts with students

_____ Contacts with Ethiopian staff members, co-workers, or assistants

_____ Contacts with officials of the Ethiopian government

_____ Contacts with servants

_____ Contacts with Ethiopian farmers

_____ Social contact with Ethiopian friends

_____ Others (please explain)

Appendix C

QUESTIONNAIRE

The Technological Receptivity of Ethiopian Farmers

1. Would you please describe your job in Ethiopia?

2. What years were you there?

3. (Map)

4. (List of contacts)

5. To be asked only if the above question indicates contact with farmers.

   a. In what way did your work bring you in contact with the Ethiopian farmer?
   b. Did your job give you the chance to make two or more contacts with some of the same farmers at different periods of time?
   c. If "yes," how many such contacts did you have per farmer? per farm group?
   d. How widely spaced in time did they tend to be per farmer? per farm group?
   e. About how many farmers did you know well?
   f. Did you visit them or did they visit you on the job?

6. Which section of Ethiopia did you know the best?
   province_____village_____other_____

7. Did you have contact with other areas? Explain.

8. Could you give the tribal or language name of the group you knew best?

9. Was farming the occupation of the majority of the _____group?

10. If they were part-time farmers, what other occupations did the _____group follow?

11. Would you describe the skills of the farmers of the group?

12. Were there any lacks of skills that you noted?

13. Were you able to observe any economic differences among the _____group?
    If so, in what ways were these differences apparent?

14. Would you say you observed any social class differences among the _____group? If so, on what basis?

15. Are there any points about the organization of the community you would like to make? About the tribe? About the family?

16. Did you observe a tendency of farmers to depend on leaders in the area? in the groups that visited you?
If so, who would be the leader?
    a. a government appointed official
    b. a tribal leader
    c. an elderly person
    d. a younger person
    e. a religious leader
    f. other
In what ways did this leadership show itself?
How did it aid the program?

17. Were you able to observe the farmers who visited on Field Days, demonstrations, Corn Shows, etc.?
In describing the farmers of _____ would you say
    a. they were typical of all the farmers of the locality?
    b. they were average or fairly well distributed in age?
    c. were they of the lower__, middle__, upper__, socio-economic class?

18. Did some of the local farmers or groups not attend at all?
Why?
Has the type of visitor changed over the years?

19. What means of measuring the spread of ideas of these events have been made? Reports___personal observation___increase in requests for information___.

20. Did you observe any traditional farm practices of the Ethiopian farmer which struck you as being highly valuable given the circumstances under which he lives and farms. Yes___No___
If so, a. could you give examples of such practices?
    b. do you think that such practices may be combined feasibly with technological improvements, or would the adoption of the new way involve the loss of old but functional practices?

21. Most farmers will lack capital and the techniques necessary for applying large scale agricultural practices for a long time. But starting with the farmer as he is now, what do you think are improvements in farm practices that could be most immediately introduced?
    a. have you seen such practices in the process of introduction?
    b. have Ethiopian farmers who have adopted such practices experimentally continued to follow them, or have there been some tendencies to revert to traditional ways?
    c. what type of farmer seems to adopt the ideas most readily?
    d. could you estimate what percentage of the group continued in the use of the new ways?

22. Are there specific innovations in farm practices which you believe are definitely catching on among Ethiopia farmers?
    a. examples?
    b. are these originating from our program or from other sources?
    c. could you suggest any reasons from your experience as why these are adopted?

23. To your knowledge were some ideas or techniques which we have presented to Ethiopian farmers at field days, through extension work, etc., rejected outright as unsuitable by the farmer?
    a. examples?
    b. what could be any reason for the rejection?

24. Do you know of any standard American farm practices of today or of the days before mechanization which you think would definitely work in Ethiopia? Why?

25. On the basis of your experience how would you describe the typical Ethiopian farmer reaction to new practices?

26. The Youth Clubs have introduced both gardening and animal husbandry to school children. Have you any way of knowing whether adults, either parents or neighbors, are showing genuine interest in the practices learned by the children? Examples?

27. Have you observed an increase in the standard of living of any group due to the adoption of new techniques?

28. In your opinion what innovations or technological changes do you think are most likely to have major impact on agriculture in the immediate future? In the long run?

29. What do you think is the most important thing that a person bringing technological change to another country must observe?

VITA

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Master of Arts

Thesis: THE RECEPTION TO NEW AGRICULTURAL PRACTICES BY THE ETHIOPIAN FARMER, AS VIEWED BY SELECTED CHANGE AGENTS OF O.S.U.

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