PROGRAM PLANNING IN THE ETHIOPIAN EXTENSION SERVICE: ITS EVOLUTION AND STRUCTURE

by

KEFYALEW MANDEFROT

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(Departments of Administrative, Adult And Higher Education and Plant Science)

We accept this thesis as conforming to the required standard

THE UNIVERSITY OF BRITISH COLUMBIA

APRIL 1986

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Department of Plant Science

Department of Adult Education

The University of British Columbia
2075 Wesbrook Place
Vancouver, Canada
V6T 1W5

Date April 11, 1986
ABSTRACT

This study examined the program planning mechanism and structure in Ethiopian agricultural extension. Agricultural extension was seen by most policy makers and funding agencies as one of the alternatives to rural development. Extension was defined as an out-of-school educational process of working with rural people utilizing particular teaching techniques and certain supporting services with a distinctive spirit of cooperation and mutual respect. The goal was to enable people to acquire and use skills, knowledge and information to improve their lives.

In order to achieve the objective of the study, the history of agricultural extension in Ethiopia from 1952 to 1980 was reviewed and the origin, trends and problems in extension program planning in Ethiopia were discussed. Following the historical analysis, a review of program planning models relevant to agricultural extension was provided. The study, after presenting an examination of the program planning mechanism in Ethiopia, conducted a critical analysis of major problems. The major problems identified are related to the basic program planning mechanism, coordination and training. An alternative mechanism was identified based on Sork's basic planning model.

A summary was given. Major conclusions of the study were discussed in terms of program planning, particularly
with respect to analysis of the planning context and client system, administrative planning, coordination and training programs required for effective extension education.

The study revealed several important weaknesses in the extension program planning mechanism used in Ethiopia. It was suggested that if these weaknesses are eliminated, Ethiopian agricultural production — and the quality of life of those dependent on the agricultural sector — could be improved. Increasing collaboration between agencies, joint planning of programs, altering the programming sequence, and better timing of educational activities were suggested as means of improving agricultural extension services in Ethiopia.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABSTRACT</td>
<td>ii</td>
</tr>
<tr>
<td>LIST OF ABBREVIATIONS</td>
<td>vii</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>viii</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>ix</td>
</tr>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>xi</td>
</tr>
<tr>
<td><strong>CHAPTER ONE: INTRODUCTION</strong></td>
<td>1</td>
</tr>
<tr>
<td>Background Statement</td>
<td>1</td>
</tr>
<tr>
<td>Statement of the Problem</td>
<td>7</td>
</tr>
<tr>
<td>Purpose and Objectives of the Study</td>
<td>13</td>
</tr>
<tr>
<td>Research Questions to be Answered</td>
<td>14</td>
</tr>
<tr>
<td>Definition of Terms to be Used</td>
<td>15</td>
</tr>
<tr>
<td>Agricultural extension</td>
<td>15</td>
</tr>
<tr>
<td>Nonformal Education</td>
<td>16</td>
</tr>
<tr>
<td>Program</td>
<td>17</td>
</tr>
<tr>
<td>Program development</td>
<td>17</td>
</tr>
<tr>
<td>Coordination</td>
<td>18</td>
</tr>
<tr>
<td>Organization of the Remaining Chapters</td>
<td>19</td>
</tr>
<tr>
<td><strong>CHAPTER TWO: A HISTORY OF AGRICULTURAL EXTENSION IN ETHIOPIA 1952 TO 1980</strong></td>
<td>20</td>
</tr>
<tr>
<td>Agricultural Extension From 1952 to 1966</td>
<td>20</td>
</tr>
<tr>
<td>Agricultural Extension From 1967 to 1980</td>
<td>22</td>
</tr>
<tr>
<td>The Comprehensive Package Programs</td>
<td>22</td>
</tr>
<tr>
<td>The Minimum Package Program</td>
<td>24</td>
</tr>
<tr>
<td>Objectives and strategy</td>
<td>25</td>
</tr>
<tr>
<td>The EPID extension approach</td>
<td>29</td>
</tr>
<tr>
<td>Organizational structure and administration</td>
<td>31</td>
</tr>
</tbody>
</table>
CHAPTER FOUR: A CRITICAL ANALYSIS OF PLANNING AND COORDINATION ........................................... 81

Program Planning From 1952 to 1966 .......................... 81
Program Planning From 1967 to 1980 .......................... 82
Program Planning Practice in Comprehensive Projects ................................. 82
Program Planning in Minimum Package Programs ....... 90
Coordination in Ethiopian Extension ............................ 95
Major Issues and Problems ..................................... 100
Summary .......................................................... 102

CHAPTER FIVE: A PROPOSED ALTERNATIVE STRATEGY .......... 104

The Need for an Alternative Strategy .......................... 104
Assumptions of the Alternative Strategy ........................ 108
Analysis of Planning Context and Client System .......... 111
Administrative Planning and Coordination ..................... 115
Development of Training Programs ............................ 121
Summary .......................................................... 126

CHAPTER SIX: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS .. 130

Conclusions ...................................................... 138
Recommendations ................................................. 140

REFERENCES ...................................................... 146
LIST OF ABBREVIATIONS

ADP Ada Development project
CADU Chilalo Agricultural Development Unit
CSO Central Statistical Office - Ethiopia
EPIE Extension Project and Implementation Department
IBRD International Bank of Reconstruction and Development
IAR Institute of Agricultural Research
MCD Ministry of Community Development
MOA Ministry of Agriculture
MPP Minimum Package Programs
MPPA Minimum Package Program Areas
PMGSE Provincial Military Government of Socialist Ethiopia
RRC Relief and Rehabilitation Commission
SIDA Swedish International Development Agency
UNDP United Nations Development Programme
UNECA United Nations Economic Commission for Africa
WADU Wolamo Agricultural Development Unit
<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The 12 Major Cattle Countries of the World</td>
<td>4</td>
</tr>
<tr>
<td>2. Livestock Population in Ethiopia</td>
<td>4</td>
</tr>
<tr>
<td>3. Number of Tractors and Harvesters in Use in Three African Countries</td>
<td>6</td>
</tr>
<tr>
<td>4. Percentage of Expenditure 1960 to 1966 on Government Ministries in Ethiopia</td>
<td>10</td>
</tr>
<tr>
<td>5. Percentage of Government Expenditure on Agriculture of Some African Countries</td>
<td>10</td>
</tr>
<tr>
<td>6. The Difference Between the Annual Budget and Actual Receipts of Funds by Institute of Agricultural Research</td>
<td>11</td>
</tr>
<tr>
<td>7. Summary of Program Planning Steps</td>
<td>59</td>
</tr>
<tr>
<td>8. List of Questions for Analysis of Planning Context and Client System Participant/Program Characteristics</td>
<td>114</td>
</tr>
</tbody>
</table>
# LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>The Spatial Network of Minimum Package Program Areas</td>
<td>28</td>
</tr>
<tr>
<td>2.</td>
<td>Organization of Agricultural Extension Service in Ethiopia</td>
<td>33</td>
</tr>
<tr>
<td>3.</td>
<td>Organizational Chart of the Ministry of Agriculture in 1972</td>
<td>36</td>
</tr>
<tr>
<td>4.</td>
<td>Organizational Chart of the Extension Project and Implementation Department of the Ministry of Agriculture</td>
<td>38</td>
</tr>
<tr>
<td>5.</td>
<td>Present Organization of EPID</td>
<td>41</td>
</tr>
<tr>
<td>6.</td>
<td>Sork's Basic Planning Model</td>
<td>60</td>
</tr>
<tr>
<td>7.</td>
<td>The Extension Program Development Process</td>
<td>63</td>
</tr>
<tr>
<td>8.</td>
<td>Minnesota Extension Program Development Process</td>
<td>65</td>
</tr>
</tbody>
</table>
10. Basic Economic Developmental Strategy Utilized by the CADU Project in Chilalo Awraja

11. Chilalo Agricultural Development Unit Model of Operation

12. A Summary of World Approaches to Extension and Rural Development
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A vote of thanks goes to Dr. James F. Richards and Dr. Robert J. Copeman. Their insight and understanding have illuminated this study. Above all this researcher wishes to express his sincere appreciation to an outstanding scholar and teacher, Professor Thomas Sork, whose patience and guidance made this study possible. The resultant experiences were of immeasurable personal value. His generosity in time and enthusiasm for the study was greatly appreciated.

Lastly, I would like to thank Lars and Margereta Johanson for inspiring my initial interest in this area of study. My thanks go also to Mrs. Carmel Chambers and Mr. Bruce McGillivray for their assistance in the editing and typing of this manuscript.
CHAPTER ONE

INTRODUCTION

Background Statement

Ethiopia is a land of about 31 million people occupying over 1.22 million square kilometres in the horn of Africa. This ancient country contains some of the most mountainous and physically diverse terrain in the world. Its topography consists of highlands with vast dissected, rugged high plateaus. As a result of this topography, Ethiopia was substantially isolated from the mainstream of trade, communication and other international relations important for the diffusion of technology.

The country has a large area of cultivateable land. According to the Food and Agricultural Organization (FAO, 1981) and a recent Africa Guide (1984), there are 120 million hectares (ha) of arable land in Ethiopia, of which only 13 million are currently under cultivation. The rest includes permanent pasture, wasteland, and forest.

The country is basically an agricultural and pastoral society (Amare, 1978; Westphal, 1974). Agriculture dominates Ethiopian life to the extent that little material progress can be made unless improvements in agricultural production are achieved. More than 85 percent of the
population depends on agriculture and earns its livelihood from subsistence farming. The country earns more than 90 percent of its foreign exchange from exporting agricultural products (Africa Guide, 1984). Ninety-three percent of the agricultural production comes from the small peasant cultivators who are illiterate and indigent and seven percent of the agricultural production is derived from the "modern" sector of agriculture, mainly state farms (Reimer, 1975).

Despite the importance of agriculture in the life of Ethiopians, the annual total agricultural production growth rate from 1969 to 1980 was 2.4%, slightly lower than the rate of population growth which was 2.5% (FAO, 1971, 1972, 1981). In Ethiopia, the peasantry makes up about 85% of the country's estimated 31 million people, or about four million households with an average farm size of under five hectares (Tesfai, 1975). This same group comprises about 90% of the country's labour force. Heimpel (1973) for the first time confirmed that per capita income of the peasantry lies below 150 German marks and concluded that a large number of Ethiopian farmers live in a subsistence economy which barely provides them with sufficient food.

Despite recent improvements in production methods used on the state owned commercial farms, the use of modern agricultural inputs in Ethiopia is negligible. For example, in 1971 Ethiopian consumption of nitrogenous fertilizer averaged around .25 kilogram per hectare of
farmland (Gill, 1975) while the African average is approximately 20 kilograms per hectare. The combined lack of these resources results in low farm productivity.

Ethiopia has the largest livestock population of any country in Africa (see Tables 1 and 2). A cattle population estimated at about 26 million head ranks Ethiopia eighth in the world and first in Africa. Almost all the cattle are Zebu type. About three-fifths of the total are in the highlands where they serve primarily as work animals. Livestock raising always has been largely a subsistence activity (Stanford Research Institute, 1969).

In Ethiopia, over 99% of the power on the peasant farms is generated by human beings and animals. In the highlands, crop land is prepared with a traditional plough which simply digs a rut in the soil. In areas, mainly lowlands, where due to trypanosomiasis, oxen or other draft animals cannot survive, a hoe or digging stick is used for primary cultivation. Weeding, if done at all, is done with either plough or hoe in the case of robust crops such as maize. In some areas such as Northern Shoa - 45 kilometres from the capital city - the muck soil is collected into heaps after the first ploughing and set on fire in order to destroy pests from the previous crop. Systematic manuring of the land is done by rotating cow pens. Cow dung is also collected for use as fuel and as a building material. Seeding is usually done by broadcasting.
### Table 1: The 12 Major Cattle Countries in the World and Africa

<table>
<thead>
<tr>
<th>World</th>
<th>Million Head</th>
<th>Africa</th>
<th>Million Head</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>176.6</td>
<td>Sudan</td>
<td>13.6</td>
</tr>
<tr>
<td>U.S.A.</td>
<td>114.6</td>
<td>Tanzania</td>
<td>13.3</td>
</tr>
<tr>
<td>U.S.S.R.</td>
<td>99.1</td>
<td>South Africa</td>
<td>12.3</td>
</tr>
<tr>
<td>Brazil</td>
<td>97.1</td>
<td>Nigeria</td>
<td>11.6</td>
</tr>
<tr>
<td>China</td>
<td>63.1</td>
<td>Madigascar</td>
<td>10.6</td>
</tr>
<tr>
<td>Argentina</td>
<td>49.8</td>
<td>Kenya</td>
<td>8.5</td>
</tr>
<tr>
<td>Pakistan</td>
<td>44.2</td>
<td>Mali</td>
<td>5.5</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>26.4</td>
<td>Chad</td>
<td>4.5</td>
</tr>
<tr>
<td>Mexico</td>
<td>25.1</td>
<td>Niger</td>
<td>4.4</td>
</tr>
<tr>
<td>Australia</td>
<td>24.1</td>
<td>Uganda</td>
<td>4.4</td>
</tr>
<tr>
<td>France</td>
<td>21.6</td>
<td>Rhodesia</td>
<td>4.0</td>
</tr>
<tr>
<td>Columbia</td>
<td>21.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1,141.0</td>
<td></td>
<td>158.0</td>
</tr>
</tbody>
</table>


### Table 2: Livestock Population in Ethiopia

<table>
<thead>
<tr>
<th>Class</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td>27</td>
</tr>
<tr>
<td>Sheep &amp; Goats</td>
<td>41</td>
</tr>
<tr>
<td>Poultry</td>
<td>50</td>
</tr>
</tbody>
</table>

The sickle, usually with a serrated edge, is the universal reaping tool and crops are threshed by oxen trampling on hard packed earthen threshing floors. In the case of grain, winnowing is done by the time honoured method of throwing the threshed product into the wind in order to separate the kernals from the chaff.

The crop, in most cases, is transported by pack animals (donkeys or mules) although crude animal sleds are found in a few areas. Produce which is not disposed of immediately is stored in either mud-walled thatched bins or in covered pits. This traditional agricultural technology, described in detail by Assefa and Eshetu (1969), Gill (1975), and Huffnagel (1966), has changed little in the last 35 years.

According to the FAO (1981b, 1977) in the entire country there were only 3900 tractors and 150 harvesters in use in 1979. Table 3 indicates that while the Sudan has nearly three times as many tractors as Ethiopia, Kenya owns a little less than double the number of Ethiopia.

In the case of both production methods and agricultural output the Ethiopian case is extreme. The highland mixed farming system, which is the dominant farming system in Ethiopia, is in its initial stage of development, where farmers produce mostly for their own subsistence needs and use techniques of cultivation that have been passed on from father to son for generations. The data and observations presented thus far are consistent
Table 3: Number of Tractors and Harvesters in Use in Three African Countries

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethiopia</td>
<td>Tractors</td>
<td>2858</td>
<td>3500</td>
<td>3600</td>
<td>3700</td>
<td>3750</td>
<td>3850</td>
<td>3900</td>
</tr>
<tr>
<td></td>
<td>Harvesters</td>
<td>77</td>
<td>125</td>
<td>135</td>
<td>135</td>
<td>140</td>
<td>145</td>
<td>150</td>
</tr>
<tr>
<td>Kenya</td>
<td>Tractors</td>
<td>6379</td>
<td>6195</td>
<td>6000</td>
<td>6000</td>
<td>6186</td>
<td>6449</td>
<td>6650</td>
</tr>
<tr>
<td></td>
<td>Harvesters</td>
<td>658</td>
<td>462</td>
<td>431</td>
<td>440</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Sudan</td>
<td>Tractors</td>
<td>5043</td>
<td>8500</td>
<td>8880</td>
<td>9000</td>
<td>9300</td>
<td>10000</td>
<td>10500</td>
</tr>
<tr>
<td></td>
<td>Harvesters</td>
<td>340</td>
<td>850</td>
<td>900</td>
<td>950</td>
<td>1000</td>
<td>1050</td>
<td>1100</td>
</tr>
</tbody>
</table>


with the observation made by both Amare (1979) and Heimple (1973) that Ethiopia is a country of peasants with a relatively primitive form of agriculture, still primarily traditional subsistence farming. This fact has important implications for the planning process used in agricultural extension.

Ethiopia, as a centre of origin or domestication of most agronomic crops, was once said to be the bread basket of the Middle East. Up to 1967 all cereal grains cultivated and produced in the country were indigenous. Ironically, this is why Ethiopia has long been a major source of genetic diversity for many temperate zone crops.
For example, an Ethiopian strain exported to California protected California barley from the devastating yellow dwarf disease.

The immense agricultural potential that Ethiopia has and that has never been exploited is the discovery of two strains of high lysine-containing sorghum in Wollo province which contains one-third more protein and twice the lysine of more commonly grown varieties (Brown, 1975, p. 167).

At the present time, with all her potential, Ethiopia is among the poorest countries on earth. These facts, besides having important implications for the planning process used in agricultural extension, indicate the status of agricultural development in Ethiopia.

Statement of the Problem

The decline of Ethiopian agriculture from the late 1960s onward and the death of two million people in 1974 as a result of famine suggests there are serious problems in Ethiopian agriculture (The Provisional Military Government of Socialist Ethiopia, 1980, 1981). These problems and their likely impact were identified in the 1970s by a number of studies. In 1973 Lester Brown signalled the coming disaster in his famous book Conservation for Survival: Ethiopia's Choice. Although the book was published by an Ethiopian university, the book was neither used as a teaching aid in any faculty nor distributed to the public at large. Heimple (1973), after a thorough study of the agricultural situation in Shoa and Wollega
provinces, concluded that:

Ethiopian agriculture is therefore confronted with the problem of a further decline in per capita income - which, under the present circumstances can lead first to seasonal and later permanent famine in the rural areas - and, at the same time, with the problem of falling productivity of its resources (p. 213).

A 1978 report from the U.S. embassy in Addis Ababa, Ethiopia, warned of an environmental nightmare unfolding before our eyes ... "It is", said the paper, a result of acts of millions of Ethiopians struggling for survival scratching the surface of eroded land and eroding it further, cutting down the trees for warmth and fuel and leaving the country denuded ... over one billion tons of topsoil flow from Ethiopia's highlands each year (in Brown, 1984, p. 16).

The report from the U.S. embassy was reinforced in the May, 1984 Swedish Red Cross survey which focused on the Ethiopian problems of deforestation, environmental degradation and poor land use (E. Larson, personal communication, May 18, 1984). Hilligreen (1984) identified Ethiopia as probably the most extreme example of poor agricultural policies and environmental degradation that have been instrumental in reducing Africa's per capita food production for two decades. These assessments indicate the extent to which agriculture and farmers' education has been neglected in Ethiopia.

Until the last quarter of the nineteenth century, the whole country was as it had been for centuries. Because of its isolation for more than 200 years, and also because of the lack of a colonial connection, the Ethiopian situation
is essentially unknown to African scholars (Assefa and Eshetu, 1969).

A survey, conducted by this researcher, of doctoral dissertations and masters theses in 17 state universities in the U.S.A. indicates that the scattered studies of major problems by Ethiopian students in the U.S.A., are land tenure, evaluation of rural development and education. Most of the studies are not linked to the national goals and objectives of Ethiopia, although some have raised policy questions important to agriculture and education.

As a result, Ethiopia is so neglected in the general literature that few rural Africanists realize that it is a country of more than 20 million peasant farmers. Since traditional highland peasant agriculture is the main economy of Ethiopia, the peasants are the sole pillar on which the economy rests. Thus it is important to examine the agricultural extension service available to rural Ethiopians and how programs are planned to serve those who farm.

Available documents indicate that even in the mid-sixties extension work of significant impact was nonexistent in Ethiopia. In 1968, according to the United Nations Economic Commission for Africa (UN/ECA) (1971), there were only a total of 124 agricultural extension agents in Ethiopia. At the same time, Kenya, with less than one-half the population of Ethiopia, had 5,277 extension agents on the payroll (Schulz, 1976).
The neglect of agriculture in a country where farming is the only viable activity can be seen in Table 4. Expenditures on agriculture increased 0.8% from 1961 to 1966, an insignificant amount. During the same period, Kenya increased expenditures by 12%. As seen from Table 5, the expenditures on agriculture in Ethiopia from 1961 to 1966 are the lowest of all countries in Africa.

Table 4: Percentage of Expenditure 1960 - 1966 on Government Ministries in Ethiopia

<table>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>National Defense</td>
<td>24.5</td>
<td>28.6</td>
<td>26.5</td>
<td>25.4</td>
<td>26.7</td>
<td>26.6</td>
</tr>
<tr>
<td>Interior</td>
<td>17.9</td>
<td>19.4</td>
<td>19.4</td>
<td>19.4</td>
<td>20.0</td>
<td>19.7</td>
</tr>
<tr>
<td>Education</td>
<td>11.2</td>
<td>12.2</td>
<td>12.2</td>
<td>15.5</td>
<td>15.8</td>
<td>15.2</td>
</tr>
<tr>
<td>Public Health</td>
<td>6.0</td>
<td>6.5</td>
<td>6.5</td>
<td>6.7</td>
<td>6.7</td>
<td>6.3</td>
</tr>
<tr>
<td>Agriculture</td>
<td>1.2</td>
<td>1.7</td>
<td>1.7</td>
<td>2.2</td>
<td>2.3</td>
<td>2.0</td>
</tr>
<tr>
<td>Others</td>
<td>39.2</td>
<td>33.7</td>
<td>30.8</td>
<td>30.8</td>
<td>28.5</td>
<td>30.2</td>
</tr>
</tbody>
</table>


Table 5: Percentage of Government Expenditure on Agriculture of Some African Countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Year</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethiopia</td>
<td>1961</td>
<td>1.2</td>
</tr>
<tr>
<td>Kenya</td>
<td>1961</td>
<td>12.7</td>
</tr>
<tr>
<td>Uganda</td>
<td>1958</td>
<td>9.5</td>
</tr>
<tr>
<td>Morocco</td>
<td>1958</td>
<td>5.7</td>
</tr>
<tr>
<td>U.A.R.</td>
<td>1960</td>
<td>4.3</td>
</tr>
</tbody>
</table>

The low priority accorded to agriculture by the government also can be seen from data on investment in agricultural research. A study conducted by the International Bank for Reconstruction and Development (IBRD) (1973) indicates a shortfall of budget for IAR continuously from 1968 to 1970 (see Table 6). Hailu (1979), for example, reported that 60% of agricultural research in Ethiopia is financed by the FAO and United States Agency for International Development (AID).

Table 6: The Difference Between the Annual Budget and Actual Receipts of Funds by Institute of Agricultural Research

<table>
<thead>
<tr>
<th>Period</th>
<th>Budget 1</th>
<th>Actual 1</th>
<th>Shortfall (-) 1 or Surplus (+)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Through April 1968</td>
<td>1833</td>
<td>1009</td>
<td>-729</td>
</tr>
<tr>
<td>May 1968 - April 1969</td>
<td>2330</td>
<td>1593</td>
<td>-737</td>
</tr>
<tr>
<td>May 1969 - April 1970</td>
<td>2821</td>
<td>2305</td>
<td>-516</td>
</tr>
<tr>
<td>May 1970 - Feb. 1971</td>
<td>2821</td>
<td>2880</td>
<td>+59</td>
</tr>
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1 thousands of Ethiopian dollars


The main focus of this study was the extension education programming system for farmers. The 35-year-old extension program has been said by Amare (1978), Bisrat (1980), Cohen (1975), Gill (1975), Lele (1975), Schulz
(1976), Stommes and Seleshi (1979) and Tesfai (1975) to be unable to reach the grass roots of the population through its established channels, stated objectives and methods used.

In this regard a look at advice given to the Ethiopian government by such experts as the International Bank for Reconstruction and Development (1973) and Ginzberg and Smith (1967) indicate the following problems exist in agricultural extension:

1. Lack of position classification and job description.
2. Lack of coordination both in the head office and in the field.
3. Deficient communication both between and within agencies.
4. A widespread attitude of officials to consider any kind of information as highly confidential.
5. A misallocation of educated Ethiopians by keeping them in Addis when their skills were needed in rural Ethiopia.

Concerning the major bottlenecks in rural development and extension education, four diagnoses were popular in the 1960s and continue to receive support in the 1980s. Many development experts and authorities in agricultural extension attributed the shortcomings of rural extension to "lack of high level manpower, poor attitude among public servants, lack of integration and coordination, and inappropriate structure" (Chambers, 1974).
In addition to what Chambers has said, Umali notes the major problems as:

First, inadequate understanding and appreciation of the true extent of the need for adult education and training in agriculture; secondly, the differences and complementarities between agricultural education and agricultural extension are inadequately recognized; thirdly, lack of appreciation of the need for institutionalizing and coordinating adult education programs for farmers (Umali, 1972, p. 43).

Chambers (1974) and Umali (1972) are often quoted in development literature to explain the existence of bottlenecks and to answer such questions as "Why is it hard for developing countries to get started in modernizing their agriculture?" In individual cases the relative importance of each of the major problems varies. In Ethiopia and many other developing countries a major emphasis is being placed on the production of more high level manpower. At the same time there is a lack of a comprehensive and rigorous system of program planning. Very little development literature focuses its attention on this problem. No research has been found that examines the extent of program planning problems or the programming mechanism in Ethiopia.

Purpose and Objectives of the Study
The main purpose of this study was to examine the program planning system in the Ethiopian Extension Service from 1952 to 1980. Based upon the materials contained in extension and programming research, the study examined the
strengths and weaknesses of the planning process in Ethiopia.

The critical assessment of planning methods used and the proposal for improving planning mechanisms in Ethiopia should be of interest both to administrators and donor agencies. The study also contributes to the understanding of agricultural extension in Ethiopia and serves as a starting point for further research into the role and operation of agricultural extension.

This study:
- examines the role of program planning in extension education;
- identifies factors that contribute to effective program planning;
- identifies important planning concepts and models developed elsewhere relevant and applicable to the Ethiopian situation;
- documents the progress in the development of program planning in Ethiopia;
- appraises the nature and characters of the organizational structure, facility and human resources used in Ethiopian extension;
- proposes changes in the approaches to planning designed to improve the outcome of extension work in Ethiopia.

Research Questions to be Answered

This study sought answers to the following three questions:

1. Is there any congruence between the current program planning mechanism used in Ethiopian extension and what the theoretical literature prescribes as good planning practice?
2. What weaknesses exist in the current program planning mechanism with regard to:
   a) context and client system analysis,
   b) administrative planning,
   c) coordination of the program planning process and program implementation, and
   d) training of participants in extension programs?

3. What changes in the program planning mechanism might bring about the greatest improvement in Ethiopian agricultural extension?

To answer these questions the study examined the philosophy of extension upon which program development depends. Policy directives that guide the extension process, organizational structures of extension institutions, training facilities, manpower utilization systems, and the relationships between extension, research, and training also were examined. These research questions were subjected to descriptive assessment in light of extension principles and a basic planning model.

Definition of Terms to be Used

Agricultural extension. It was important to define agricultural extension precisely because it was the focus of this study. The meaning of agricultural extension varies from country to country and from organization to organization, yet all definitions of agricultural extension involve change and education (Maunder, 1972; Savil, 1965).
According to Mosher (1958):

"the essence of ... extension is that it is an out-of-school educational process of:
1. working with rural people along those lines of their current interest and need which are closely related to gaining a livelihood ...
2. utilizing particular teaching techniques,
3. conducted with the aid of certain supporting activities, and
4. carried on with a distinctive spirit of cooperation and mutual respect" (p. 12).

This definition was adopted for this study because it includes the four important factors of extension education. It is also the most cited definition of agricultural extension.

Nonformal Education. The term nonformal education was important in this study because agricultural extension education as an out-of-school educational process is subsumed under this concept. That is to say, extension education is part of nonformal education.

Nonformal education has been defined by Coombs (1974) as:

any organized or systematic educational activity carried on outside the framework of the formal system to provide a selected type of learning to particular subgroups in the population, adults as well as children (p. 8).

This definition of Coombs was adopted because it is such a comprehensive definition of nonformal education which includes agricultural extension for adult farmers and rural youth as well as farmer training programs.
Program. One purpose of this study was to critically examine the various extension programs in Ethiopia. This necessitated a clear statement of what the term program implies.

The term 'program' is puzzling. Educators seem to refer or equate it with curriculum while economists equate it with projects (Kulp, 1970). According to Kulp (1970), program "is the document setting forth the proposed or authorized allocation of resources among projects" (p. 86). Boyle (1981) defines program as "the product resulting from all the programming activities in which the professional educator and learner are involved" (p. 5). This study adopts Boyle's definition because it clearly indicates that a program is a result of activity where educator and learner both play a role. This concept facilitates the understanding of extension programs in various settings.

Program development. The central theme of this study was to examine the development process of agricultural extension programs. Therefore, it was important to carefully define this concept.

Program development or program building is the major topic of courses, seminars, workshops, and training meetings. Yet the dilemma of educators and planners emerges during program development on the question of
client participation (Brower, 1964). In this study the main purpose of program building is taken as first and foremost to develop a sound, defensible and progressive plan.

Program development was defined by the University of Minnesota (1975):

as a set of planned, purposeful, coordinated activities involving extension staff at various levels and then clients in designing and carrying out learning experiences. Evaluation and feedback to assure program viability and organizational renewal are an essential part of effective program development (p. 3).

This study adopted the above definition of program development.

Coordination. The lack of conceptual clarity in the usage of the word coordination by educators, economists, and other development experts is evident from the literature. Yet, it is a concept important in planning activities. For this reason a rigorous definition was used in this study.

Foyal (1925) states that:

to coordinate means harmonizing and balancing the whole. It means assigning the correct proportion to things and actions. It implies the establishment of an ultimate liaison between specialized services as far as their functions are concerned, but whose general objective is the same (p. 111).

This study employed Foyal's definition of coordination as one element in the analysis and evaluation of extension education in Ethiopia. It was adopted because it clearly states the harmonizing and balancing of the whole which unite planning with implementation.
Organization of the Remaining Chapters

The second chapter of the study presents the historical development of agricultural extension with particular emphasis on package program objectives, organizational structures and administration.

Chapter three presents a review of selected program planning methods relevant to extension. The chapter supplies an assessment of selected models and discusses the role of program planning in agricultural extension.

Chapter four presents program planning practices used in Ethiopian extension. This portion of the study examines the nature of program planning at various levels. This section examines the nature of coordination and explores planning in relation to the theoretical literature.

Chapter five proposes an alternative strategy for extension based on an analysis of major problems.

Chapter six presents the major conclusions of the study and provides recommendations for further research. Suggestions for improvements in the planning process used for Ethiopian extension are given also.
CHAPTER TWO

A HISTORY OF AGRICULTURAL EXTENSION IN ETHIOPIA

1952 TO 1980

The purpose of this chapter is to explain the historical development of extension education in Ethiopia. The first section presents a brief account of extension from 1952 to 1980. Then particular attention will be given to package programs, objectives, organizational structure and administration of Extension Education in Ethiopia. The last section discusses some persistent planning problems and is followed by a summary of the chapter.

Agricultural Extension From 1952 to 1966

The Agricultural Extension Program was started in 1952 under the jurisdiction of the Agricultural College at Alemaya. In 1954 the program began operating with four extension agents. The program's initial focus was on improvement of sheep husbandry (Huffnagel, 1966). Later the program also addressed problems of coffee production, farm mechanics, and crop improvement.

Besides the Ministry of Agriculture (MOA) and the College of Agriculture, some other organizations started providing extension services at approximately the same time. Prominent among them was the Ministry of Community Development (MCD) which ran its own crop improvement trials.
and cattle farms as part of its community development activities.

In 1963 the responsibility for research and extension was transferred from the college to MOA. Available literature does not provide a rationale for this transfer. After the Extension Service came under the jurisdiction of MOA, the decentralization of MOA's department and a reorganization at the head office resulted in temporary disruption of extension activities. The reorganization initiated during those days had also created problems of coordination and communication between officers in Addis and regional offices (IBRD, 1973). As a result, no significant extension work was done from 1963 to 1967.

The history of extension education in Ethiopia from 1952 to 1967 is marked by the introduction of different models and programs, establishment of multiplication centres for animals and plants with overlapping goals and control and with no stated objectives to be used as a criteria for evaluation.

Educational activities of extension during this time have been characterized by Seleshi (1978), Seyoum (1971) and UN/ECA (1971) as lacking coordination and an appropriate planning system with provision for effective monitoring and evaluation. This has resulted in many instances of duplication of effort, time wasted and misuse of resources (Seyoum, 1971).
It is of historical interest to note one important factor during this period. Over the period 1952 to 1961, a total of almost 100 million U.S. dollars was offered to Ethiopia by the United States, earmarked purely for agricultural development (Ethiopian Economic Review, 1961, p. 48).

Agricultural Extension From 1967 to 1980

The year 1967 marks an important event in the history of Ethiopian Extension. It was in this year that the fertilizer trial program was established in the country. This era also marks the beginning of five major comprehensive projects and the introduction of the Minimum Package concept. In addition, the Ethiopian government, for the first time, stated its policy directives with regards to the removal of selected barriers to agricultural development. These events lead to the examination of problems and trends, and to the evaluation of results in extension education. As a result, the extension planning process was improved.

The Comprehensive Package Programs. In 1967 a fertilizer trial program on cereal crops was initiated by the Freedom From Hunger Fertilizer Program. Through result and method demonstrations the project proved that economic yield response could be obtained under peasant conditions (IBRD, 1973; Schulz, 1976). The significance of this program was
considerable in that it demonstrated for the first time the possibility of increasing yields of cereals in the country. It also established beyond doubt that illiterate peasant farmers rapidly responded when offered timely input and useful information which they would consider effective. Finally, the program showed that the extension staff of the MOA had the capacity to become an effective agent of progress if given the proper guidance and means.

In late 1967, with the help of the Swedish International Development Agency (SIDA), the Chilalo Agricultural Development Unit (CADU) was established as the first comprehensive adult education program (Tesfaye, 1975; Stahl, 1973). The establishment of CADU marked the introduction of educational program planning in the Ethiopian extension system. The strategy of CADU was "integrated rural development" which concentrates limited available resources within clearly defined geographic zones in the form of package projects. This era was also marked by the emergence of many comprehensive development units such as the Wolamo Agricultural Development Unit (WADU).

The primary objectives of CADU and WADU were to increase agricultural production and to educate farmers. Their approach emphasized non-intervention in the local arrangements by utilizing existing local government structures for the distribution of fertilizer and for providing extension education to farmers (Cohen, 1974; Seleshi, 1978). Furthermore, each comprehensive program
was given some level of internal autonomy, clearly defined responsibilities, and sufficient resources to enable them to tackle the major bottlenecks to development in the areas concerned (Tesfai, 1975).

The Minimum Package Program. The comprehensive programs, such as CADU, are designed to cover limited areas. They form an essential part of the development process, but are too costly, both in terms of capital and trained personal, to be expanded to a larger scale. As a result, the concept of the minimum package was developed for larger areas with the intent of reaching as many peasant farmers as possible (IBRD, 1973; Tesfai, 1975).

The concept of the minimum package was based on the promotion of a few proven methods and innovations which have been tested by the comprehensive programs. The main activities of the Minimum Package Program were demonstrations on one-hectare plots ('model' areas) of the effects of using fertilizers in cereal grain production, and the provision of credit to small farmers for the purchase of fertilizers, improved seeds and pesticides. Each Minimum Package Program area had one supervisor, one cooperative organizer, and five extension agents responsible for an area which contains 10,000 peasant families. As a consequence, the Extension Project and Implementation Department (EPID) of the MOA started full operation of the Minimum Package Program (MPP) in 1971 with
Swedish and FAO technical assistance. The Extension Project and Implementation Department then brought together the dispersed, uncoordinated agricultural extension activities and staff into one unit within MOA (EPID, 1970).

Objectives and strategy. The Ethiopian National Extension Service had adopted the minimum package idea as the guiding concept in program development. The main idea behind the Minimum Package Program (MPP) was that the farmer requires integrated support services in addition to advice from extension staff. The MPP was designed to be the outlet for spreading innovations, developed and tested at CADU, to farmers throughout Ethiopia (Schulz, 1976). In this context CADU and the MPP can be viewed together. The latter is an extension of the former (Stahl, 1973).

The MPP in this context should be understood as a program with policies to voluntarily restrict the promotional efforts to a small set of crucial services which enable the farmer to increase production. From the standpoint of organizational effectiveness, manpower scarcity, problems of coordination, and budget limitations, the concentration on a few proven innovations and methods is viewed by Betru (1975), IBRD (1973) and Schulz (1976) as relevant to produce a dynamic extension campaign within a difficult environment.
In practice, the philosophy of the minimum package approach and integrated rural development as used in Ethiopia was the application of "green revolution" grain technology. With respect to crops, the Ethiopian extension program focuses on wheat, maize, barley, sorghum and on a locally important grain, Teff. The ingredients of the minimum package were extension education, soil fertilization, improved seeds, and farm credits. All these promotional functions have been institutionalized within one agency, EPID, which was a part of the Ministry of Agriculture.

The contents of the minimum package were based on the outcomes of a few proven methods and innovations tested by the comprehensive projects, mainly sponsored by CADU. Thus, according to EPID (1970), it is anticipated that each minimum package area was to gradually become more comprehensive.

The objectives of the package projects can be stated as follows:

- to search continuously for suitable extension methods for furthering agricultural development throughout the country;
- to raise the real income of small farmers;
- to elicit the participation of the small farmers and local government authorities in the projects developmental efforts; and
- to narrow prevailing income disparities by directing efforts mainly towards farmers in the lower income brackets.
These objectives are to be pursued through:

- introduction of improved farming methods;
- crop diversification and intensification programs;
- continuing research, farmer education and staff training, based mainly on crop production and protection, livestock husbandry, soil and water conservation and cooperatives; and

To attain its stated goals, EPID started its extension work by setting up organizational cells in the so called minimum package areas (MPPA). The MPPA units were situated along negotiable roads. The decision was made because approximately 58 percent of the country's population was estimated to live more than 30 kilometres (km) from any type of road in the early 1970s. A calculation based on crude data for 1980 from the Ethiopian Highway Authority suggests that this is now around 45 percent. Each MPPA was 75 km long and encompassed a band 3 to 5 km wide on each side of the road (see Figure 1). Up to 10,000 farm families may live in one of these areas.

Each MPPA was subdivided into five extension areas (every 15 km) to which one extension agent, a junior college graduate, was assigned. At least five marketing assistants, one home economics agent, and one cooperative agent belong to each MPPA. Their main tasks seem to be to advise farmers, and to handle input supplies and farm credit. Their long term task, according to Schulz (1976), consists of growing into the role of cooperative managers.
Figure 1: The Spatial Network of Minimum Program Areas

Each MPP is headed by one supervisor who is a graduate from the College of Agriculture.

The EPID extension approach. In its intervention, EPID has developed a phase concept to weave the farmers of an MPPA into its organizational fabric. Bisrat (1980) considers this as preparatory work while Schulz (1976) considers it as a phase. Although they differ in terminology, each describes EPID's approach in the same way.

Once an area is selected along an all weather road, it is designated as an Observation Area (OA) for two years. An extension agent who is responsible for the adoption of the innovations by the farmers is assigned to the area to conduct surveys on farming conditions, to carry out trials and to make contacts with the farm populations, in addition to conducting fertilizer and seed variety trials on one hectare. If satisfactory results are achieved, the area usually becomes a Demonstration Area (DA) for one year. At this stage, one marketing assistant is placed into this area. During this year, the attitude and interest of farmers towards the innovations are studied through demonstrations and limited extension and credit services. At the same time there are more trial demonstrations on a field subdivided into various agronomic and pest control trial plots.
The key activity of this period, however, is the selection of 'model farmers.' According to EPID (1970), Bisrat (1980), and Stahl (1973), a model farmer is a farmer chosen by the extension agent at the proposal of the local farmers. He is the one who is supposed to serve as the ultimate link between the project and the farming population in the area.

The 'model farmers' approach had been previously used by Comilla Project (Arnon, 1981) and CADU (Betru, 1975; Cohen, 1974; Tesfai, 1975) for the dissemination of the extension education process. The Extension Project and Implementation Department found the approach effective and introduced it to MPP.

According to EPID (1970), fellow farmers in DA are asked to propose five candidates from which the EPID agents pick one. The selection criteria for the model farmer is any farmer who is an active and well-respected man in his community, whereas the selection criteria for MPPA's were on the basis of crop test trial results, farmer's initial interest, and availability of roads or other forms of transportation for agricultural development.

The model farmer has to represent and to influence 100 farm families. He must be willing to establish demonstration plots on his fields for which he gets free fertilizer and improved seeds. Furthermore, the model farmer is expected to spearhead the application of agricultural innovations by introducing them to
neighbouring farmers, to urge them to participate in the extension programs, to summon them to meetings, and to remind them to pay their dues. In addition, the model farmer is expected also to help the marketing assistant in screening credit applications. At this point, it may be noted that farm credit is provided for farmers of holdings up to 20 hectares. If these procedures — selection of site, fertilizer and seed variety trials, and selection of model farmers — result in a positive response, the demonstration area will become a full Minimum Package Program Area. At this time it receives the entire endowment of field personnel mentioned earlier.

According to EPID (1970), the administrator of MPP, the program has a target of reaching 75 percent of the area's farmers by the 13th year — the time of the program's full development. As of 1976, 351 demonstration areas and 55 Minimum Package Program Areas were in operation (EPID, 1976 a,b).

Organizational structure and administration. The MOA has been the main ministry charged with the administration of agricultural programs in Ethiopia. Huffnagel (1966) indicates that before 1957 the general agricultural policy for the country used to be outlined and coordinated by the Advisory Council and Agricultural Board. Although the establishment of MOA dates back to the later part of the 19th Century, its functions and responsibilities were not stated until 1966 when the government issued Order No. 46.
According to the Imperial Ethiopian Institute of Public Administration (1966), this decree defined the functions of the MOA in Article 27. The Ministry of Agriculture was granted the general responsibility of developing agriculture. In consultation with other Ministries, the MOA was empowered to establish procedures to negotiate and conclude agricultural, forestry, fishing and wildlife concessions and propose programs for agricultural extension.

Even after such a broad objective definition by the government, the public administration of agriculture remained dispersed among the departments of the MOA and several autonomous bodies. Many of these agencies had offices in each of the 14 provinces of the empire and as such, neither the MOA nor any other body was able to coordinate agricultural activities and education in 1966 (FOA, 1966).

According to available documents on organizational structure (UN/ECA, 1971), the Agricultural Extension Service in Ethiopia is organized on national and provincial levels (see Figure 2). Figure 2 illustrates that during 1967 at the national level the extension service was one of nine departments of the MOA. It further indicates that during this time the extension service had five primary divisions. These divisions were training, youth, home economics, and subject matter specialists.
Figure 2: Organization of the Agricultural Extension Service in Ethiopia

Although administratively, the extension service was organized in all provinces, by 1967 the delivery of extension education was not effectively developed. According to UN/ECA (1971), neither the number of total extension agents, which in 1968 was about 120 for more than 4 million small peasant households, nor the organizational climate was conducive to run the extension service by 1970. But Siira's study in 1965 (cited in Stommes and Seleshi, 1979) indicated that factors, such as the administrative and organizational problems, rather than the insignificant number of extension agents in the country had a much greater negative influence on the development of an effective extension system. The Siira study was said to have documented the following major problems:

1. a lack of a written job description for agricultural officers which defines their duties and responsibilities and standards by which the supervisor is able to evaluate and supervise field agents;

2. the awarding of salaries within MOA which are not based on position classification (for example, headquarters' officials received higher salaries and better opportunities for foreign studies than did their provincial counterparts with the same educational levels);

3. a lack of procedures governing the transfer of personnel;
4. the planning of extension budgets and programs for the provincial office without consulting the regional office;
5. a lack of cooperation between extension and other field agencies involved in agricultural development; and
6. the low budget allocation for extension and the poor organization of the provincial office.

As a result of these problems and the two Five-year Plans, the government recognized the administrative constraints on agriculture. As a consequence, the reorganization of the MOA became urgent. However, according to Betru (1975) and Seleshi and Stommes (1980) the reorganization of the Ministry did not begin until 1971 when the Ethiopian government agreed to reorganize the Ministry and its extension administration in cooperation with SIDA.

Accordingly, MOA was reorganized as illustrated in Figure 3. This reorganization placed administration under the Minister's office, created a planning and programming unit, and attached the agricultural education, training and information units to the Minister's office. The latter unit nominally represents the agricultural schools but does not direct them. The agricultural schools have retained their administrative autonomy.

One of the four principal departments according to the organizational chart is the Extension Project and Implementation Department. According to EPID (1972), EPID
Figure 3: Organizational Chart of the Ministry of Agriculture in 1972.

was granted the sole responsibility for national extension administration and was given autonomy. Its organizational chart is displayed in Figure 4. Figure 4 illustrates that extension division was organized into six groups.

This reorganization of the MOA, initiated mainly by SIDA, except for giving EPID a seemingly sound base has caused problems of various types such as:

1. the inadequate provision for liaison between research and extension work (see Figure 3); and

2. the merging of the disparate functions of agricultural education in-service training of employees and public information into a single unit with a separate training group in EPID (IBRD, 1973).

In addition to these, the reorganization made in the MOA does not portray accurately the actual organizational relationship to clearly identify who reports to whom.

Figure 4 indicates the organizational structure of the extension institution in Ethiopia. The emergence of EPID, as indicated in Figure 4, brought the comprehensive and minimum package projects under one umbrella. The Extension Project and Implementation Department's main function was to manage MPPs and coordinate the efforts of comprehensive projects including CADU, WADU and the Ada Development Project (ADP) which concentrate on applied research, extension, resettlement and other activities directed to rural development in the specific areas.
Figure 4: Organizational Chart of the Extension Project and Implementation Department of the Ministry of Agriculture

On the other hand, the MPP, based on CADU's experience, focused only on the provision of three basic extension components deemed essential for small farmer development. These two functions of EPID, depicted in Figure 4, particularly the anticipated coordination of so many development units, seems unrealistic for a young institution such as EPID. In fact, the IBRD team stated that:

the Ministry of Agriculture and certain autonomous agricultural boards/projects, fisheries, wildlife, forestry, agricultural research and other projects seem to be unfamiliar in detail with each other's programs and activities, even when the Ministry is represented on the other agency's governing board (IBRD, 1973, p. 20, Annex 18).

The land reform and the organization of peasant associations after March 1974 made it expedient to reorganize and remodel both the MOA and EPID. The major reorganization actions after 1974 were:

1. renaming the MOA — the Ministry of Agriculture and Forestry in 1975
2. the merging of the Ministry of Land Reform and Settlement and the Ministry of Agriculture
3. the elimination of the Institute of Agricultural Research (IAR) from the Ministry organizational chart and linking it to the Science and Technology Commission
4. the merging of the Settlement Authority with the Relief and Rehabilitation Commission (RRC) in April, 1979.

A very remarkable note in the chain of the renaming and merging or unification process that has taken place
from 1974 to 1979 left EPID's organizational structure with no significant alterations compared to the main Ministry.

The minor internal changes that EPID has undergone are changes of names. For example, the Extension Division was renamed the Farm Technology Division. Training, which was under the Extension Division, was transferred to the Office of Deputy Heads. Figure 5 indicates the current organizational chart of the EPID. The rest of the changes, as indicated in Figure 5, are the result of the government's intention to expand EPID's activity to most areas which necessitates the provincial district and subdistrict office.

It is instructive to note that both the previous government and the present socialist government encourage the spread of the MPP, although for different purposes. The imperial government regarded MPP as an alternative to the much needed land reform while the present government regards the MPP as a means of consolidating its radical policy of land and power redistribution at the local level (Bisrat, 1980).

Extension Organizations' Relations With Other Agencies

Extension institutions in Ethiopia represent a mosaic of donor organizations and various ministries within the country. To facilitate an examination of their relationships and total impact, their task environment and relationships can be classified into two levels: a) the international level and b) the national level.
Figure 5: Present Organization of EPID

International level linkage. This is only visible in CADU and EPID. What makes CADU unique is that the Royal Swedish Government is officially represented in Ethiopia by a Development Assistance Office (DAO), a branch office of SIDA, which coordinates and supervises all Swedish aid activities in Ethiopia. Besides reviewing and approving the annual work program and budget of CADU in collaboration with the Ethiopian Minister of Agriculture, SIDA jointly appoints the project's executive director and evaluation team, receives reports and handles most purchasing for the project outside Ethiopia. The relationship between CADU and SIDA, developed and nurtured by the pure dedication of Swedish experts and young educated Ethiopians, was effectively used to exert pressure on the Ethiopian government to make fundamental changes important for the success of CADU and MPP (Betru, 1975; Stahl, 1973).

The same technical setup was used to ease EPID from the bureaucracy of the Ethiopian government which was not set up to handle the new demands of rural development (Stommes and Seleshi, 1978, part 2). The factor of prime importance is that in the case of CADU the Royal Swedish government is represented by DAO whereas in the case of EPID, SIDA is represented by a Deputy General Manager of EPID.
As for WADU, there is no visible linkage with the World Bank that this researcher can confirm. Seleshi and Stommes (1980) also found no visible linkage for ADP with U.S. Aid, and for WADU with the World Bank.

National level linkages. Though SIDA has officially formed the MOA-CADU linkage except for the office of the Vice Minister in charge of development programs, the bulk of the MOA community has not perceived CADU as an important component of the MOA (Betru, 1975). The Extension Project and Implementation Department seems to have faced the same alienation during its phase one. To date there is no visible communication between EPID and Veterinary division.

Since the linkage of organizations within the MOA is not well defined, there is no significant justification to examine the linkages with other national institutions. The main problem in the lack of this linkage seems to be the desire of the Ethiopian government to develop isolated islands of totally modern agriculture in the CADU area and the general statement of linkage in terms of "in consultation" which has never stated the 'how' and 'whom' part of the linkage question. As a result, out of nine agencies identified to cooperate with CADU in extension programs, "none of the national institutions except the Ministry of Education were able to accomplish the service in cooperation with CADU" (Betru, 1975, p. 29).
At the local level neither CADU, EPID nor WADU and ADP have been perceived as regular components of the provincial and district public administration networks. Nonetheless because of their package programs at least CADU and EPID touched almost every agency's jurisdiction and often faced a hostile attitude. For example, EPID extension agents and supervisors are seen, except by teachers, mostly as an extravagant group of educated people. This observation, made by this researcher, was also confirmed by Betru (1975).

While Betru (1975), Cohen (1974, 1975) and particularly Pausewang (1973) indicated the linkage problem and identified a hostile attitude towards the CADU project and its staff in pre-1974, this researcher as an extension agent before 1974 and as an extension supervisor in Wollo and Wallega regions, respectively, observed that the EPID extension agents' close contact with the peasantry was viewed by some agencies, such as the Mass Organization Office, as a threat to their relations with the people.

General Observations: Problems, Trends and Opportunities

A close look at the Ethiopian extension service from 1952 to 1980 indicated that there were persistent problems which passed from one government system to another. This often occurred because decisions made previously had a critical effect on what was to be done "today".
According to the Imperial Ethiopian Government (1968), up until 1974 there were two policies of agricultural development. One policy dealt with large scale commercial farms while the other dealt with peasant agriculture. The same policy operates today in two separate ministries: the Ministry of Agriculture and the Ministry of State Farms. When these two policies are promoted in the same area at the same time, the small farmers' interests have yielded to the interests of the commercial farmers, reducing the impact of extension service (Stahl, 1973).

In light of the mosaic of extension institutions involved in rural education, there is an apparent lack of evaluation and coordination of activities into an effective extension program. As a result, the following problems prevail:
1. a lack of a proper program planning mechanism,
2. a lack of an organization responsive to educational problems and expert advice, and
3. a lack of adequate understanding of training as a major component of extension programs.

Despite all these philosophical and practical problems, the opportunities revealed by CADU and EPID were promising (Stahl, 1973; Schulz, 1976). The results of the CADU extension service from 1967-1971 are impressive with respect to their economic goal. But the plan that the new government now wishes to implement does not appear to compare with what was occurring before 1974 (Africa Guide,
1984). This seems to reduce the impact of extension education on the total development by its lack of continuity and refinement of policy and programs.

Summary

The history of agricultural extension in Ethiopia can be said to be the history of a program which started with the improvement of Merino sheep, coffee production, and farm mechanics. Initially the program had only minor relevance to its beneficiaries' immediate use. Although this seemed to have changed after the Freedom From Hunger Fertilizer Program, nothing serious was achieved until 1967.

The agricultural board created in 1957 to coordinate agricultural education remained unnoticed. As a result, the training and education of farmers remained scattered, disorganized and uncoordinated.

The duties and responsibilities of MOA stated in Order No. 44 Article 27 of 1966 was also left unrealized even after the rise of CADU and EPID. Organizations concerned with implementing extension programs were not able to create institutional climates conducive to coping with the changing situation, and to provide incentives for individuals working in the field. The reorganization that most agricultural projects had undergone did not solve the basic problems. In fact, some of the reorganization compounded the problems of coordination and extension.
program management. Lack of linkages within Ethiopia at various levels was discussed as a major problem confining the grain technology in a given project area.

The agricultural extension service is an adult education institution. It has been conceptualized as educational in program content and methodology. Educational programs particularly adult education programs require a coordinated approach and linkages at various levels. This linkage and coordination seems possible with programs developed on sound and clear planning models. The next chapter will present a review of program planning models. The purpose of the review is mainly to identify a model relevant to extension work in Ethiopia to help us understand problems, conditions and mechanisms in Ethiopian extension.
CHAPTER THREE

REVIEW OF LITERATURE ON PROGRAM PLANNING MODELS AND PRINCIPLES

The purpose of this chapter is to critically examine some of the major program planning models, concepts and ideas which are found in adult education literature. The focus is on identifying a model relevant to extension work in Ethiopia. First, however, the role of program planning will be discussed and the assessment of some models will be undertaken.

Role of Program Planning in Agricultural Extension

The origin of extension program planning in the United States can be traced to the Morrill Act of 1862 which established land grant colleges and to the Hatch Act of 1887 which set up agricultural experiment stations.

Beal, Blaunt, Powers, and Johnson (1966), Boone and Kincaid (1966) and Sanders (1966) indicate that until 1920 extension programs were predetermined according to assumed wants and needs of farmers. Client participation in the design and evaluation of the program was limited. Programs were essentially production oriented and were limited to giving advice on scientific or technical production problems of farming. According to Boone and Kincaid (1966), such a production oriented approach to program
planning became unable to solve more complex problems of production and distribution. To improve the condition, more emphasis came to be placed on gathering facts about local, state, and national situations as the basis for planning programs. This emphasis on local facts led to the draft of the Mount Weather Agreement. By this agreement the extension service agreed to organize and operate a system of state, county, and community committees of lay and professional people to appraise resources in relation to population; ... and to promote coordination among agencies (Boone and Kincaid, 1966, p. 91).

According to Beal et al. (1966) and Raudabaugh (1963), later evaluations have shown that the implementation of the Mount Weather Agreement did not meet the expectations of its participants. As a result, the need for more coordination of programming efforts by agencies that were serving farmers was underscored. Since then coordination of program activities has received more and more attention on a much broader base in U.S. agricultural extension.

In 1955 a firm stand was taken by the Extension Committee on Organization and Policy. It recognized a need to develop better program-making policies and procedures which would more effectively help people to plan, implement and evaluate programs to meet their needs (Boyle, 1965). The major objective was to provide greater assistance to farm people so farmers and planners could collectively analyze major problems and develop sound extension programs (Sanders, 1966).
As a result of continuous change and refinement based on empirical evaluation, effective program development was achieved at several levels such as subject matter, area extension, county agent and, finally, at the state level. Contrary to practices of agricultural extension in most developing countries, new programs in the U.S. Extension Service start with the analysis and evaluation of on-going programs.

The other salient feature not clearly depicted by Beal et al. (1966), Boone and Kincaid (1966) and Sanders (1966) is the close relationship between extension and research in which the U.S. Extension Service combines teaching, research, and education — the agriculturally inseparable trinity in the U.S. This combination is in no small measure responsible for the present high level of agricultural production in the U.S. McDermott (1971) might give us a better understanding of what extension really is in the life of U.S. farmers. To McDermott "the very name extension means literally an extension of the campus functions to the needs and problems of society" (1971, p. 153). Relevance is the most important hallmark of the land grant college system that leads extension programs (McDermott, 1971).

Next to relevance, client participation in program planning is a universal procedure in U.S. extension. In addition to these, available documents indicate that from
the beginning there has been cooperation with other organizations and with lay groups.

Anyone who thinks that whatever has worked well in the U.S. would also work well elsewhere should consider the substantial amount of work done to improve the program planning process in extension and the intrinsic value that the trinity has had in extension work. Taking only extension from the northern hemisphere and testing it in the southern hemisphere, as suggested in Devries (1978), is to imply what Learner (1958) has said: "Wanted are modern institutions but not modern ideologies, modern power but not modern purposes, modern wealth but not modern wisdom" (p. 47). In the context of extension, what is wanted or desirable is to look for a relevant model to develop a sound program.

Provided a workable model is selected and used properly, a balanced program will emerge giving the highest priority to education and training harmonously integrated into the general level of development within a country (Korten, 1980; Lionberger and Chang, 1981). Selecting a workable model only will not improve the quality of the program. An understanding of the basic assumptions and important concepts behind the model is also required.

In this respect Boyle (1981) and Maunder (1972) are important sources of principles and concepts related to program planning. Boyle (1981) and Maunder (1972) stated the following assumptions which form the basis on which extension programs rest:
1. It is possible to select, organize and administer certain resources of technology, personnel, methods and facilities to help people achieve more desirable ways of living.

2. People need the guidance of professional leaders possessing the knowledge and skills necessary to help them learn to solve their problems.

3. Change is a necessary prerequisite to progress and that the status quo must be at least modified in favor of new ways of thinking and doing.

4. Progress is made only when someone who has ideas about a better way has the skill and opportunity to try them out.

5. People will continue their present ways of thinking and doing until they have new experience from planned change.

6. Most effective teaching and learning results from choice not chance, from an intent to teach and learn, under the most desirable coordinated conditions that can be created.

7. Educational changes in people are prerequisite to the attainment of other social and economic goals in a free society.

Given the above assumptions, the main purpose of program planning is to provide a clear and concise written statement of what is to be done and why. Decisions on what
is to be done and why requires organizing to accomplish the mission, determine the content of the program, defining objectives, implementing the plan, evaluating, and reporting results. Proper decisions with regard to the above factors help to produce a specific, measureable, acceptable, realistic and time-related program for action. For these reasons, searching for a relevant planning model is an urgent question in agricultural extension.

Assessment of Program Planning Models

Periodic review of the literature in any field of study is useful in gaining an insight into the general direction of a particular field. In this regard, particularly with a review of program planning literature, Buskey and Sork (1982) deliver an important document and evaluative criteria.

After examining numerous books, monographs, and articles that dealt with planning models, Buskey and Sork (1982) concluded that most models tend to represent the author's recommendations for how one should approach the planning process rather than describing how program planning is done in a given planning situation. The literature review of Buskey and Sork is unique because it indicates important distinctions among available models in the areas of training, cooperative extension, and general adult education. Extension models reviewed by Buskey and Sork (1982) included Boone et al. (1971), Boyle (1965),
From this review, Buskey and Sork found that few models treat program planning in a comprehensive manner. Examination of their analytical summaries of the program planning models, for example, indicates that no single model is comprehensive in its treatment of the program planning process. Most extension models were rated low in the treatment of assessing needs, developing objectives, and designing evaluation plans. The model developed by the University of Minnesota (1975) is rated high in terms of client and context analysis and design of evaluation procedures.

Although the major program models in agricultural extension were identified and reviewed by Buskey and Sork (1982), variations of these models exist. Closely related models common in agricultural extension are those of Benor and Harrison (1977), Chambers (1974), and Korten (1980).

The Training and Visit System of Benor and Harrison (1977) has the following essential characteristics:

1. A clearly defined number of farm families to be visited by each extension agent.
2. A sharply defined educational responsibility for the extension agent.
3. A close guidance and supervision of each extension agent.
4. A specific recommendation for improving farming practices of selected farmers.
5. A fixed visit of contact farmers at a set date and time.

In a strict conceptual interpretation, the training and visit system is nothing more than a set of elementary principles of management translated into procedures for organizing, supervising, and instructing a dispersed field staff, i.e., it only addresses administrative planning. In doing this, it views the role of the extension agent as a simple farm management advisor.

Although the technical and theoretical assumptions behind the training and visit system can be questioned, the system seems useful for extension programs in dry land farming. The system has a built-in mechanism for program monitoring and evaluation. Yet it depends to a large extent on the efficient organization and management of extension services. Its rigid time-table for visits, training sessions, and other activities would require a definite reorganization of resource allocation. For example, in rural Ethiopia there are no well developed all weather roads. Furthermore, the low extension agent to farm family ratio, which is about 1:3500, and a lack of certainty as to whether the agent will be available for farmers at a given time and place seems to reduce the effectiveness of the system.

Although widely practiced in India, Nigeria, and Bangladesh, the training and visit system does not have a
set of procedures which address questions pertaining to definition of objectives and design of educational programs. The main focus is on plan implementation rather than on planning a sound program. As a result it is found that the training and visit system is not comparable to most available planning models.

The Programming and Implementation Management (PIM) Model of Chambers (1974) has three main components: (a) a programming exercise, (b) a management meeting, and (c) an action report. Chamber's model starts with the planning and implementation of ongoing programs and ends with plan formulation through local participation, evaluation, and rural research. This model deals with administrative planning and is important during the program implementation process.

A Learning Process Approach by Korten (1980) has three important characteristics: (a) embracing error, (b) planning with people, and (c) linking knowledge building with action. In its idealized representation, the learning process approach to program development proceeds through three stages. In each stage the emphasis is on a different learning task, successively on effectiveness, efficiency, and expansion. This model seems to deal with organization and how to deal with pilot projects.

The above three models illustrate what Buskey and Sork (1982) found in their literature review which was that most available models seem not to treat program planning in a
Yet in the absence of any comprehensive program planning model in adult education, it is reasonable and critical to ask what we know about program planning and what we have learned from experience in extension programs. To answer these questions, a critical review of some of the models will be presented in this section.

The following criteria were used in selecting the models to be reviewed:

1. The models addressed basic program planning problems;
2. The models were relevant to situations in Ethiopia discussed in previous chapters and had wider implications for other countries;
3. The models helped to identify a feasible planning practice; and
4. The models had a wider implication for program planning in a nonformal education framework.

Based on these criteria, the following models were selected for further examination: Boone, Dolan, and Sharon (1971), Boyle (1981), Pesson (1966), Sork (n.d.) and the University of Minnesota (1975). Model in this context is defined as "a set of steps, tasks or decisions which, when carried out, resulted in the design of an educational program for an adult client group" (Buskey and Sork, 1982, p. 2).
Implicit in the above selected models is that the program development process is presented as a continuous activity. As indicated in Table 7, there is an orderly sequence in the flow of the planning process. In this regard Sork (n.d.) indicates only the necessary planning steps and does not consider implementation in the model. Boone et al. (1971), University of Minnesota (1975), and Pesson (1966) include planning and implementation steps in their models (see Table 7).

Sork's Basic Planning Model (n.d.). Sork's model has six basic planning steps which start with the analysis of planning context and client system, and ends with evaluation. One distinctive feature of Sork's model is the attention and clarity it gives to evaluation (see Figure 6).

Evaluation, according to this model, is both proactive and retroactive. The model is comprehensive in its treatment of evaluation and clearly indicates the two important forms of evaluation: formative (means evaluation) and summative (end evaluation). In doing so the model broadens the utility of evaluation for decision making and accountability. It provides a practical means to assess client and context, needs, problems, and opportunities through attaching evaluation and feedback to each of its planning steps.
Table 7: Summary of Program Planning Steps

<table>
<thead>
<tr>
<th>Step</th>
<th>Sork</th>
<th>Pesson</th>
<th>U of Minn.</th>
<th>Boyle</th>
<th>Boone et al.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Analysis of Planning Context</td>
<td>Collect facts</td>
<td>Recognize forces</td>
<td>Formulate organization philosophy</td>
<td>Understand the structure of organization</td>
</tr>
<tr>
<td></td>
<td>Client System</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Identify needs</td>
<td>Analyze situation</td>
<td>Understand extensive organization</td>
<td>Identify and clarify needs</td>
<td>Need analysis leader involvement</td>
</tr>
<tr>
<td>3</td>
<td>Develop objectives</td>
<td>Identify problems</td>
<td>Identify and involve relevant people</td>
<td>Organize and maintain planning group</td>
<td>Specify needs</td>
</tr>
<tr>
<td>4</td>
<td>Formulate instructional plan</td>
<td>Decide on objectives</td>
<td>Determine needs and goals</td>
<td>Identify problem, establish goal/objective</td>
<td>Plan of work sequencing</td>
</tr>
<tr>
<td>5</td>
<td>Formulate administrative plan</td>
<td>Develop plan of work</td>
<td>Planning and long range program</td>
<td>Prepare program document</td>
<td>Activate the plan of work</td>
</tr>
<tr>
<td>6</td>
<td>Develop summative evaluation plan</td>
<td>Execute action</td>
<td>Prepare annual plan of work</td>
<td>Evaluate</td>
<td>Evaluation and accountability</td>
</tr>
<tr>
<td>7</td>
<td>Determine progress</td>
<td>Implement the plan</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Reconsider</td>
<td>Evaluate and report</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SORK'S BASIC PLANNING MODEL

ANALYZE PLANNING CONTEXT AND CLIENT SYSTEM

IDENTIFY NEEDS

DEVELOP OBJECTIVES

FORMULATE INSTRUCTIONAL PLAN

FORMULATE ADMINISTRATIVE PLAN

DEVELOP SUMMATIVE EVALUATION PLAN

FORMATIVE EVALUATION FEEDBACK

Figure 6: Sork's Basic Planning Model

Source: Sork, Thomas J. Program Planning and Evaluation, Department of Administrative, Adult and Higher Education, The University of British Columbia.
This built-in feedback mechanism is the main input of the planning system in Sork's model. The input through formative evaluation and feedback helps to examine alternatives and consider important factors at each planning step. Critical scrutiny of the model and of the subpoints raised by Sork under each step of the model reveals that the model allows for proper revision, verification, and checking for consistency and balance in program development. With such feedback and the spiral process of planning (checking and rechecking), as indicated in Figure 6, the model presents a very interactive system.

According to Sork's model, decisions are made from the interrelated sequence of evaluation results. This step-by-step evaluation and feedback mechanism helps to provide the information necessary to produce a sound program. The model is stated with action verbs and decisions at each step appear to follow a sequence. This mechanism seems to successively reduce the number of remaining alternatives and/or considerations so that the planning process involves a decreasing number of decisions as it progresses. According to this model, formative evaluation attempts to identify and remedy shortcomings during the developmental stage of a program. Conceptually Sork's formative evaluation and feedback is equivalent to monitoring and assessing program inputs and gathering of information that is critical to effective program development. As indicated by the model, summative evaluation assesses the worth of the final program output.
Sork's model, in addition to broadening the utility of evaluation in the process, also indicates the importance of administrative planning.

Pesson (1966). Pesson represents the program development process as circular. This illustrates his definition of program planning as a continuous process. Pesson's model has eight steps (see Figure 7), of which steps one through four comprise the program planning phase and steps five through seven the action phase. The two phases tend to overlap in step eight. In the first phase the model progresses from the collection of facts and the analysis of the existing situation to problem identification and defining objectives. The program action phase deals with program implementation and assessing progress. Step eight appears to act as a bridge between the planning and action phases.

The most distinctive feature of this model is that it gives maximum attention to client participation in the extension program development process. As a result, it deals with developing effective advisory groups. In doing this Pesson appears to address the various dimensions of client participation such as the "what", "who", and "how" of involvement in the process.

Pesson is more concerned with the social action within the context of rural extension. As a result the model
Figure 7: The Extension Program Development Process

requires indepth analysis of the social system. It further considers planning as a "function of democracy" (p. 102). According to this model, assessing a given situation requires studies of clientele, suggestions from subject matter specialists, and studies of contemporary life. This approach is important for the precise identification of clientele and their behavior patterns.

The model considers evaluation as a continuous process. It emphasizes collection and analysis of data, and the role of planning committees as a critical factor for evaluating a program.

University of Minnesota (1975). This model represents the program planning process as a wheel rotating on a base (see Figure 8). The social, economic, political, and educational forces form the base of this model. As a result, the model starts by recognizing and identifying these forces. One distinctive feature of the model is that it gives due consideration to extension organization. Step two (see Figure 8) deals with the understanding of extension organization history, policies, organizational objectives, roles, and relationships. In addition to this, step two also indicates the required flexibility, innovation, and creativity of the extension organization. Steps one and two underpin the entire program process. The model has eight steps. Steps one through four deal with program planning, while steps five through eight deal with program action.
Figure 8: Minnesota Extension Program Development Process

Boyle (1981). The greater detail provided by the comprehensive synthesis of available planning theories and practice makes Boyle's model different from the other models of Table 7. Boyle's model has six basic steps and 15 relevant planning concepts upon which Boyle believes the program development process rests. These 15 concepts are:

1. Establishing a philosophical basis for planning
2. Situation analysis
3. Involvement of potential clientele
4. Levels of intellectual and social development of potential clientele
5. Determining program objectives
6. Recognition of institutional and individual constraints
7. Criteria for establishing program priorities
8. Degree of rigidity/flexibility of planned programs
9. Legitimization and support with power situation
10. Selecting and organizing learning experiences
11. Identifying instructional design
12. Utilizing effective promotional priorities
13. Obtaining resources necessary to support the program
14. Determining the effectiveness, results and/or impact
15. Communicating the value of the program to appropriate decision makers.

The first nine of the above 15 concepts refer more to the planning stage, the next four to implementation, and
the final two to evaluation and reporting. Boyle's approach emphasizes a more theoretical analysis and understanding of planning rather than the specific details of each step of the program planning process. To this effect it provides an important conceptual understanding of program planning.

The model has six basic assumptions and requires a clear identification of one's beliefs about education, the learner, and the program development process. It progresses from philosophical background to situational analysis, and finally to evaluation.

Boyle (1981) seems to draw heavily upon agricultural extension experience, but his approach covers all facets of nonformal education programs. The main problem with Boyle's model appears to be the high demand it puts on social psychology, curriculum theory, and sociology. Understanding his approach to need, design and evaluation, and his assumptions on change requires advance work in the above disciplines.

Boone, Dolan, and Shearon (1971). The conceptual schema of Boone et al. has six basic essential steps which range from understanding the extension organization to program evaluation and accountability. The model operates under four assumptions which all revolve around the role of adult educator.
Each step specifies the planning system required and brings together a more educational framework for defining and organizing the learning activities essential to extension work. One important feature of this model is that it clearly indicates how to reach clients and get their involvement. The second heading links an extension institution to its clients through need analysis and leader involvement (see Figure 9). The other feature of this model is that it values the role of the adult educator in the program development process, more so than the other models.

Similarities and Differences in the Programming Models

With regard to the planning context, all models, except those of Sork (n.d.) and Boyle (1981), are designed specifically for extension work. Boyle appears to link his programming model more to the concept of general adult education in the modern urban setting. That is, programming is seen as a response to the continuing demand for education. Sork's model, through its action verbs, indicates its utility under any planning context.

The basic similarity of these models is that all of them have the following elements in common: (a) problematic need identification, (b) defining objectives, and (c) explicit or implicit evaluation. Although there seems to be a wording difference, the "analysis of situation" (Pesson, 1966), the "recognize forces" (Minnesota, 1975),
<table>
<thead>
<tr>
<th>Linking the institution to its publics through need analysis and leader involvement</th>
<th>Program design and implementation</th>
<th>Program evaluation and accountability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study, analysis, and mapping of county and/or area.</td>
<td>Specification of macro needs.</td>
<td>Determining program outputs.</td>
</tr>
<tr>
<td>Identification and analysis of subsystems within county and/or area.</td>
<td>Delineation of macro objectives.</td>
<td>Mobilizing and utilizing resources.</td>
</tr>
<tr>
<td>Identifying and interfacing with leaders of target subsystems.</td>
<td></td>
<td>Reinforcing learners.</td>
</tr>
<tr>
<td>Formation of leadership systems representative of target subsystems.</td>
<td>Needs identification and analysis specific to target subsystems.</td>
<td>Revising and redirecting activities based on feedback.</td>
</tr>
<tr>
<td></td>
<td>Relating needs of target subsystem to the larger system and identifying macro needs common to two or more subsystems.</td>
<td>Utilizing evaluative findings for program revisions, institutional renewal, and accountability to publics, funding sources, and to the profession.</td>
</tr>
</tbody>
</table>

**Figure 9: Programming in the Cooperative Extension Service: A Conceptual Scheme**

and the "analysis of planning context and client system" (Sork, n.d.) all seem to be equivalent and serve the same purpose.

The most visible similarity of the five models is the total agreement of the authors on the need to define goals and objectives. Boyle (1981) and Pesson (1966), in particular, consider the philosophical concerns of planning and the rationale for involving learners in the programming process, while the Sork (n.d.) and Minnesota (1975) models distinguish between formative and summative evaluation.

A clear distinction between these two types of evaluation help to modify programs and provides early feedback. Formative evaluation is an indicator of probable weaknesses or impediments. According to the University of Minnesota (1975), formative evaluation permits the planner "to appraise each element of the process and then make adjustments during rather than after the process" (p. 40), thereby underscoring the importance of formative evaluation in a given model. Formative evaluation reduces the chance that poor planning will result in failure to produce a necessary measure/output within a limited amount of time because of the overwhelming number of decisions to be made. The Sork and Minnesota models are also similar in their attention to client and context analysis.

Boone et al. (1971), Pesson (1966), and the University of Minnesota (1975) pinpoint the necessary plan of work. The other consistent similarity of the five models is the
concentration on the program planning phase which reflects a concern for careful design.

Visible differences between these models are apparent for the patterns of emphasis given to each step of the planning process. The differences in emphasis and approach to program planning seem to be more a matter of degree rather than of substance. For example, Boyle (1981) and Boone et al. (1971) emphasize the role of the programmer while Pesson (1966) is dedicated purely to client participation. The most pronounced differences between the models are their approaches to need identification, defining objectives, and program implementation. For example, Boyle and Sork emphasize more careful planning while others indicate implementation and the annual work plan. Need identification in the case of Boone et al. and Pesson seem to be the result of social analysis.

In brief, the above stated differences appear to be between the philosophies of the authors and the purpose for which each model was developed. Although most of these models try to indicate the value of evaluation in program planning, only the Sork and University of Minnesota models offer a comprehensive treatment of evaluation.

Evaluation of the Models

The range of similarities and differences displayed by the five models examined indicate the existence of numerous approaches to planning. This makes it necessary to choose
between models or aspects of models in order to fit one's specific needs. The following discussion is presented as an aid to making this choice.

In practice, planners have concentrated on the first two or three steps of program planning (see Table 7). This kind of planning, which moves from client and context analysis to evaluation and reconsideration is called by Bruce (1964) the conventional method of program planning. Bruce (1964) and Chambers (1974) contend that this conventional method is inefficient. Bruce (1964) states that the conventional methods of program planning generally are performed in the following order:
1. formation of lay leader,
2. observing and describing situations,
3. determining problems and assigning priorities,
4. statement of objectives, and
5. preparation of plan of work.
Bruce considers these methods to be inefficient because:
1. the universal use of a lay advisory committee often results in an entire waste of time;
2. there is a preoccupation with objectives;
3. the objectives are stated in terms of things to be done rather than as things to be accomplished;
4. there seems to be an assumption that accumulating large masses of situational data will satisfy the objectives; and
5. also an assumption that all good planning will follow a single process (i.e., problem - solution) (p. 222-223).
Chambers (1974) indicated his criticism of conventional program planning methods and steps as shown in Table 7 by deliberately reversing the sequence in which the steps are listed and stated that:

a more logical order might start with plan formulation, leading into programming and implementation. But it has been precisely the logic of starting with plan formulation that has generated the status of unimplemented and unimplementable plans which moulder, fade and feed termites on the shelves of offices throughout East Africa (p. 33).

Although Bruce and Chambers criticized the conventional approach to planning, Bruce's main criticism focuses on what can be termed client involvement or participation. According to Bruce, to involve farmers/adults in order to get support or to use involvement as a means of teaching them to plan has no functional relation to the production of a sound program. Chambers criticized the conventional method for two main reasons. One is to divert some attention and resources from plan formulation which consumes the major part of program resources to more difficult and less developed activities of program implementation which is the design of administrative planning. The other reason seems to have been generated from his research experience in rural development where he observed that participation of the program development committee was nothing more than an "echo with hollow rhetoric" (p. 89) where participants were not given anything to do.
Vanderberg (1964), in agreement with Bruce (1965) and Chambers (1974), states that a collection of adults does not necessarily make an able committee to help develop a sound program. According to Powers (1966) the routines involved in the participation of lay people on the planning committee are:

- attending three or four meetings of the committee,
- receiving information in the usual manner (a concentrated set of facts, figures, etc., (p. 13) and finally,
- forgetting the issue which makes it impossible to expect the committee to recommend priority for a program.

The criticisms presented against the conventional method of program planning indicate the dilemma in adult education which emerges during program development on the question of client participation (Brower, 1964). Studies undertaken to increase educators' and planners' capacities to promote participation in extension program development indicate little agreement on what participation is or on its basic dimensions (what kind, who, and how of participation).

A critical examination of Boyle (1981) indicates a reduction of the above problem by pinpointing involvement of potential clientele. Boyle also provides a definite role to be played by participants and a congruency of
method of involvement with resources utilized. Sork (n.d.) reduces the whole notion of participation in program planning to the following question: "How well are the roles of those to be involved in the planning process defined and differentiated?" Boyle (1981) and Sork (n.d.) seem to help educators and planners take into consideration the proper participation of potential participants in the planning process.

Boone et al. (1971) indicate the intensive involvement of participants but did not specifically define the roles of those who participate in planning. The University of Minnesota (1975) model discusses the approaches used to involve citizens in planning but does not state the specific role desired in each approach.

The other important area of difference in the models appears to lie in the awareness of subsystems in educational planning. According to Heifner and Van Gendt (1971), an educational system consists of two closely interrelated major subsystems—educational administration systems and teaching and learning systems. They state that in most educational planning, administrative systems are neglected. In this regard, except for Sork's model, none of the models are explicit in questions related to administrative planning. Most of the models displayed in Table 7 seem to have focused on instructional planning with minimal emphasis on administrative planning. As a result, the models, except for Sork's basic planning model, fail to
address the manpower and facility requirements for implementation of the program. The neglect of administrative planning in educational programs, particularly in extension administration, can be seen from Chambers (1974) who indicated "erratic almost non-existent or poor 'supervision'" (p. 55). Moris (1981) indicates that field administration of educational programs is disorganized and uncoordinated. This is basically due to undefined and erratic administration not anticipated during the program planning process.

Chambers (1974) and Leonard (1977), for example, cited cases in Africa and Asia where the neglect of administrative planning resulted in the setting of quantifiable targets for all areas. As a consequence most educational programs tend to be homogenized, rigidified, and standardized without regard for the different areas and clienteles requiring differentiated treatment.

The models examined appeared to have no mechanism of priority setting for problems identified. For example, Boyle (1965, 1981) stated that priorities should be established for problems identified, but no mechanism was given. Boone et al. (1971) and the University of Minnesota (1975) give no specific criteria or strategies for priority setting when using their respective models.
Selection of Models

According to E. Elmaghraby (cited in Kulp, 1970) any model requires a rigorous adherence to purpose and must be simple enough so that it can be constructed and studied to serve as an aid to thought in highlighting the structure of the problem, as an aid to communication, as a tool for prediction, and as a guide to the design of training and instruction. Having considered some of the functions planning must perform and some of the dysfunctions it can display, one can now establish a set of principles for selection of a workable model. Kulp (1970), for example, used the following criteria for good planning model selection:

1. Consideration of alternatives,
2. issues identified, options and bottlenecks,
3. broad participation,
4. easy evaluation,
5. completeness, and teachability.

Consideration of alternatives implies the ability of the system to provide explicit consideration of all options available. Issues identified indicates the ability of the planning procedure and format to focus on the big decisions. Easy evaluation refers to the ability of the format and presentation to speed the work of the authorities and learners. This criterion requires the
highlighting of main factors and the interrelationships of elements in the system. Completeness includes the ability of the model to cover all planning activities and all decisions necessary to get action underway. Completeness also requires compactness of the model so it can be summarized on one page for short presentation.

Given these criteria with emphasis on training in extension, compared to other models, Sork's basic planning model (n.d.) has the following qualities:

1. It clearly mirrors the complexity of the system it claims to represent.

2. It is short, clear and free from qualifying adjectives, and can be used in short training programs and courses, workshops and seminars to improve the management of program development.

3. It is unique in revealing the complex problems neglected in most models. The model confers the right place for administrative planning in program development.

4. Its format and presentation satisfies the above criteria for good planning model selection (Kulp, 1970).

5. Although Table 7 displays the agreement among the models for the necessity of need assessment, a draft paper by Sork suggests the market test, the compelling mandate, the trend analysis, and the problem analysis as alternatives to need assessment.
6. The model also gives an alternative to need assessment so that one does not have to wait for the result of need assessment to develop a program.

7. It also specifies the role of participants and as such doesn't simply state the need for client participation.

8. The model with its subpoints can be mastered easily with reasonable effort.

One ready-made theoretical and practical advantage of Sork's planning model is that it supplies criteria to judge how well each step is completed. These criteria are indicated in the subpoints for each step. The possible anticipated problem with using these subpoints as criteria might be its requirement for trained personnel. Provided it is used with trained personnel able to judge each subpoint at a particular time or condition, there is a sound base that Sork's planning model can be used with its subpoints as criteria to judge program choice.

The subpoints raised by Sork under each step in his model satisfy the criteria provided by Kulp (1970) and also agree with the criteria grid developed by Smith et al. (1983). As a result of these justifications, this researcher used Sork's model (n.d.) as a comparative standard on which to base judgements of the quality of planning carried out in the Ethiopian Extension Service.
Summary

In the process of a survey of the literature and searching for a workable model, a perspective on the role of program planning was provided. The impact of improving the planning process on extension education was illustrated with a case from the U.S.A. In doing so an attempt was made to indicate how the improvement and refinement of the program planning process has enabled American farmers to achieve a high standard of living. Furthermore, the review presented important concepts from Learner (1958) that emphasize the necessity of associating the borrowing of extension methods with the ability to adapt a workable planning model to local conditions.

Five different models relevant to agricultural extension were described and the strengths and weaknesses of each model were identified. As a result, the study was able to justify the selection of a planning model suitable to use as a standard in assessing planning activities in Ethiopia.

The next chapter will examine the program planning mechanism used by the Ethiopian Extension Service.
CHAPTER FOUR

A CRITICAL ANALYSIS OF PLANNING AND COORDINATION

The purpose of this chapter is to examine program planning practices in comprehensive projects and the Minimum Package Programs. The chapter will consider the current state of coordination in the extension program planning process and program implementation. The final section of the chapter discusses major problems related to objectives, target determination, organizational effectiveness, and program coordination.

Program Planning From 1952 to 1966

Although this era fell within the first and second five-year development plans, there was no organized planning mechanism in place to introduce modern agricultural science to Ethiopian peasants. In fact, the Ethiopian governments of the time acknowledged that the first Five-Year Development Plan was a learning process and that no systematic program development mechanism was used (Imperial Ethiopian Government (IEG), 1962).

Assefa and Eshetu (1969), Cohen (1974), and Pausewang (1973) report that there was no visible planning practiced during this period. Although Huffnagel (1966) indicates that various measures, such as field trials for crops, and model farms for livestock, and modernization of sheep production, were taken by the Ethiopian government, there
is no indication that these measures helped develop a sound extension service. Stommes and Séleshi (1978) stated that "there were no programs establishing agricultural priorities and policies to be implemented during the planning period" (p. 25).

Program Planning From 1967 to 1980

Program Planning Practice in Comprehensive Projects

Prior to 1967, farmer education was given a low priority by the government extension service. During this period (1952-1966) all extension activities were carried out centrally in Addis Ababa, but programs were implemented at sites 175 to 1000 kilometres from Addis Ababa. As a result, program implementation suffered from insufficient resource allocation. Above all, such a system did not adequately reflect the real needs of its clients (Heimpel, 1973).

In an attempt to change from a centralized to a more decentralized planning process, a new approach was organized within several comprehensive projects, the largest of which was the Chilalo Agricultural Development Unit (CADU).

The Chilalo Agricultural Development Unit's (CADU) program planning mechanism can be explained in terms of its main assumption. Implicit in the project's plans, programs and means of implementation was the underlying assumption
that the target population realized the possibilities of change and accepted the proposition that change was best accomplished through the establishment of improved marketing facilities. This provided a prelude towards instituting extension package programs in a country marked by serious economic and social constraints.

The other aspect of CADU's strategy in the process of program planning was the strong belief in Galbraith's proposal which asserts that "there can be no effective advance if the masses do not fully participate" (1962, p. 46). According to Stahl (1973) and CADU (1967), it is this second aspect which placed emphasis on the participation of the local people, particularly small farmers, which from the Swedish point of view justified the program and Swedish involvement in the program.

Based on the above assumption, the Swedish team conducted an analysis of the planning context and client system, and formulated a workable agricultural extension program. The analysis seemed to have clearly followed a systematic planning model but missed the assessment of institutions in Ethiopia. That is, CADU originally started with a miscalculation of the different forces implicated in the University of Minnesota Model (1975). For example, the analysis underestimated the nature of the landowner-tenant relationship. It also appears that the analysis did not critically examine the availability of local health and educational services provided by other agencies. Except
for the underestimation of the impact of the landowner-tenant relationship and a well-developed local bureaucracy, CADU had made a step forward by initially stating its objectives in broad terms.

The objectives were:
- to bring about economic and social development to Chilalo district
- to give the local population an increased awareness of development work, and
- to verify methods of agricultural development and to train staff (CADU, 1967).

The strategy designed by CADU to direct its efforts toward these objectives (see Figure 10) started with providing market incentives, credit, farm inputs, and extension education. The strategy was to lead to economic development through education. Land reform was designed in the strategy to create an environment conducive to using improved grain technology in Ethiopia.

Although Betru (1975), Cohen (1974), and Selshi and Stommes (1980) have stated that the Swedish team (initiators of the first planned extension program) underestimated the various forces operating in Ethiopia, the planning mechanism seemed to be both satisfactory and creative because the situation diagnosis conducted with farmers clearly identified problems which the farmers saw as important. In addition, other limiting factors in peasant agriculture, such as lack of farm credit, were identified.
Figure 10: Basic Economic Development Strategy Utilized by the CADU Project in Chilalo Awraja

The continuous evaluation conducted by CADU enabled it to correct unanticipated problems before they became chronic. A good example in this case is the discontinuation of credit to the local rich elite after the evaluation team discovered eviction of peasants by landlords. The Chilalo Agricultural Development Unit also stopped the collection and marketing of milk from peasants after the evaluation team found nutritional problems among peasant children (Betru, 1975). As a result of the above two examples, CADU restated its objectives in more or less specific terms. Evaluation was also used as a means to recommend ways to improve the attainment of project goals and to upgrade staff.

The key factor in the implementation of CADU's program was that the planners drew upon the very successful experiences of the earlier Comilla Project. The involvement of Swedish experts at the grassroots level of distribution of technical assistance has also contributed to the effective use of evaluation results. Their direct involvement in the program reduced the Ministry of Agriculture's administrative paperwork which Ethiopian nationals cannot bypass or reduce. In the case of CADU, the program planners were also responsible for implementation which accounted for their practice of employing formative evaluation to monitor the progress of implementation.
According to CADU's model of operation (see Figure 11), research and training components are organized in such a way that they reinforce extension programs. Figure 11 also illustrates an "ideal" model for the organization of agricultural extension. More than indicating an effective link with research, it also indicates a single line of technical and administrative support toward the stated goals.

The feedback and evaluation in all components acts as a catalyst in giving more life and power to extension as the heart of CADU's model. The central point in Figure 11 is the farm families or target groups to which all other services are directed. In the process the ultimate efforts of research and training are channelled through extension.

This being the general model of operation, the key elements in the implementation of nonformal education were the extension agents, the model farmer, farmers committee, and demonstration plots. The nonformal education strategy used by CADU coordinates all its activity and supporting services on demonstration plots where the model farmer, the extension agent, and farmers committee interact. According to Betru (1975), the area extension agent prepares individual farm plans for each farmer before the farmer can acquire new inputs on credit. Through this procedure CADU insures the feasibility and desirability of applying innovations at the farm level. According to Arnon (1981), Chambers (1974), Hunter (1970), and Wharton (1965), such
Figure 11: Chilalo Agricultural Development Unit Model of Operation

practice taken to ensure innovations developed by research are promoted by extension, is considered vital to agricultural extension programs.

Examination of available documents indicate that the procedures used to develop a program at CADU have the following strengths:

1. The strategy utilized to design and implement educational programs involves farmers in program development.

2. Its model of operation has kept extension, research, and training in a close relationship with proper feedback.

3. The objectives for grain technology have been derived with inputs from farmers, researchers, and from extension agents.

4. An essential element in its extension programming is providing professional in-service education for its staff.

5. Systematic, on-going evaluation was used to determine what happened and to improve future programs.

6. A reconnaissance survey of agrotechnical and socioeconomic conditions was used to identify problems, research objectives, and priorities.

7. Administrative staff (directors) were involved equally with farmers and extension agents in the development and implementation of programs.
These qualities of CADU are congruent with the principles of program planning found in the literature. It can therefore be concluded that CADU's planning mechanism represents "good" planning.

Program Planning in Minimum Package Programs

The comprehensive development projects in the country, mainly CADU, have certain characteristics which distinguish them from national, regional, and local level minimum package programs. Common characteristics of comprehensive projects which differentiate them from minimum package programs are:

1. All have a direct link with external donor agencies and suffer small policy-related problems concerning their programs.

2. All have separate research components connected to extension, making the research-extension-farmer model practical with communication in both directions.

   All important innovations were conceived and tested at the Chilalo Agricultural Development Unit. As such, CADU is organizationally above any national institution in the areas of management control and finance.

3. CADU has its own training centre with permanent facilities, staff, and recurrent budgets for training programs.

4. All have a defined geographic area for their extension service.
The above factors have important implications for the programming mechanism of minimum package programs.

The Extension Project and Implementation Department (EPID) is a department within MOA. It is the major government agency mandated to administer minimum package programs at the national level. It operates under limited inflexible central personnel agency rules and regulations (IBRD, 1973). It has no flexibility with regard to its financial and manpower requirements or allocations. It covers the entire country. It has no research component and is not officially connected to the national research agency. Furthermore, there is no budget allocation for training of staff and clients. Stated briefly, EPID was created as an extension of CADU to take the findings of CADU and introduce them to Ethiopian farmers at large. As a result of this, EPID focused more on how to extend the research findings of CADU than on how to integrate the new minimum package programs into existing MOA activity. Due consideration was not given to the selection of target areas, farmer situation, and technological adaptation. In fact, EPID started its program without an analysis of its client system and evaluation of ongoing activities (Seleshi and Stommes, 1980).

The main objective of EPID was to introduce improved farming methods to Ethiopian farmers under the assumption that "science knows the answers" and the problem was merely one of communicating this information to farmers. Census
data and sample area observation appeared to be the only sources of information critical to client analysis that EPID collected (EPID, 1970). The focus on innovation transfer, which considered only technical problems in production, seemed to hinder EPID's ability to anticipate organizational constraints important to the implementation of minimum package programs (EPID, 1973).

Although EPID had not conducted client and context analysis, highest priority was given to food crops in its minimum package programs. Lele (1975), Schulz (1976) and Seleshi (1978) considered the priority given to food crops by the minimum package program as a strong indication of the Swedish commitment to the Ethiopian peasant, not to the built-in organized approach to program development.

The objectives of EPID, stated in Chapter Two of this study, seem to be a breakdown of the national agricultural sectors goal which itemized general terms giving no criteria for evaluation. It is obvious that EPID wanted to do many things at once with ambitious projections of results (EPID, 1976a). For example, the target stated for 1974-75 was to increase the number of extension areas from 347 to 410, however, EPID was able only to increase the number to 351 (EPID, 1976b).

In a summary of world approaches to extension and rural development (see Figure 12), EPID is indicated as using a mass method in its minimum package programs. It has no site specific information available to deliver
<table>
<thead>
<tr>
<th>Primary Agency</th>
<th>United States</th>
<th>Britain</th>
<th>Ethiopia</th>
<th>China</th>
<th>U.S.S.R.</th>
<th>Tanzania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooperative extension service</td>
<td>NAAS</td>
<td>MOA EPID</td>
<td>Communes</td>
<td>Collective farming</td>
<td>Ujamaa movement</td>
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</tr>
</tbody>
</table>

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<tr>
<th>Issue and Focus of Attention</th>
<th>Rural and agricultural development</th>
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<th>Participative democracy</th>
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<th>Socialism New Democratic Revolution</th>
<th>Communism</th>
<th>Communism</th>
<th>Socialism</th>
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</thead>
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<tr>
<th>Adm. Processes/Organization</th>
<th>Highly decentralized</th>
<th>Highly centralized interactive</th>
<th>Highly centralized</th>
<th>Highly decentralized</th>
<th>Decentralized</th>
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<tr>
<th>Participating Units</th>
<th>Federal, states, counties, universities</th>
<th>Provincial, counties, institutes, townships, small agric. units</th>
<th>Peasant associations, cooperatives</th>
<th>Communes, production brigades, teams</th>
<th>State farms (Kolkhoz), cooperative farms (Sovkhoz)</th>
<th>Regional, districts, Ujamaa villages</th>
</tr>
</thead>
</table>

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<tr>
<th>Agricultural Characteristics</th>
<th>Highly mechanized corporate farms</th>
<th>Highly mechanized large farms</th>
<th>Labour intensive small farms</th>
<th>Labour intensive communal farms</th>
<th>Mechanized communal farms</th>
<th>Labour intensive small communal farms</th>
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<tr>
<th>Methods</th>
<th>Educational, based on individual/group needs</th>
<th>Educational, based on individual/group needs</th>
<th>Political, educational, based on mass needs</th>
<th>Political, educational, based on mass needs</th>
<th>Political, educational, based on communal needs</th>
<th>Political, educational, based on communal needs</th>
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**Figure 12:** A Summary of World Approaches to Extension and Rural Development

situation specific production advice nor any indication of information delivery systems or mechanisms (EPID, 1970, 1972, 1974a,b, 1978). This is evidenced by an EPID recommendation of a fairly uniform fertilizer application rate of 100kg diamonium phosphate per hectare for nearly all crops in all areas.

Demonstration plots seemed to be confused with research trials where five or six factors were introduced and compared to a single control plot (Schulz, 1976). This practice makes it very difficult for farmers to see the different response of a given input or management technique. A study by Hunter et al. (cited in Schulz, 1976) indicated that demonstration plots and their management lacked close supervision and planning. Since EPID appears not to have examined the appropriateness of the methods, media, and activities for each objective, the effectiveness of demonstration plots were not realized.

The planning mechanism that EPID used can be called the "hands-on" method. Beyond the head office, program planning was not available anywhere in its structure. In viewing itself as the centre of agricultural development it did not conduct client and context analysis as part of planning programs. As a result, the central focus of its programs appears to be how to distribute available farm inputs rather than aiding farm families through educational means.
The objectives of EPID are not sharply focused on educational activities and as a result it seems to attempt implementation of programs for which there is no sound knowledge base. Above all it seems to suffer from the planning pathologies identified by Kulp (1970), and as a consequence cannot apply self-evaluation to create a proper institutional environment to plan and implement educational programs. In brief, there are no visible indications that EPID planning procedures are congruent with the theoretical program planning procedures reported in the literature.

Coordination in Ethiopian Extension

According to Webster's Dictionary (1966), the verb to "coordinate" means either (1) to place in the same rank, or (2) to bring into proper and relative order to harmonize, to adjust.

The second meaning appears to apply more closely to planning concerns and brings with it important assumptions relating to proper and relative harmony and adjustment.

Analytically, coordination is related to the interagency relationships and joint planning which Weitz (1971) identified as the central purpose of any planning process. In this regard planning is a futuristic activity pursued to reduce risk and uncertainty. Therefore, coordination, as the central purpose of planning, can be developed for different reasons, such as: 
1. matching needs with resources,
2. connecting activities and programs when desired output depends on more than one function, and
3. making efficient use of scarce resources.

This indicates that coordination is empty of content in the absence of a stipulation of the aim it serves and it requires a clear policy to direct this aim. There is a need for policy to justify interagency relations, communication, and action. In the absence of this understanding, the word coordination degenerates into misuse.

According to Mosher (1969), this degeneration is the result of an obsession with coordination. For example, in Ethiopia this obsession with coordination was found to be identical to the antidote for bureaucratic problems. As a result, "if integration and coordination are good then ... maximum coordination ... [is] best of all" became the national slogan (Chambers, 1974, p. 25). This approach, as indicated by the action taken to reorganize MOA, generated more problems in Ethiopia than before. This may indicate that coordination is not a management tool or a planning concept that develops by accident. As a central purpose of planning, coordination requires intelligent, vigorous, and persistent effort.

Most agricultural extension working papers indicate that failure to coordinate the delivery of educational services to rural clientele results in waste and confusion, and a lowering of service effectiveness. In principle,
extension personnel need to coordinate their activities with those of other agencies, and to share information about mutual clientele. To this effect most planning models describe the role of joint program planning.

In the case of Ethiopia, available documentation indicated that neither extension nor research programs were coordinated (Amare, 1978; Betru, 1975; Hailu, 1979; Heimple, 1973; IBRD, 1973; Lele, 1975; Schulz, 1976; Seleshi, 1978; Seyoum, 1971; Stommes and Seleshi, 1979, 1980). For example, the Institute of Agricultural Research (IAR) (1979) emphasized research into triticale—a grain Ethiopians had never seen, never ate, and which was of uncertain economic value to the country—while teff, the most important grain in the country, was neglected. As a result, only two studies on teff are available (Melak Haile, 1966; Wondimagegnehu, 1980), whereas reports on the breeding and baking characteristics of triticale are readily available.

None of the comprehensive projects felt it was important to interact with other agencies in the country (Betru, 1975). A look at any agency in Ethiopia indicates that coordination of work is not only weak in planning terms but also in day-to-day administration. For example, despite scarce transport and fuel, one can observe five to eight vehicles being dispatched from one ministry to the same region carrying different experts to address the same client. This uncoordinated use of vehicles drains the fuel
budget and leaves the desired activity at peak times without ample financial support. The most important educational facilities and institutions, such as educational mass media, farmers training centres, peasant associations, audio visual centres, and printing machines, are not used to improve extension effectiveness (Kefyalew, 1981).

In general, the coordination of available resources and the simple exchange of information are not well developed. Neither the centre nor the periphery are coordinated nor are they meant to be coordinated (Lele, 1975). The main shortcoming of coordination seems to be the lack of consideration given to it as an important administrative function.

Agricultural extension programs in Ethiopia are associated mainly with an information-delivery model of public sector assistance for farmers. The Minimum Package Program seems to have low educational inputs which would assist farmers in acquiring the necessary knowledge, skills, and attitudes. This is because the goal appears to be the addition of the maximum feasible number of farmers to the Minimum Package Program's information network where recommendations originate from the EPID head office. The flow of accurate and timely information to where it is needed is the exception rather than the rule in the strongly hierarchial structure of the MOA. Despite the fashionable communication theory upon which EPID based its
Minimum Package Program, there is no hard evidence of what happens to extension messages as they move downwards from EPID head office to MPP areas.

In addition to this, two main problems seem to undermine the efficiency of EPID national recommendations and the one hectare demonstration plots in all areas, irrespective of their relevance. First, lack of on-farm testing and verification indicate that recommendations often lack feasibility or compatibility and may not confer the promised benefits. Second, diverse environmental conditions coupled with meager resources and insufficient training of extension agents makes decisions regarding which recommendations to communicate for a given situation very difficult.

The Extension Project and Implementation Department's Minimum Package Program lacks sound proactive administrative planning (Schulz, 1976; Stahl, 1973). As a result, extension administrators do not have a clear policy regarding how to coordinate agricultural education programs with other village level functions, how to make field agents accountable to their clients, what ratio of extension agents to farm families to aim for, what resources to give each agent, and how to improve the program. This has resulted in extension agents performing activities in a manner completely different from the stated correct procedure. For example, Ellis (1973) reported the deviation of extension agent activity in the Ada area.
Ellis observed that agents did not always visit credit applicants or have any idea of the extent of the applicant's holdings before they registered the farmer as eligible to participate in the extension credit program.

As a public sector investment, the extension program of EPID lost its extension mission and minimum package approach (Schulz, 1976, p. 30) which resulted in the equal distribution of various services to all regions of the country regardless of need, availability of resources, or opportunity for these services to make a difference. Such a strategy of spreading extension resources thinly over the entire country seems to create a situation wherein every region is poorly served by structures and programs which do not fit any region's needs precisely.

The above contention and observation indicate that neither the program development mechanism nor program implementation of EPID is coordinated and congruent with program planning literature.

**Major Issues and Problems**

A critical analysis of planning and coordination in Ethiopian extension indicated some perplexing problems in all programs. Although field experiments performed by Benor and Harrison (1977), Chambers (1974), and Roling (1982) indicated that the general problems with extension education were organizational defects and operational weaknesses, this researcher lists the following as additional major issues in extension programs in Ethiopia:
1. Most programs are deficient when it comes to specifying the goals being pursued and the activities required to meet these objectives. The general terms used in writing the objectives, such as "raising standards", "eradicating illiteracy", and "providing polytechnic education" (Africa Research Bulletin, 1983, p. 6192), make it impossible to design an effective system of evaluation.

2. Work targets are decided at a high level, usually in Addis Ababa, with no local staff participation. Setting targets in this way frequently results in programs that suffer from inadequate resource allocation, particularly in recurrent costs and personnel time.

3. Organizational defects and operational weaknesses which manifest themselves in:
   a. a lack of supervision and communication;
   b. evaluation of personnel work performance based on numbers of fertilizer sacks sold and visits made rather than on actual work efforts or impact;
   c. a lack of proper administrative planning to coordinate and control the program development process and implementation.

4. The programming procedures of the system do not adequately reflect the real need for agricultural development and the corresponding educational needs in
each region. Most plan documents seem to be the result of planning exercises, rather than a response to priority needs, because they do not provide an analysis of farmers' circumstances and necessary actions specific to an area.

5. Project plan documents focus mainly on equipment and logistic support and neglect defining objectives, specifying duties, assigning responsibilities, and establishing criteria for evaluation.

6. The virtual absence of orientation and in-service training programs for new employees and existing staff makes it impossible for them to understand the program and how to implement a given plan.

Summary

This chapter described and analyzed the program planning mechanisms used by the Ethiopian Extension Service from 1952 to 1980. Through chronological document examination it was determined that no well defined program planning process was in place before 1967. A program developed by CADU was analyzed using Sork's basic planning model as a frame of reference. The Chilalo Agricultural Development Unit (CADU) program development mechanism satisfied the requirements for a sound planning process while the program development mechanism used by EPID was shown to deviate from basic planning models.
This chapter also clarified the concept of coordination and its relationship to program planning. Coordination was presented in such a way that its development or implementation required planning rather than expecting planning to come from coordination. As a result, this researcher found no indications of meaningful coordination in comprehensive projects or in minimum package programs.

In addition to identifying major issues and problems, the chapter concluded that the basic problems of extension education were a lack of a systematic programming mechanism. The next chapter will discuss an alternative strategy based on a systematic programming model and a coordinated effort to eliminate poverty through education.
CHAPTER FIVE

A PROPOSED ALTERNATIVE STRATEGY

The purpose of this chapter is to present an alternative strategy for planning extension education in Ethiopia. The first section of the chapter will discuss the need for an alternative strategy and state basic assumptions of the alternative. The last section will discuss analysis of planning context and client system, administrative planning and coordination, and the development of training programs.

The Need for an Alternative Strategy

In a strict theoretical analysis and from an adult education philosophical point of view the extension service in Ethiopia, excluding the CADU program, is erroneously referred to as extension education. The main shortcomings are:

1. Lack of clear objectives, defined target group, tested product or message, effective communication and organization,
2. Lack of a role definition for extension agents,
3. Lack of client participation,
4. Lack of steady flow of instructional materials,
5. Lack of regular and frequent in-service training, and
In addition to the above shortcomings most programs are imposed from above and do not take into account the needs and characteristics of farmers. Above all, the top downward approach has little meaning and validity to learners. It appears to be a system designed to tell the farmers of improved farming techniques which are untested and unconfirmed for their profitability at the peasant farm level.

Morss (1976) considers the three key determinants of project success to be:
1. an increase in the agricultural knowledge of small farmers,
2. an increase in the self-help capability of small farmers, and
3. a high probability that the benefits of the extension program will be self-sustaining.

Although there has been an increase in farm income in the areas where ADP, EPID, and WADU operate, the above determinants have not been achieved. Simpson (1976) further indicated that settlement schemes in Ethiopia did not achieve their objectives of creating stable new farm units and did not contribute to healthy regional development. As a result, current approaches to extension have little potential for substantially improving agriculture. For the same reason it is concluded that agricultural extension in Ethiopia does not conform to the definition of extension presented in Chapter One of this study.
This nonconformity of extension programs in Ethiopia made a search for a workable alternative imperative. In this regard the works of Axinn and Thorat (1972), Chambers (1974), and Korten (1980) and Roling (1982) provide information useful for designing a new alternative for extension program planning. The Learning Process Approach of Korten (1980) and the Programming and Implementation Management (PIM) System of Chambers (1974) have important implications for the design of an alternative strategy for a country like Ethiopia. What makes Chambers PIM and Kortens learning approach relevant to this study is their special focus on administrative planning and evaluation. Through monitoring what is and is not happening and continuous evaluation of why effects were or were not achieved, the two systems combined context and client system to program implementation. As a result the systems seem to have produced a sound, viable program that has altered the life of rural farmers in Kenya (Chambers, 1974), in India, Sri Lanka, Thailand and particularly in Bangladesh (Korten, 1980), a country with problems similar to Ethiopia's.

Bangladesh, a country prone to drought and famine, through the learning process approach starting with a simple relief approach ("food for work") and well-designed development education for her male and female population, today, achieved the ability to withstand the problems of
food production. Korten (1980) attributes the success in these countries to:

**a high degree of fit between program design, beneficiary needs, and the capacities of the assisting organization (p. 490).**

Bangladesh and India took a slower and harder course of teaching their poverty and famine stricken people how to grow food rather than dealing with the problem through the faster and easier distribution of food.

While the successes described by Chambers and Korten attest to the rationale behind improving the program planning mechanism, the success achieved in Taiwan agriculture opens a new venue in the field of agricultural extension organization. The Taiwanese system of delivery of scientific farm information (Lionberger and Chang, 1981) proved the possibility of developing agriculture with a minimum of highly educated people. What can be inferred from the Taiwanese experience is that it is the shortage of officials who know how to make effective use of available human resources and technical assistance, not the chronic need of trained manpower, which seems to be the major problem of development. This inference is particularly important in the case of Ethiopia. According to Axinn and Thorat (1972), extension agents in Taiwan are not subject matter specialists. In 1972 Taiwan had six experimental stations from which these agents received their information. A very important means of communication for the system is the farm study group which meets in the
evenings once every two weeks to exchange information on farm experience and on program development.

In summary, the successful ingredients identified by Lionberger and Chang (1981) are nothing more than the result of:
1. analysis of planning context and client system,
2. coordinated administrative planning with a tenet of "waste not any scarce resource", and
3. proper instructional design for adult farmers.

Using these different success ingredients and an innovative approach in program planning, this researcher will now describe a possible alternative that can be applied in the Ethiopian extension service to help make it a dynamic educational service. The alternative will be presented with basic justification and factors to be considered.

Assumptions of the Alternative Strategy

To clearly understand the alternative strategy, certain limitations and constraints in Ethiopia need to be pinpointed. To this effect the following assumptions are made.
1. The alternative is not to create a super Ministry of Agriculture (MOA) but to improve the existing system, its organizational structure and its staff utilization.
2. In line with the data available, (Africa Guide, 1983) and observation of the existence of international
technical assistant personnel, this alternative assumes the availability of a trained human resource base (local and foreign) to ignite the required initial development process.

3. Since the problems in peasant agriculture were left for so long untackled scientifically, the alternative considers planning and coordination in this context not only for reasons of economy, but also to improve the quality of services provided to peasant farmers.

4. To ensure the closest coordination and control over policy formulation, planning and implementation at the national level the MOA is designated as the focus for this major work.

5. Improvement and change in Ethiopian agriculture is possible only through training and education of agricultural officers and farmers. Furthermore, a well organized training program is considered to be an excellent means to identify problems and consider alternatives.

The improvement approach which this study took as important might be a paradigm shift from the 'telling' approach of extension to the 'learning' approach in the Ethiopian context. Therefore it is important to define certain points to make clear the frame of reference.

The Ethiopian government is the sole employer of trained human resources in the country. Therefore how the government organizes its operations and the efficiency and
effectiveness with which it carries them out will largely determine the success of the country's development program. That is to say the nature of government policy statements and strategies holds the key to progress for the country. Any alternative is doomed to failure if it is not fully supported by political and administrative authorities. Full support by the political authorities for the proposed strategy for planning extension education in Ethiopia would involve:

1. Adoption of a policy statement on the general guidelines that place responsibilities and obligations on people and arrange for rigorous enforcement of these obligations.

2. Adoption of a policy which is broadly understandable, which entertains the implications of the study by IBRD (1973), and which creates conditions to improve organizations for coordinated planning, implementation, and evaluation.

3. Adoption of a policy that is based on actual farm conditions.

4. Adoption of a policy that helps extension officers to think through policies, meaning, content and intended use to reduce misunderstanding of what is planned and implemented, and which serves as a reference.

This full support by the authorities implies control, direction and supervision. Furthermore, the government apparatus dedicated to rural development, particularly
education and agriculture, should be treated as a matter of highest priority by the government.

It is only if these positions are adopted by the government that the people can be summoned to mobilize the best of their energies and resources for development. A clearly defined policy framework coordinated and channelled along a given definite direction ensures the fulfilment of targets. The expected policy will achieve the aforementioned requirements provided the following questions are answered. The fundamental questions are:

1. What is the social situation?
2. How do farmers perceive poverty?
3. What are the dynamics of rural problems?
4. What are the resource constraints?
5. What are the technical factors?
6. How can the chain of command and coordination be simplified?

The answers to these fundamental questions will form a benchmark from which to start and subsequently to evaluate later achievement. Conducting the analysis of planning context and client system will help to provide important facts which will answer the above questions.

Analysis of Planning Context and Client System

The identification and analysis of extension planning context and client system is a basic step in program development. That is because the more accurate the
information about context and client, the more likely it is that the critical problems will be identified and sound conclusions reached regarding objectives. This is true because "facts help to identify needs by pointing to gaps between what is and what should be" (Leagans, 1964, p. 92).

To avoid wasting time collecting masses of data that defy useful analysis, this alternative approach involves the continuous examination of what is and what should be by starting with what is available and possible. This approach is scientific and practical in the case of Ethiopia for the following reasons:

1. The various studies by Amare (1978), Assefa and Eshetu (1969), Blaug (1974), the U.S. Embassy study cited by Brown (1984), FAO (1970), Gill (1984), Ginzberg and Smith (1967), Heimpel (1973), and IBRD (1973) have already delineated the problem to agriculture and education with a thorough explanation of the existing situation of peasant farming.

2. The learning needs of small subsistence farm families is identified also by Coombs (1974) to be the application of new inputs and improved farm practice. Therefore the required situation analysis is the interdisciplinary team study of where the critical problem resides.

Of particular importance is a critical examination of limitations and constraints in extension organization, administration, and objectives. Conditions of farmers are
also of major importance. The list of questions stated in Table 8 may provide the interdisciplinary team with basic data important to delineate the problem. Experience demonstrates that there is no shortage of very willing "potential farmers" who will summon remarkable energy for agricultural development if they perceive the opportunity to increase their income.

Proper exploitation of such potential for educational purposes requires evaluation of how farmers perceive poverty in terms of knowledge, skills, and attitude. Parallel to this analysis there is also a requirement to evaluate the ability of the extension organization to effectively exploit such a potential. In this context the alternative reduces the problem of context and client analysis to the analysis of planning context. This reduction of the problem to such a level is due to:

1. The really tough part of economic development in Ethiopia is not fabricating improved techniques (e.g., CADU produced a tested technology within five years but the improved crop variety is still limited in its distribution), but rather the organization of human behavior under new rules that enables people to help each other in the spreading and use of effective technology (Mosher, 1971).

2. Resources and professional service do not come to where they are seriously needed unless organized and coordinated to serve a purpose at a given place in a
Table 8: List of Questions for Analysis of Planning Context and Client System Participant/Program Characteristics

<table>
<thead>
<tr>
<th>Questions</th>
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<tbody>
<tr>
<td>• What are the demographic characteristics of learners (sex, age, number)?</td>
</tr>
<tr>
<td>• What is the educational background of learners?</td>
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<tr>
<td>• What skills do they have?</td>
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<tr>
<td>• What is the primary occupation of learners?</td>
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<tr>
<td>• What are the health and nutrition standards?</td>
</tr>
<tr>
<td>• What are the objectives of the program?</td>
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<tr>
<td>• What type of agency manages the program?</td>
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<tr>
<td>• What activities are planned in the program?</td>
</tr>
<tr>
<td>• What strategies are outlined for the delivery of the learning activities (methods, techniques)?</td>
</tr>
<tr>
<td>• Who is responsible for managing the program?</td>
</tr>
<tr>
<td>• How do planners communicate with the target population?</td>
</tr>
<tr>
<td>• Who are the members of the target population?</td>
</tr>
<tr>
<td>• How is the target population segmented?</td>
</tr>
<tr>
<td>• How are the community needs assessed?</td>
</tr>
<tr>
<td>• What are the educational and skill levels of the target population?</td>
</tr>
<tr>
<td>• Who is responsible for each task?</td>
</tr>
<tr>
<td>• Does the program have a time schedule for implementation?</td>
</tr>
<tr>
<td>• What about flexibility? What if something goes wrong?</td>
</tr>
</tbody>
</table>

certain period of time. Therefore this alternative justifies the coordinated mobilization of resources with proper monitoring and evaluation in the process of implementation.

In addition to aiding mobilization of resources, conducting such a planning context analysis would also answer Sork's question of "How complete is the discussion of organizational constraints to the planning effort?" The answer to this question will help to pinpoint constraints and define the organizational context where people will work effectively.
The alternative stresses identification of problems and evaluation as a continuous process. In the alternative then, no task is isolated from all the others. Each program activity is related to the others by the administrative planning discussed below.

Administrative Planning and Coordination

Extension programs have a number of features which must be matched with the capacities of an organization if effective implementation is to be achieved. The first is technical. The second attribute is the complexity of the planning process. The third attribute is the magnitude of resources needed for the program. There are further attributes of specific extension programs which draw upon administrative planning. The above extension features cover the most important ones and are sufficient to illustrate the kind of analyses that are required in assessing and designing administrative requirements. In short, administrative planning and coordination is an important planning concept to develop a program or implement it.

Most programs in Ethiopia lack proper administrative planning. As a result this alternative strategy approaches administrative planning and coordination from a resource procurement and allocation point of view. The approach advocated, more than focusing on the major problems
studied, helps to make efficient use of poorly utilized resources in the country.

The anticipated administrative plan starts with a new set-up of MOA. The MOA is not a university. Its tasks do not parallel academic disciplinary lines. Therefore developing a new set-up of MOA in line with Mosher's (1971) study is required. According to Mosher's organizational set-up to develop modern agriculture, division of research, training and extension form the main structure of the MOA. This kind of set-up helps develop flexible use of resources. Also, it enables the MOA to control, evaluate and improve the quality of agricultural education in the country.

Organizing the MOA as suggested above also solves an important problem of different departments within MOA. Many rural education problems require large scale action, extensive involvement with farmers, long term follow up and unanticipated side effects. Therefore it is practically not feasible and theoretically not sound to attack these problems other than on a well co-ordinated multiorganizational scale. The scale of the problem exceeds the scope and jurisdiction of any single ministry or department. This requires a policy statement and agreement to redefine the current status of MOA in such a way that everything associated with agriculture, education, production, and administration, particularly the mobility and transfer of trained agriculturalists, is coordinated.
and monitored in one central office. This central office should serve as a clearing house for basic information and necessary material.

The existing departments within MOA should be reorganized according to stated objectives. This regrouping is to minimize obstacles of coordination in boundary definition, duplication of effort and waste of resources and to reduce the high demand that each separate administration puts on scarce trained personnel. This requires a close look at what Griffith (1980) has said about coordination. Coordination emerges by planning, programming and evaluation which is based upon a binding agreement to use resources and authority including top administrators officially delegated to monitor the day-to-day progress of cooperation and coordination.

To reduce confusion, common during transition and regrouping of institutions, Haygood (cited in Fisher, 1974) had the move toward coordination occur in three stages. First, the central clearing house for information encourages or initiates routine exchanges of information. Second, a coordination commitment of the MOA and the other agency is agreed upon covering goals, joint planning and scheduling. Third, formal collaboration, which requires legal commitment, brings all other agencies under one ministry. This formal collaboration requires proper preparation of local and regional offices and personnel.
Initiation of an organizational restructuring to attack the fundamental educational problem on a sustained basis requires institutions, facilities, and services that help farmers adopt improved practices. To establish these and to use them effectively requires:

1. Developing educational and training institutions. This development means pooling locally available education and training facilities under one organization and management;

2. Formalizing an officially sanctioned agreement which authorizes the MOA farm information office to share the facility and air time of the educational mass media with the Ministry of Education;

3. Pooling experts to man the training division of MOA so that the farm information unit is linked to the research centres thereby allowing it to produce local teaching aids and manuals that can be used in different training centres; and

4. Reorganizing the agricultural research centre at both the national and regional levels so that the need for staffing and conducting of adaptive research such as regional based field trials is addressed. A team approach to adaptive research is preferable to the current single agronomist approach.

The goal in adaptive research is appropriateness not perfection. For this purpose the responsibility of an adaptive research team is to test recommendations under
farm conditions and to formulate region specific recommendations. The regional team passes the recommendations to a central research team which endorses the recommendations to the farm information service. This office directly communicates them to extension agents or broadcasts the recommendations.

The adaptive research team in collaboration with the extension agent jointly defines general goals, and is regularly involved in training programs for farmers, assistant agents and lay leaders. A common decision making body for research and extension is required to be one under the stated policy. Group cohesiveness can easily develop with refresher courses and inservice training.

The last step in the process of administrative planning is the development of effectively functioning supply lines. This can be achieved by improving the current activity of EPID.

According to Fayol (1925) and Sork (n.d.), subpoints under designing an administrative plan are planning, organizing, staffing, directing, coordinating, reporting and budgeting. The planning and coordinating aspects selected for the alternative approach were given above. What remains is organizing, staffing, directing, reporting, and budgeting.

To organize activities requires knowledge of planning context. The environment under which this administrative planning operates reflects the nature of the commitment
given to coordination. Given a strong governmental commitment to coordination the following steps would be required to implement the decision:

1. breaking the required work into components, i.e., grouping research, extension and training into practical units based on similarity and importance,
2. assigning qualified personnel,
3. keeping track of personnel transfers,
4. informing each member of what activity he is expected to perform and his relationship to others,
5. clearly stating the responsibility and obligation of a person to achieve the result determined, and
6. providing facilities required to do the job.

On the question of budgeting in administrative planning, except for priming on capital cost, most managers and development experts in developing countries are said to be quite good (Chambers, 1974). This means the administration in this alternative will focus on recurrent costs necessary to run extension, research and training. The focus on recurrent costs is nothing more than making preferred release of funds when planned activities have to start. Next to budgeting the other aspect to be considered in administrative planning is control, supervision and evaluation. Hunter (1973) reduces the whole concept of control, supervision and evaluation to proper target setting and decentralization of control. FAO (1970) also suggests decentralization of control, supervision and
evaluation for extension. Therefore, based on decisions taken on what is technically possible, this administrative planning uses delegation of authority to control, supervise, and report through decentralizing to geographical subdivisions. This approach eases coordination of services rendered and control exercised. Furthermore, it allows the total program to be adapted to the needs of the area served. Decentralization enables supervisors to stress helping the field worker, provides a mechanism for direct and timely feedback to field workers, and helps to cross check performance reports with actual work done. Through this the management will get a value free measurement criterion to improve its field staff. Decentralization of implementation and evaluation will then reduce travel cost, cut red tape and speed up joint activities with external pressures.

Development of Training Programs

Next to the desired policy intervention by the government the proposed plan relies on training more than on any other variables because:

1. The proposal departs from the conventional methods of program planning. The proposal uses an entirely new approach where program identification and development is considered as a learning process that emerges from the analysis of on going programs.
2. The proposal also deviates from the conventional approach to extension education (Arnon, 1981; Gill, 1984; Howell, 1977; Monu, 1982; Von Blanckenburg, 1982) where adult farmers are considered as mere recepients of information. Inherent in the proposed approach is the belief that the peasant is capable of experimenting and appreciating knowledge. The argument is that the peasant's stock of knowledge, although non-experimental, comes from naturally laid down experiments. The scientists' or educationalists' catalytic role along side the peasant would thus be that of reducing the dissimilarity from the naturally laid down experiments carried out in more dimensions than could be done by the peasant. The scientist, therefore, has to learn to see nature in approximately the same dimension as the peasant, while retaining his additional views if he is to be effective in his analysis. This philosophical reorientation strongly requires training and retraining. Available sources on how agriculture was transformed in Denmark, the Netherlands and Japan (Schultz, 1970) indicate that reorientation and investment in the education of farm people to be the main source of agricultural growth.

3. Experience indicates that genuine educational programs were thwarted not only due to lack of policy or proper educational program planning but also due to lack of a training component. Benjamin (1981), Coombs (1974), and Lele (1975), for example, attest that the better
designed projects generally include a training component, yet the project planners rarely give sufficient attention to the design of training.

To effect the training program the scattered training units will be consolidated under one division for direct access to training facilities. Since training institutions and public halls are already available to the MOA, the required task is to conduct training needs assessment and conduct training programs. The components of the required training are as follows:

a) Training of farmers
b) Training of extension agents
c) Training of extension supervisors
d) Training of research workers and
e) Training of trainers

These training programs will be mounted at different levels. Although the levels of training and level of sophistication vary, what has to be taken for granted is the famous Ethiopian proverb which says "he who learns teaches." According to this proverb, all participants in these jointly coordinated attacks to rural poverty and education should learn and master the policy itself. This mastery can be accomplished by organizing an orientation seminar for policy interpretation. In this orientation seminar participants have to be drawn together irrespective of where they are located in the hierarchy of the organization. This means participants are extension
agents, supervisors and administrators, research workers and trainers themselves.

This primary seminar should deal with how to communicate the policy within the MOA, with other organizations and with farmers. The communication aspect of this orientation seminar should have an objective and be directed to sensitize officers. The most significant outcome would be the reorientation of field workers, so that their particular lines of work in research, extension, training and administration are viewed not as specializations but interdependent functions in a system designed to achieve a common objective.

In addition to focusing on communication, the seminar should address planning and implementation of the policy. It was found important to conduct such training at the regional level while the same pool of experts organize and conduct the seminar throughout (Warner and Kefyalew, 1980).

The orientation seminar has to be considered as a prelude to a chain of continuous training programs. The training division in collaboration with the farm information unit will redefine training and in-service training in terms of development and application of knowledge, and skills needed to improve ability to solve problems. Through the assembled facility the division will also produce simple teaching aids, such as those developed by the Ethiopian Nutrition Institute (originally a Swedish project), which are effectively used and distributed by
extension groups to supplement lecture discussion. These are believed by this researcher to have a real value in communicating new ideas to extension personnel and farmers.

Many implementation difficulties seem to arise from lack of basic extension knowledge and how to administer extension programs. Therefore, accepting these constraints and deficiencies, the following training in the form of in-service training or a block of time for program staff to systematically analyze the program success or failure (Sork, 1981) needs to be organized.

Teshome (1979) and IBRD (1973) indicated that most extension officers were not trained in extension and also were not prepared by their studies to effectively deal with peasant farmers. Therefore, during the initial stage of orientation it is important and vital to enforce and emphasize the philosophical and democratic nature of extension education to the would be facilitators of agricultural development. Inherent in this philosophical question of extension education there is embedded a reality that "subsistence farmers are mature, adult, rational individuals" (Jedlicka, 1977, p. 42). Accepting this assumption implies a house cleaning within the MOA, whose essential task is to arrange organizational conditions and methods of operation so that people work together towards the objectives.

This approach, in addition to helping reduce the difference in perception and value regarding peasants and
farm problems, will also widen the knowledge of officers about extension education. To reduce unrealistic expectations both from the organization as well as from the new approach, the orientation must also address the planning context. This discussion of context should include internal structure, mode of operation, possible barriers, constraints and specific role to be involved. Airing out clearly what is possible within the limit of the organization will reduce false promises which themselves increase program negativism of the peasantry.

To effect this end it is of prime importance to supply a manual of the extension program to all participants. The manual should describe and explain the extension-research-training policy, organizational objectives, role and relationships of different people in extension.

Periodic in-service training should be organized around important behavioral sciences such as education, sociology and management administration. The agricultural science part of the in-service training needs to be closely tied to field problems revealed by adaptive research teams and requires the involvement of the College of Agriculture for better use of facilities and experts available.

Summary

The different extension models employed by countries similar to Ethiopia and the degree of model success were examined. In all cases the major ingredient for success
was found to be the deliberate effort made to improve the extension program development process.

An alternative strategy was presented for Ethiopia. The alternative starts with policy inputs by the government through the national agricultural coordinating council. To prevent confusion in the implementation of the alternative strategy, orientation and training of participants is considered as part of the program planning. Given a defined policy and clear objective it was found by this researcher important to conduct interdisciplinary situation analysis.

Comprehensive administrative planning was taken as a means to implement and coordinate efforts. Coordination was taken as a problem of resource acquisition and used to dispense educational services. To overcome these problems a strong emphasis was given to policy statements to develop formal cooperation. This formal cooperation involves formally ordered relationships, legitimation and reliable communication channels. This cooperation was indicated in the design of administrative planning and organization in the formation of a joint data bank in the Farm Information Service; decentralization of implementation for prompt communication; and increased feedback between programs with a strong recognition of central decision making body staffed with development minded persons. The main factor that underpins this administrative planning was implicated
throughout to be a policy that gives a mandate, legitimizes and funds the coordinated effort.

The administrative planning which requires a coordinated effort to organize, direct, staff, budget and report is given due consideration in the alternative strategy. This planning occurs under the proposed organizational model where the national coordinating council advises the MOA in all matters concerning agriculture. The ministry is anticipated to be organized into three major technical divisions which directly come under one Director of Research and Extension. The three divisions, Extension, Adaptive Research, and Training concentrate on feeding important findings, recommendations and resources to the farm information unit.

The farm information unit which documents and disseminates developmental knowledge will combine mass media and area extension to supply regionally based information. In this setup the adaptive research, extension and training are integrated at one point. Through farm information and local extension agents it is easy to know what happens to disseminated information or programs implemented for quick improvement. Since the regionally organized adaptive research team conducts research under local farm conditions and also participates in training extension agents and farmers, the organizational setup will satisfy the question of compatibility and relevancy of a given recommendation.
This assurance of compatibility and relevancy implies good credibility for local extension workers important to motivate farmers involved in their own education. The training component was presented in such a way as to operationalize the goals and the steps to attain program credibility. Under this context the next chapter discusses the summary and main findings of the study.
CHAPTER SIX

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The purpose of this chapter is to highlight the background of Ethiopian agriculture against the progress achieved and problems identified. The first section of the chapter delivers a summary of this background. The second section presents the main findings of the study and discusses the research questions. This is followed by the conclusions and recommendations that the researcher made as a result of this study.

Ethiopia is a country of peasants with a relatively traditional agricultural system. Agriculture, the cornerstone of the Ethiopian economy, is still the work of scattered and isolated peasants. Efforts to transform the subsistence agriculture to modern scientific agriculture seem to have met with little success.

One of the major institutions responsible for the country's agricultural and rural development is the Ministry of Agriculture (MOA). Although the MOA was said to be the major Ministry responsible for extension programs, history indicates that the Ministry was not able to organize and coordinate rural education. Structurally, the Ministry does not seem to be organized on sound administrative principles to run development activities such as extension education. There are gaps between
research, extension, training and the farmer; the gap between knowledge and practice within MOA is usually wide. Even after the national extension service adopted the minimum package idea as the guiding concept in program development, extension, research and training were not treated as mutually dependent, interacting activities essential to the improvement of agriculture.

The success of CADU in a very short period of time indicates the three most important factors missing in the Ethiopian extension program since 1952: (1) a defined program planning mechanism, (2) a well organized training program, and (3) innovative leadership. These factors, more than making CADU a truly educational organization, reflected the belief that development starts with people, their education, their organization, and discipline.

The success of extension in the CADU area seems to indicate the fallacy of a shortage of man-power by showing the real problem to be, fundamentally, "officials" (policymakers, planners) who do not know how to make an effective use of available man-power to develop and implement a given program.

Available documents indicate that there is no mechanism within the MOA to cultivate the human resources needed to run effective extension programs and no coordinated utilization of other resources available in the country.
The bottlenecks in the Ethiopian extension service seem to result from lack of coordination, inadequate appreciation of the true extent of the need for program planning, and inappropriate structure of the institutions involved in the delivery of development education. A typical example is the general emphasis on production techniques, without considering the cultural milieu and educational need of the peasantry.

In practice, this is a top-down communication exercise based on the perceived needs of the farmers which requires no context and client analysis, no problem identification, no defined objectives, and no evaluation. The approach seems to treat farmers as mere recipients of technology and considers fertilizer consumption as a proxy of participation in the extension program. As a result, extension program implementation in Ethiopia can be said to be simple distribution of fertilizer and credit with no systematically organized educational programs for the farmers.

The focus of this study has been to answer the following questions in line with basic planning models identified in this research.

1. Is there any congruence between the current program planning mechanism used in Ethiopian extension and what the theoretical literature prescribes as good planning?
The answer is no. Excluding the CADU program planning practices, there is no visible similarity between what one reads in the literature and what one observes in Ethiopia. Program objectives and priorities are determined in one central office with no input from extension clients. In fact Ethiopia is especially noted by UN/ECA (1971) as a case where the extension workers are not acquainted with their country's programs until the plan documents are ready for implementation. According to Kulp (1970), the operational philosophy in Ethiopia is "here are the goals and resources" (p. 91), now implement the program.

Neither the programs of the comprehensive projects nor the Minimum Package Programs have arisen from a natural sequence of program planning steps. The concepts of client and context analysis, evaluation, and modification of programs are virtually absent. New programs are usually introduced all at once and are never systematically evaluated.

The concept of joint programming and joint target setting, which the planning literature identifies as good planning procedures, is not practised. A lack of understanding by planners of the real-life situations of farmers and particularly of their educational needs has led to the creation of institutions, such as peasant associations, cooperatives, and settlement schemes, rather than developing sound relevant educational programs. Since the system has no visible self-evaluating mechanism,
information collected on these institutions over the past 35 years has not been used adequately to make a contribution to extension education in Ethiopia.

Examination of efforts to bring agricultural technology within reach of farmers indicates that there were no similarities between program development and implementation, and what Chambers (1974), Kulp (1974), and Sork (n.d.) state as effective planning. As a result of these incongruencies, after 35 years of extension work, the same programs are constantly revived and pursued.

2. What weaknesses exist in the current program planning mechanism?

Available planning models consider context and client system analysis as a basic step toward developing a program because the social, economic, and educational forces present in any community affect the entire programming process. This is why the proper identification of local technology, opportunity, and approach to farming communities lies at the very foundation of sound extension programming.

Within a given Ethiopian community local diagnosis to identify what to do with what tools was apparently lacking. No emphasis was given to make context and client system analysis more localized, more relevant to the possibilities of action. The analyses performed did not consider social factors nor did they involve those officials and farmers
who would be responsible for implementation of the programs. The main benefit from local diagnosis and local prescription, avoidance of the local misfit of centrally designed programs, was not exploited.

The major weakness of the planning mechanism in Ethiopia is its inability to design a workable administrative plan. The mechanism neglects proper design and timing of work, allocation of viable workloads and monitoring of its staff and programs. Most program documents from MOA and EPID do not provide a clear statement of what should be done and why, nor do they give basic standards for achievement (IBRD, 1973; Stommes and Seleshi, 1979, 1980).

Administrative plans do not clearly state how, where, when, and by whom the program should be developed and implemented. The system of agricultural extension in Ethiopia seems to be very weak in the area of administrative planning and management functions. Except for budgeting and annual reporting, there is no satisfactory document that states proper procedures for organizing, staffing, directing, and coordinating resources and facilities. As a result, the planning process seems poorly coordinated with plan implementation.

An inability to distinguish between coordinative structure and coordinating functions seems to compound the problem of coordination. The reorganization of MOA and the merging of two or more organizations with dissimilar
objectives seems to generate more coordination problems. Incidentally, it does appear that after 1974, Ethiopia seems to have created structures that generate internal or external conflict, destroying any coordination effort at an early stage.

Obstacles, such as boundary definition among personnel and institutions, competition and compartmentalization nurtured by complicated structures, vague policy declaration on the establishment of agency over agency, post on posts seem to be the major ones (IBRD, 1973). The separation of research and extension, the isolation of MOA from having any say on the matter of agricultural education seem to be contributing factors hindering a coordinated approach (Kefyalew, 1981).

Although all planning models recommend a strong training component in program development and implementation, the Ethiopian Extension Service does not provide even minimum orientation for its staff and participants (Gizberg and Smith, 1967). Neither the extension officers or the farmers receive organized training in the form of orientation programs, on-site training, workshops, or seminars.

3. What changes in the program planning mechanism might bring about the greatest improvement in Ethiopian agricultural extension?
Planning is the key management function of any extension service. Regardless of whether it is a case of planning long-term MPP priorities or planning a two-hour training seminar, the planning aspect of program planning is the major contributor to success. Essentially this is true because planning is a futuristic activity; it is designing the future, anticipating problems, and imagining success. For planning to achieve these goals in Ethiopia there is a strong need to change the entire approach to the extension program development process. The reorientation and re-valuation of programs and staff is necessary in order to bring about the desired change.

Reorientation is necessary for the extension organization and its staff so that there is a clear statement of the extension philosophies, objectives, and policies that direct extension programs. Re-valuation is needed to establish formal and informal organizational structures, and to set priorities through revising objectives in terms of changing situations, and obsolescence of knowledge, skills, and attitudes. Reorientation and re-valuation are thought to create an atmosphere conducive to effective planning (Chambers, 1974; Whyte, 1975).

Effective planning identifies and defines the problems of clients. It develops various alternatives and evaluates the actual decision and the decision-making process. It constantly defines and communicates the program's purpose so that activities are coordinated.
A desirable change in the Ethiopian program planning mechanism would be one that gives a strong emphasis to client and context analysis, to proper and innovative administrative planning, and to evaluation. However, final achievement of goals depends upon the initiative and self-organization of the farmers themselves. Therefore, growing participation of farmers, leadership training, and strong staff-training should be considered as a major approach towards improving program planning in Ethiopian extension.

Program planning is a dynamic system of interactive processes. These interactive processes should be considered when changes to the planning mechanism are contemplated.

Conclusions

The performance of CADU has adequately demonstrated the effectiveness of a sound extension program. CADU, through its package concept which united research, extension and training under its nonformal education strategy, demonstrated beyond doubt the potential of yield increase through education. Their success stimulated the MOA which resulted in the emergence of EPID as a part of MOA which administers extension at a national level.

Today, what seems to be holding up the progress in the domain of agriculture is not so much the lack of demand or lack of participation from the farmers, but the lack of
well designed programs. What is needed, if past mistakes are not to be repeated, is empirical field research in program planning. This would help to identify or anticipate what bottlenecks do exist or are likely to be created as a result of a given program. This empirical research should delineate areas and targets where program objectives should focus.

Agricultural education programs, which particularly focus on peasant agriculture, are crisis-prone. This means there are constant encounters with unanticipated problems. These kinds of problems can only be reduced with proper target identification and continuous evaluation. Monitoring the daily activity during implementation contributes to the immediate control of unanticipated effects. In short, crisis-prone rural education programs require a deliberate examination of limits, constraints and a constant evaluation of one's effort toward the goal.

Next to program planning, extension education in a country such as Ethiopia requires a mix of services, facilities and diverse human expertise. This is certainly beyond the capacity of one organization. Above this, most extension participants in Ethiopia seem to have an integral world view where specialization of organization in a given service, or the specialization of experts, is considered insignificant. Given this condition, extension programs should always consider the interdisciplinary approach and internal and external coordination of activities and resources in its entire process.
Recommendations

Experience gained in extension programs from 1952 to 1980 indicates that the poverty of Ethiopia is not due to a lack of natural wealth or lack of international support necessary to initiate a sound development program. The causes of poverty and a continued decline of quality of life in Ethiopia seems a chronic deficiency in education and organization. For this reason the following recommendations are considered important:

1. Policy statements, important to direct a given educational program, should emerge from the identification of concrete educational needs of farmers. This policy should also establish priorities among competing educational needs. Such a policy should treat agricultural education comprehensively to embrace the entire rural population and their learning needs as well as the full spectrum of different opportunities and methods of educational delivery.

2. Planning of extension programs should begin with client and context analysis, and identification of organizational constraints to achieve a desired objective to reduce failure and frustration. The multiple inputs involved in most extension programs, such as home economics, family planning, crop production and soil fertility, etc., require evaluation of the program from the multiple input point of view.
As a basic ingredient and indication of the democratic nature of extension education, program development in extension should be seen always as a joint activity of an extension agent (subject matter specialist) and a farmer.

3. To maintain relevancy in extension, it is important to place extension research and training under one organization. Therefore, a key concept in organizing extension programs is to form a unity in production and dissemination of agricultural information. This will help to treat farming and farmers' problems comprehensively, with minimum impediments. Above all, such an approach to extension organization makes the program truly educational and helps participants feel as a full partner of change in the process of learning and teaching. This approach contributes to the process of learning and teaching by directly helping to design appropriate instruction.

4. Coordination of programs and delivery of service should be given top priority. Goodwill is not sufficient to achieve coordination. An authority to give orders, direct and evaluate the coordination effort is required. Coordination at all levels must have as its objective the delivery of more effective service to farmers. This requires an integrated approach to the rural education, including administration, organization
and evaluation. Coordinating the administrative sector without coordinating the other sectors produces no visible results.

5. A training program is simply the structured arrangement of activities which facilitates learning. Its function is generally the heart of any effort to reduce visible disparity between knowledge and practice. This is mainly because learning is the acquisition of new behaviours, attitudes, skills and knowledge (Jedlicka, 1977). Training reduces the disparity or deficiency in education, organization and management. If properly designed and directed toward a certain program planner and implementator, training programs help to bring a fit between planning and implementation.

Program implementation means to translate ideas into action. The action is carried out by people. In extension programs, this action is expected to meet the requirements of government policy and basic adult education principles, and in the case of Ethiopia, extension workers can not meet these requirements. This is because there is no organized, systematic and timely training programs for officers. It seems that neither staff training, nor the value of training, is considered as an integral component of management action. The nature of extension in Ethiopia seems to be teaching without learning, integrating
different activities without consolidating structures and polices.

This being the general practice, it is strongly recommended that Ethiopia develop a strong training component for extension staff and farmers to remedy most of the ills in extension programs.

Training in the form of in-service program seminars, workshops, and annual staff meetings which were not considered in any of the examined documents, can easily be organized. To achieve the desired result through training, a strong training policy is highly needed.

The training policy for MOA should be set up to ask and answer such questions as:
1. How can extension objectives be assisted by training?
2. What is the purpose of training and what priority will it have?
3. Who is responsible for training programs?
4. What kinds of training are required?
5. In what way should training be delivered?

The above questions are of value only if associated with decision making. That is to say, improvement in Ethiopian Extension Service depends on how the above questions, which are basically program planning questions, are accepted and answered.

The main purpose of this study was to examine the different programming models relevant to agricultural extension and formulate a set of principles to guide
planning activities in Ethiopia. Pursuant to the theoretical frame of reference which was based on Sork's basic planning model extension program planning mechanisms were examined in the study with particular emphasis on organizational structure, coordination and training.

In the process it was found that there has never been any single legislative act in Ethiopia to spell out and make provision for a specific and systematic extension service as a part of the adult education system in the country. The goals and objectives of agricultural extension programs are so diffuse and sometimes ambiguous enough to permit a wide range of interpretations.

Since educational work competes with other MOA programs decision making for extension education seem to come from day-to-day pressures, not from well planned study.

This indicated a weak organizational set up and unplanned and uncoordinated work. The coordination of extension methods, techniques, and resources used to teach peasant farmers was either weak or unavailable.

The study has identified a number of organizational and situational factors which affect the success of effectiveness of extension program planning in Ethiopia. These include administrative bottlenecks under which all other factors are subsumed. On the basis of this major problem the study identified an alternative strategy where context analysis, coordination, administrative planning,
and training component are given the highest priority in program planning.

The writer believes the results of this study are congruent with the formulated objectives. It is anticipated that the alternative strategy will provide administrators and donor agencies with important information. Given the necessary policy support the alternative planning strategy will help extension planners and administrators in decision making for program choice, selection of training, and supervision of extension work, which are basically missing in Ethiopia.
REFERENCES


¹Note: Ethiopian names are not abbreviated. In Ethiopia people are always addressed and listed by their first name, as the second name is the name of their father. Names are alphabetized by the first name rather than by the second (Pausewnag, 1973).


Hailu Gebre. (1979) *Agricultural research in Ethiopia.* Addis Ababa: Field Crops Department, Institute of Agricultural Research.


