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A COMPARATIVE STUDY OF JOB PERFORMANCE UNDER TWO APPROACHES TO AGRICULTURAL EXTENSION ORGANIZATION

by
JOHNSON AVBINIOVURUE EKPERE

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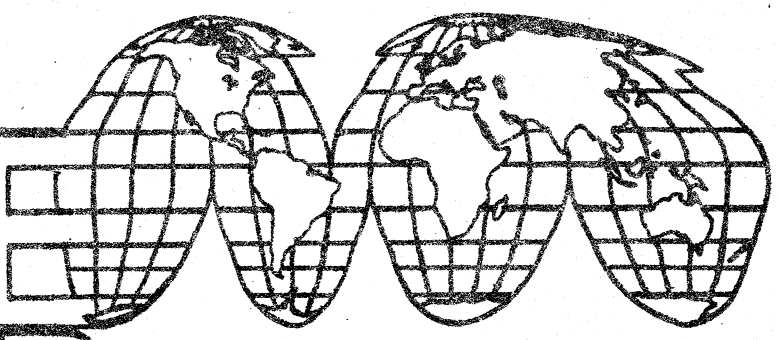

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A COMPARATIVE STUDY OF JOB PERFORMANCE UNDER TWO APPROACHES TO AGRICULTURAL EXTENSION ORGANIZATION

by

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All views, interpretations, recommendations, and conclusions are those of the author and not necessarily those of supporting or cooperating agencies.

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I. INTRODUCTION

A. The Problem

One of the controversies today in agricultural development (particularly in developing countries) is whether agricultural extension should be structured as a multi-purpose institution or organized on single commodity lines. The main purpose of this study is to determine factors that affect job performance dependent on the two extension approaches by using the Midwestern State of Nigeria as a test site.

In most developing nations of the world, the agricultural extension service is the most important public service institution with a wide range of responsibilities for agricultural and rural development. Its formative years were influenced by the pursuance of an extractive policy which emphasized the production of export crops to satisfy the industrial demands of Europe. Research concentrated on developing technology, necessary for the expansion of export crops. Departments of agriculture were organized to provide extension advisory services to farmers based on the production of single export crops. Historically then, the creation of single commodity research institutes was accompanied by the establishment of field units with extension functions. In Malaya (Malaysia), the Rubber Research Institute organized a smallholder advisory service based on a single commodity for which a backlog of production technology was available. The expansion of tea and coffee production in East Africa followed a similar pattern and the production of cotton in the Sudan emphasized a similar structure in the Gezira scheme.

In Nigeria, the situation was not different. The early development of agricultural research by the British Cotton Growers Association was accompanied by an advisory service function to provide information of a specific nature to farmers on the production of cotton. Subsequent efforts of the department of agriculture to diversify agriculture resulted in the establishment of several commodity research institutes, including the West African Cocoa Research Institute (now Cocoa Research Institute of Nigeria), the West African Institute for Oil Palm Research (now Nigerian Institute for Oil Palm Research), West African Maize Research Institute, etc. The intention was that as needed technology became available each of these institutes would operate separate extension programs for farmers. Because of political developments in West Africa, constitutional changes in Nigeria, and contact with the United States pattern of cooperative extension service, there was a shift to a new pattern of organization, which will be referred to in this study as the general extension approach.

When the Midwestern Region of Nigeria was created in 1963, it continued to implement agricultural extension programs through a general extension service within the Ministry of Agriculture and Natural Resources, as was the case in the Western Region (the region from which the Midwestern State was created). In 1968, the government recognized that the state was losing revenue from rubber, which, at the time, was the major export crop. This loss of revenue was attributed in part to the failure of the agricultural extension service to reach farmers with the relevant and

convincing information on how to increase production. To ameliorate the situation, a rubber division was created in 1969 with a separate extension service and budget to implement production and quality improvement programs with rubber farmers in the state.

The decision to create a rubber division may have been made on the premise that if there were factors endemic to the old system, the new rubber extension service would be free of such factors. Most of the reasoning behind the advantages of the single commodity orientation to extension and the limitations of a multi-purpose extension system are based on subjective opinion instead of objective empirical evidence from research. There is, therefore, a need for research to provide better insights into the key issues involved in the argument. Some of the questions being asked in this study include:

1. Is the single commodity a superior approach than the multi-purpose orientation to extension programming? Do extension workers perform better under a single commodity extension service than they do under a multi-purpose organization?

2. If so, what factors account for their superior performance?

3. Is reorganization, per se, from multi-purpose to single commodity structure, the important factor in the differential performance of extension workers, or are there other more dynamic factors involved? If so, what are they?

4. What implications could be drawn for extension organization and program implementation under either systems of extension service?

B. Objectives of the Study

The focus to this study is the job performance of agricultural extension workers operating under the two approaches to agricultural extension organization in the Midwestern State of Nigeria. The specific objectives are:

1. To determine the level of performance of agricultural extension workers employed under the general extension and rubber divisions in the Midwestern Nigeria Ministry of Agriculture and Natural Resources; and

2. To identify and discuss factors that explain differences (if any) in the levels of performance of agricultural extension staff working under the two approaches to agricultural extension organization.

C. A Historical Review of the Nigerian Agricultural Extension Service

The early history of agricultural extension in Nigeria can only be discussed in the context of agriculture and its development, when what

is formally referred to today as agricultural extension existed merely as a function. Attempts at the application of science and technology to the problems of agricultural production started with the establishment of the Department of Botanical Research in 1893 near Lagos (Olokomeji), and of the British Cotton Growers Association in 1905 in Ibadan. A unified Department of Agriculture was created in 1921.

At its inception the objectives were:

1. Experimental production of export crops;

2. Improvement and maintenance of soil fertility;

3. Efficient marketing of agricultural produce;

4. Introduction of agricultural education for the training of Nigerians, which later culminated in the establishment of schools of agriculture for the training of intermediate agricultural officers;

5. The establishment of the beginnings of agricultural extension.

In the first few years of operation of the National Department of Agriculture following 1921, the program was largely one of governance and regulation.[1] This was to be expected since Nigeria was a British colony. However, following major constitutional changes in 1954, and the creation of Regional Ministries of Agriculture and Natural Resources, there was greater specialization of functions and the agricultural extension service division of the Ministries became increasingly more involved in supply and education functions.

Up to this time the development of agricultural extension function in Nigeria was greatly influenced by the British and Western European agricultural extension concept of helping farmers increase production. As a result of limited experience (the National Agricultural Advisory Service was only ten years old) and the implementation of an extractive agricultural policy, the idea of regulation and service was very functional in attaining government objectives of increased agricultural production.

The organization and role of the agricultural extension service has been in transition ever since. The post independence years have been characterized by experimentation with new doctrines and traditions of agricultural extension. The United States model of agricultural extension which emphasizes personal contact with and education of the farmer has had a permanent impact in shaping the prevailing concept of agricultural extension. Along with extensive staff development and improvement in competence, agricultural extension has now shifted its emphasis from governance and

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1. George Axinn and Sudhakar Thorat, Modernizing World Agriculture: A Comparative Study of Agricultural Extension Education Systems (New York: Praeger Publishers, Inc., 1972), p. 37.

regulation to agricultural information dissemination through education. Education is a slow process and to a country whose industrial growth and overall development depend on a fast growing primary production sector, evaluation of the impact of agricultural extension indicates the extension services are doing an inadequate job. Foreign exchange earnings from agriculture no longer account for as much revenue as they once did, and the increasing cost of food in urban areas is blamed on agricultural extension's inability to convince more farmers to use the best available technology to produce the most food.

D. The Organization of Agricultural Extension Service in Midwestern Nigeria

The Agricultural Extension service of the Ministry of Agriculture and Natural Resources in the Midwestern State of Nigeria operates within the framework of a civil service structure in planning and implementing its agricultural and economic development programs. The political head of the Ministry is the Honorable Commissioner (Minister) of Agriculture and Natural Resources, who is directly responsible to the Governor and Cabinet. The administrative head of the Ministry is the Permanent Secretary, who is also the chief advisor to the Honorable Commissioner on policy and administrative matters affecting the Ministry. Directly below the Permanent Secretary are two administrative divisions* (positions) and one technical division* (position). The two administrative, non-professional divisions--the administration and general division and the establishment and finance division--assist the Permanent Secretary with matters relating to general administration, budget, personnel recruitment and placement. The technical division is headed by a Controller of Natural Resources who is the chief advisor to the Permanent Secretary and has the responsibility of securing the coordination of the activities of all the professional divisions of the Ministry of Agriculture and Natural Resources.

Functionally, the Ministry is divided into five professional divisions:

1. Fisheries;
2. Forestry;
3. Agricultural Services;
4. Veterinary; and
5. Produce Inspection.

The remainder of the discussion in this section will focus on the Agricultural Services Division, which has the responsibility for agricultural extension. This division is headed by a Chief Agricultural Officer. He coordinates the activities of the division and is the chief advisor to

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*Throughout this study, "division" will refer either to a government unit responsible for program and management functions, i.e., extension division, plant protection division, etc., OR a geographic area with certain political and administrative boundaries, i.e., Ishan, Etsako or Benin West.

the Permanent Secretary and Honorable Commissioner on agricultural development matters. The Chief Agricultural Officer is assisted by six deputy chief agricultural officers each of whom has responsibility for one of the six sub-divisions comprising the agricultural services division viz:

1. Food Crop production;
2. Animal production;
3. Tree Crop production;
4. Rubber production;
5. Research; and
6. Training and special services division.

In addition to the six divisions, there is an agricultural planning unit supervised by a professional agricultural economist. He coordinates the plans and programs of all divisions, monitors plan implementation, and carries out periodic evaluation of achievements.

Figure I shows the organizational chart of the State Ministry of Agriculture and Natural Resources.

The two systems of interest to this study are the rubber division and the general field extension service, which although it has not been identified separately as a division exists as a field activity partially responsible to the chief agricultural officer and to the deputy chief agricultural officer in charge of the Training and Special Services division. The details of organization and functions of these two systems follow.

E. Agricultural Extension Field Organization

In so far as the functions are concerned, a distinct feature of the agricultural extension service in the Midwestern State of Nigeria is that its organizational goals are not purely educational in scope. As Axinn and Thorat indicate, the functions of agricultural extension include governance, supply, service, and education.[2] Kincaid alluded to this point when he indicated that "since Nigeria does not have a developed private agricultural business sector to supply inputs (seeds, plants, material, fertilizer, pesticides, etc.) essential to the adoption of recommended practices, government has filled this need."[3] The major share of responsibility for the collection of agricultural statistics, organization of young farmers clubs, the operation of extension work stations, and indirect agricultural production activities through the operation of special projects also falls on the agricultural extension service.

To implement the above functions, the agricultural service division of the Ministry has a field extension service component organized and

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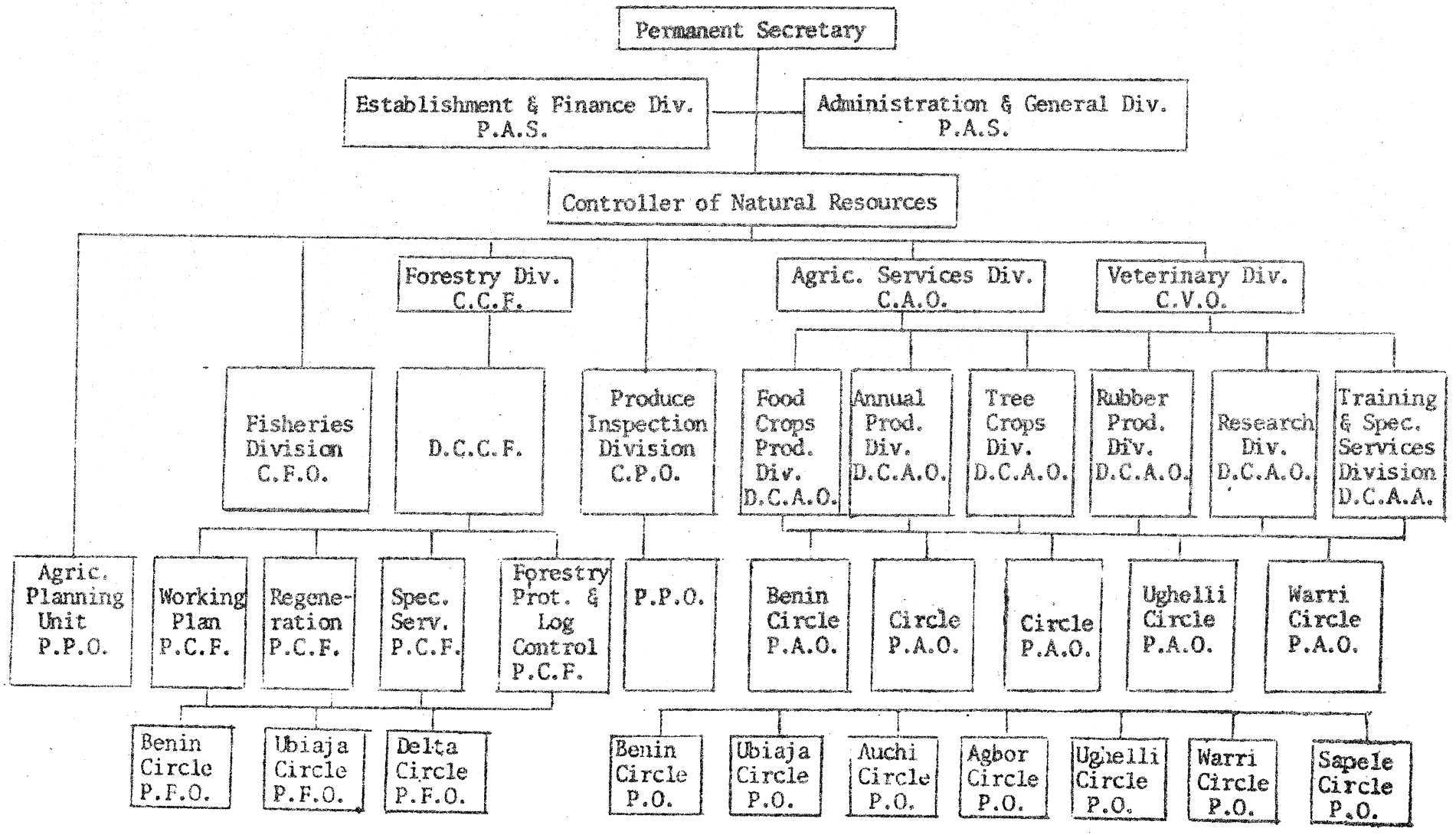
2. Axinn and Thorat, Modernizing World Agriculture, p. 162.

3. James Kincaid, Jr., Strategies for the Improvement of Agricultural Extension Work and Non-Degree Agricultural Training in Nigeria, CSNRD-13, (East Lansing, Mich.: Michigan State University, September 1968), p. 26.

FIGURE I

ORGANIZATIONAL CHART OF MIDWESTERN STATE OF NIGERIA
MINISTRY OF AGRICULTURE AND NATURAL RESOURCES



administered at the circle,* division,* and zonal* levels. The state is divided into three circles, fourteen divisions, and about one hundred zones. Functionally, the activities of all six technical subdivisions of the agricultural services division are represented at the three circle headquarters and their accompanying administrative subdivisions. Each circle is supervised by a Principal Agricultural Officer who has responsibility for overall agricultural policy, supervision, and program implementation in that circle. Administratively he is held accountable for programs by each of the six deputy chief agricultural officers for their subject matter areas.

F. The Organization of the Rubber Division

Rubber has been an important cash crop in the Midwestern State of Nigeria, contributing to the social and economic welfare of the people. Over eighty percent of the natural rubber exported from Nigeria every year is produced in the Midwestern State and it is estimated that there are about 525,000 acres of mature and tappable rubber growing in the State. The industry employs about 70,000 farm families, with about 300,000 people wholly dependent on rubber production for their livelihood.[4] The export value of rubber from the State peaked in 1960 when the gross sales totalled N£11,861,992.** In 1965, a total of 66,276 tons of natural rubber valued at N£9.57 million was exported from the State.[5] During this same period, sales tax valued at N£120,000 was being realized annually. However, just prior to and after the civil war the production of rubber declined at so fast a rate that the government expressed concern on how to stop the downward trend and consequent loss of foreign exchange revenue.

Similar concerns were expressed in previous studies of the rubber industry in the State which warned of total collapse if government intervention was not fast coming.[6] Specifically, the report on the production of raw materials indicated that:

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*As is the case with division, the terms circle and zone refer to geographic areas with political and administrative boundaries, e.g., Benin and Delta circles or Ologbo and Ekpoma zones.

4. Ministry of Agriculture and Natural Resources, "Report on the Production of Raw Materials" (Benin City, Nigeria, 1968), p. 47.

**One Nigerian pound (N£1) was equal to $2.88.

5. Ministry of Agriculture and Natural Resources, "Production of Raw Materials," p. 46.

6. Kurt R. Anschel, "Problems and Prospects of the Nigerian Rubber Industry," Nigerian Journal of Economic and Social Studies IX, 2 (July 1967): 145-159, and Food and Agricultural Organization, Agricultural Development in Nigeria: 1965-1980 (Rome, 1966), pp. 151-56.

1. The state of the industry did not seem to show that past recommendations had been vigorously implemented.

2. The system whereby rubber programs were being carried out within the context of general extension was unsatisfactory.

Therefore it recommended that a Rubber Division be set up, separate from the general extension service, to concern itself with programs necessary to restore the industry to its 1960 status.

Accordingly, in June 1969, the various schemes and activities on rubber production in the State were integrated under a single division in the Ministry and designated, "The Rubber Division."[7] The core staff of the division was drawn from the Ministry in the area of production, processing, credit, and marketing. The functions of the new division were the encouragement of farmers in the production of clean and high quality natural rubber sheets, and the improvement of the industry through the provision of planting materials--seedlings and budded stumps--to farmers, the training of farmers in rubber establishment, maintenance and management, processing and marketing.

1. Policy objectives and target of the Rubber Division

The policy of the Midwestern Nigerian government on rubber development was to provide technical advisory services and incentives to primary producers of rubber in the State, so as to reverse the trend of decreasing rubber production, and, if possible, exceed the pre-civil war production levels. Second, it was the policy of the government to take actions that would improve the quality of exportable rubber produced so that the State's produce could command a higher and competitive price on the world market. It was intended in this process that the primary producer would be better remunerated through increased local prices and thereby improve his own standard of living.

To accomplish these policy objectives, the division was to plan and implement field programs to:

1. Pursue a vigorous training program designed to produce a labor force of rubber tappers and processors capable of harvesting a larger acreage of mature rubber in the State;

2. Make available to the small rubber farmer or his itinerant farm laborer the necessary materials and equipment essential for proper harvest and processing of rubber latex into high quality rubber;

3. Encourage and assist the development of cooperative rubber processing groups known as alliances, and enhance more efficient

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7. Ministry of Agriculture and Natural Resources, "Rubber Division," File No. ARC/59, 1968-69 (Benin City, Nigeria, 1970), p. 21.

use of available processing facilities. The cooperatives would serve as a forum for exchange of ideas and center of interaction between extension workers and larger concentrations of farmers;

4. Supply farmers with improved planting materials at highly subsidized rates, provide technical assistance in planting and maintenance techniques, and provide support for the rehabilitation of old rubber farms with new improved varieties;

5. Explore, assist, and advise on market locations, marketing channels, and current prices in order to increase farmers income and keep up productive enthusiasm;

6. Provide linkages between policy making bodies and large processors (e.g., crepe, crumb, and other factories dependent on raw rubber for their existence) to develop a viable and mutually beneficial relationship with primary producers;

7. Implement a special small holder scheme designed by the government to replant an estimated 100,000 acres of rubber in the State to improved varieties.

2. Organization and administration

The administrative and executive head of the division was the Deputy Chief Agricultural Officer (DCAO) who, at headquarters, had complete responsibility for program determination. When the Rubber Division was created (as a section) in 1969, it was with the specific understanding that the DCAO would take steps considered appropriate for implementing the policy objectives of the State's government. Accordingly, a supporting senior, intermediate, and junior staff complement was carved out of the general extension division augmented by new recruits to operate the division's programs. There was a nucleus of senior staff at headquarters who assisted the DCAO in the determination of program priorities, correspondence work, and public relation type duties in connection with budgets, records, and statistics. Each circle had a senior staff who had responsibility for coordinating rubber extension programs and liaison with other agencies and who was linked directly with the DCAO's office at headquarters. The senior or Principal Agricultural Officer (Rubber) in the circles had rubber agricultural officers, intermediate and junior staff members under him who implemented programs at the field levels. The position of the agricultural officer and agricultural superintendent (in some instances) were basically administrative. They were primarily supervisors of the contact men--the local agricultural extension workers designated as agricultural assistants, field overseers, and rubber demonstrators. There was a direct line of program and personnel between the headquarters and the farmer level concentrated only and entirely on the problems of rubber production. However, in April 1972, the situation of separation of extension functions between Rubber and other divisions of the circle, division, and zonal levels was abandoned. The field extension approach reverted to its old form--the general extension organization. However, the structure of the six divisions, including the Rubber Division, was retained at headquarters for planning and coordination purposes.

G. The Present Situation

When this study was first conceived, the understanding was that the General Extension and Rubber Divisions operated as separate agricultural extension organizations in providing service and education to farmers in the State. However, when this researcher arrived in the State in January 1973, the situation had changed. This section will briefly describe the present situation and indicate the argument for and against the change.

At the time that the data for this study were collected, the structure of the Ministry of Agriculture and Natural Resources was very much the same as that described earlier for the general extension service. But the Rubber Division as well as other divisions remained separate at the headquarter level for purposes of planning and coordination. No division operated a separate extension program at the field level.

The Principal Agricultural Officer in charge of each circle had control over all extension programs and delegated supervisory authority to agricultural officers who made sure that extension programs were implemented at local levels.

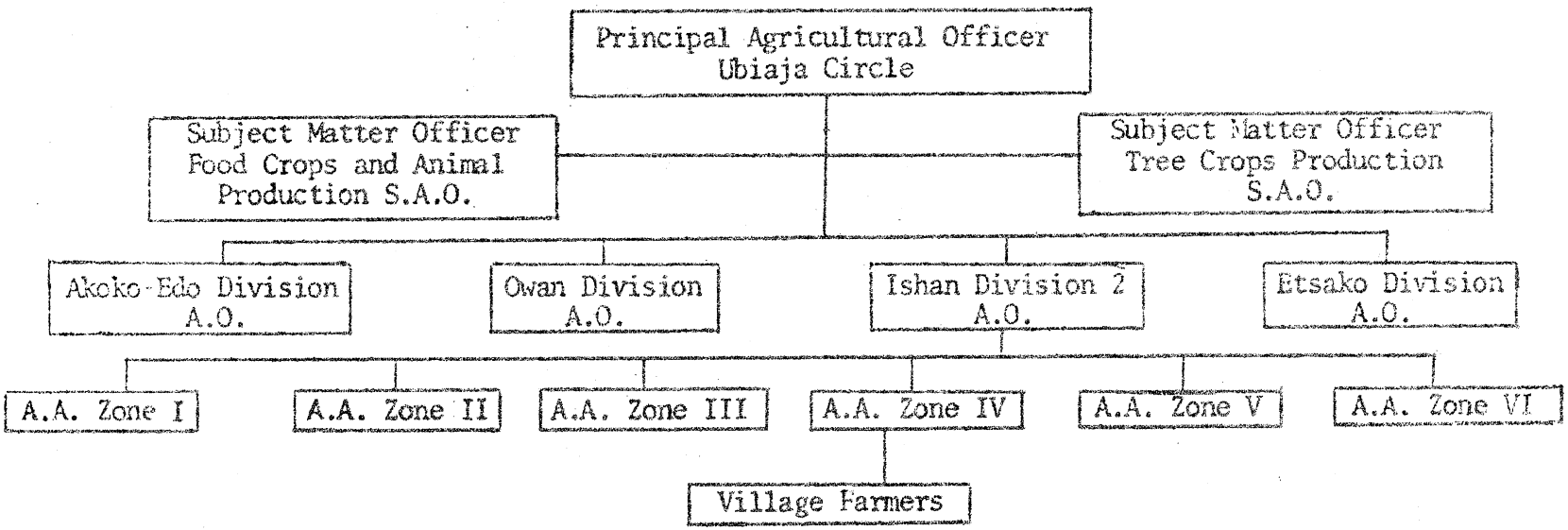
At the headquarters, there was no separate extension services division, but it was understood that the field extension function was the responsibility of the Training and Special Services division. Thus the principal agricultural officer was responsible administratively to the chief agricultural officer, answerable to each of the subject matter area deputies for programs, and yet reported to the Training and Special Services Division on extension matters. To cope with the complex nature of his job he was assisted by two senior technical staff (senior agricultural officers).

The present organization of agricultural extension service in the Midwestern State of Nigeria was very similar structurally to the system described earlier. The idea of a single commodity approach was accepted as a matter of policy in the Ministry of Agriculture and Natural Resources. However, the implementation of the idea through the entire organization met with strong resistance. To ease the tension, a compromise solution was adopted which retained the new six divisions structure (including Rubber) at headquarters and returned field agricultural extension service to the old form. The divisions were now to take on more planning and coordination functions. Each division was supervised by a deputy chief agricultural officer responsible directly to the chief agricultural officer. (See Figure I.)

The structure of the field agricultural extension service reverted to the old form, that is, the general extension structure. The principal agricultural officer regained supervisory authority over all agricultural workers in the circle and control over all programs. Figure II shows the organizational chart of a circle extension service. The line of authority and chain of command between him and his subordinates was clearly defined. However, his structural relationship with headquarter staff was a bottleneck to effective program implementation at the local level. The principal agricultural officer continued to be responsible administratively to

FIGURE II

AN EXAMPLE OF CIRCLE EXTENSION ORGANISATION OF THE MIDWESTERN STATE
MINISTRY OF AGRICULTURE AND NATURAL RESOURCES
DECEMBER 1972



Note:

1. Ubiaja Circle used as an example
2. Ishan Division used as an example
3. At least one Field Overseer is attached to the Agricultural Assistant (AA) in charge of an A.A. Zone but the number of Field Overseers in each A.A. Zone depends on the activities in the Zone.

the chief agricultural officer and to the six deputy agricultural officers for specific program areas. Communication coming in and going out of the circle had to be cleared through the office of the principal agricultural officer. Even though this arrangement served a useful coordinating purpose, the delay involved in getting messages and information through the system developed into a less than desirable condition for effective performance, particularly where quick action by the local extension worker was called for.

The proponents of either approach to extension organization supported their position by citing advantages and disadvantages of their favored approach. But perhaps the most important single reason for the reversal action was the pressure applied by the principal agricultural officer and the agricultural officer cadre, all of whom felt that their power and authority were being eroded by the procedures of the new system. There were constant suggestions in memos that the rubber field extension service be scrapped since the position of the principal agricultural officer and agricultural officer was being circumvented by headquarter staff who communicated program information directly to their local level representatives. Further analysis indicated that the Ministry as an organization was faced with administrative and management indecision at various levels. There was a high level of inter-divisional rivalry and struggle for limited resources. A possible misconception of the single commodity extension procedure as connoting specialization drew resentment from degree-holding agricultural extension workers who considered the application of the idea to agricultural assistant and field overseers as a derogation on their academic training and position in the Ministry. Finally, the absence of a clear definition of where general agricultural extension belonged in the new scheme of things was a source of frustration to several people in the general agricultural extension organization. The pressure for change (reversal) was of such a magnitude that, if ignored, could have rendered the Ministry still less able to implement field extension programs. Therefore, in the opinion of this researcher, even though the need for change was accentuated by personal considerations rather than program effectiveness and job performance, the Ministry went ahead and implemented the compromise solution.

H. The Framework for Analysis

In this study, job performance is operationalized as an indication of what the extension worker does with respect to the norms and standards of the agricultural extension service. The norms, standards, and expectations of extension workers' role are embodied in the "Scheme of Service" (job description) which specifies their functions as:

> Supervisory or executive duties involving judgment for which a wider technical knowledge and understanding of underlying principles and objectives is required. [Specifically he is held responsible for] labor control, field observations, records,

> stores and office work connected therewith, simple demonstration and extension work.[8]

In almost every case, the extension work aspect of his duties is not clearly defined. However, there is the understanding that it includes planning and implementation of agricultural extension programs with local farmers. The job performance of the agricultural extension worker is therefore functionally defined as "the actual activities performed by him in a given position as he carries out the functions, responsibilities and duties of that position--particularly those activities that are concerned with the fulfillment of the expectations associated with that position."[9] The functions as described above imply the performance of tasks and activities in an active interaction environment. It is within this setting that the theoretical formulation for analysis will now be discussed.

As an alternative to the "goal approach" several authors have suggested the social system framework for the study of organizations. While no extensive discussion of "The Social System Model" will be undertaken here, literature on the concept has greatly influenced the selection of factors and their interpretation in this study.

Basically, the formulation of social system used in this study considers a "system" as an organized whole, consisting of subparts and united by some regular interactions or inter-dependence. Several characteristics identify such an animated system. The system can be defined as having an arrangement of parts or things which have some autonomy, while at the same time reflecting some relationship between parts. Such an arrangement, it is conjectured, makes for a larger unity or whole which has a characteristic difference from a summation of the parts. Finally, the system is dynamic. In comparison to the "goal approach" which assumes a static situation, the social system framework accommodates relative effectiveness and performance in terms of on-going activities and relationships progressing towards an achievable objective which is an improvement on the present.

As a social system, the organization is founded for a definite purpose or set of related purposes. It requires an input of resources and is expected to show output commensurate with resource input measured by whatever criteria are appropriate. The activities and interactions of position incumbents in the organization are functionally related and supportive of each other for the fulfillment of some collective purpose. Finally, some criteria of performance evaluation are available. The relationships that are created within the organization have implications

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8. Ministry of Agriculture and Natural Resources, "Scheme of Service: Agricultural Assistants and Field Overseers Grades" (Benin City, Nigeria, 1969), p. 1.

9. Pandya Dasharathrai, "Personality Characteristics and Level of Job Performance of Male County Extension Agents in Wisconsin" (Ph.D. Thesis, University of Wisconsin, 1967), p. 95.

for the entire organization, since the outcome, one way or the other, of activities between any paired relationship is no doubt a meaningful phenomenon for the entire organization. Because no organization exists in a vacuum, away from other organizations or the surrounding environment, the system, as here postulated, is also seen in relation to other relevant organizations and interaction with its environment.

The measurement of individual job performance is based on the activity orientation instead of the "goal construct." The basic formulation determines:

1. What is done--activity;
2. How much of it is done--quantitative index; and
3. How resources and decisions are managed to accomplish what is done--programming.

The choice of the activity-task approach is more adaptable to this study, considering the nature of the job description involved in the duties of the extension worker. Second, it is well founded in theory as evidenced by the literature. March and Simon[10] in their discussion of programmed activity suggested that insight into individual performance can be obtained through:

1. Observing the behavior of the organization's members;
2. Interviewing members of the organization; and
3. Examining documents that describe standard operating procedures.

Kelly,[11] in a study of executive behavior by means of activity sampling, used time spent in interaction in various locations, manager time use by functions, and time spent in interaction with people to measure levels of performance. Piersol[12] used a similar approach in studying differences in the communicative behavior of supervisors. Christensen,[13] using an "activity type" technique, studied teacher behavior on the job with a view to improving on their utilization time. He indicated that teachers allocated their time differently during the day to get the most done. He also reported differential performance levels among the teachers.

The strength of the activity-base behavioral approach to the measurement of performance provides a useful basis for selection, placement, and

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10. James G. March and Herbert A. Simon, Organization (New York: John Wiley and Co., 1965), p. 142.

11. Joe Kelly, "The Study of Executive Behavior by Activity Sampling," Human Relations 17 (1964): 277-287.

12. D. T. Piersol, "Communication Practices of Supervisors in a Mid-Western Corporation," Advanced Management 23 (January 1958): 21-22.

13. Paul E. Christensen, "Work Sampling: A Stroboscopic View of Teaching," Educational Administration and Supervision 42 (1956): 230-243.

training of staff once on the job in accord with the critical activities and tasks they perform. In the agricultural extension service, where frequent in-service training and staff development is necessary, the model is particularly relevant considering the probable availability of new technology and programs which must be implemented with farmers. Harvey,[14] in a study of five specialist groups in the extension service using the activity approach, reported that specialists in different classifications perceived different major functions, identified different hindrances to their work and had different concepts regarding their role in the extension organization. This is reported by Woeste[15] to suggest that differences in performance between area agents or specialists in different content areas might be expected.

There is further evidence in the literature in accord with the expectations of the Midwestern Nigeria Ministry of Agriculture and Natural Resources that when a new type of an extension function is created, differences in performance can be anticipated. However, no systematic research is available in the Nigerian situation to substantiate this contention. This study, therefore, appears as a logical step to a determination of whether such differences do exist, and if so, the extent of the difference and factors related to such differences.

The framework developed above to analyse this relationship under the semi-social system model postulates a three-level theme of analysis: That differences in individual performance on the job are a function of three clusters of factors:

1. Individual factors--such as education, age, tenure, etc., which the individual acquires either prior to or on the job.
2. Organizational and institutional factors associated with the activities of the tasks and means for accomplishing the tasks.
3. Environmental factors, including the client and other systems that reflect the effect of the immediate location and larger community or social context in which job related activities take place.

I. Significance of the Study

The need for a more intensive extension effort in support of specific commodty production campaigns has top priority in Nigeria's agricultural development strategy. The results of this study will be useful in suggesting how the present institutional arrangements in agricultural extension

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14. John J. Harvey, "A Comparative Analysis of the Functions of Specialists in the Cooperative Extension Service by Broad Subject Areas" (Ph.D. Thesis, University of Wisconsin, 1961), pp. 17-22.

15. Theodore John Woeste, "An Analysis of the Association of Selected Factors to Job Performance of Cooperative Extension Area Specialist" (Ph.D. Thesis, University of Wisconsin, 1967), p. 92.

in the Midwestern State of Nigeria can be modified, integrated, or rationalized. It will have useful policy implications for:

1. Broad-based and specific extension program development and implementation;
2. Staff recruitment, selection, training, and placement;
3. Modification in institutional and environmental factors which need adequate consideration if the maximum benefits of extension programs are to be realized; and
4. Finally, it will provide one experience in alternative methods to extension programming which may be adaptable to other similar situations.

II. METHODOLOGY

The purpose of this chapter is to discuss the methods and procedures followed in the design and pretest of instruments used for the collection of data in this study. It also briefly outlines the population and groups studied and how they were selected. Finally, the method of analysis used in the study is discussed.

The data for this study were collected through personal interviews conducted between January 5, 1973, and March 24, 1973, using a combination of structured and open-ended questionnaires and interview schedules.

A. Development and Description of the Instruments

The development of an instrument to measure job performance in this study was accomplished through a series of steps which included a conceptualization of job performance, a determination of what type of information is necessary to assess performance, and the method to use in performance appraisal.

The performance of an extension worker was conceptualized as the extent to which he fulfilled the functions and obligations of the position in which he is employed by the Ministry of Agriculture and Natural Resources, i.e., what an agricultural extension worker actually does under a given condition. No attempt was made to measure potential performance, that is, what an extension worker is capable of doing. The study posits that the objective of performance is to accomplish a set of tasks considered important to the achievement of work goals. Therefore, the determination of critical tasks performed by the agricultural extension worker was considered a necessary pre-requisite to measuring performance. These were identified from the scheme of service and included in the instrument.

The construction of the instrument and the selection of items to be included was influenced by the works of Shively[1] and Troyer,[2] both of whom developed and validated a check list instrument for measuring employee job performance. The instrument, as they articulated it, consisted of thirty-five items classified into six basic sub-concepts as follows: program analysis, program development, program execution, program accomplishment, relationships, and personal values and adjustment. They contend that individual performance can be appraised on the basis of behavior and activities in these six areas.

Casey, in his study of the development and evaluation of an instrument for the performance review of county extension agents, grouped 53 items in a scaled instrument into: planning the county program, carrying out the actual work plan, evidence of effective extension work, working relationship, professional improvement, office management, and public relations.[3] Casey's instrument emphasized job related factors and standards of performance rather than personality characteristics and suggests that an appraisal method based upon elements of job performance is more appropriate for evaluating agricultural extension workers.

In this study two sets of interview schedules were used for data collection. There was one interview schedule for extension workers and an interview guide for farmers. Also, an analysis of official reports, files, and documents was undertaken to obtain information on factors affecting levels of performance.

B. Agricultural Extension Worker Interview Schedule

The job performance instrument consisted of a number of statements soliciting information on how often an extension worker performed a set of activities considered relevant to his success on the job. The original pool of statements was selected from a review of the job specifications outlining the duties of agricultural extension workers. The list of statements was discussed with extension administrators, supervisors, and a small group of field staff. Many areas of job performance appraisal could be included in an instrument, but on the basis of the literature reviewed, discussions with knowledgeable people in the extension service, and my

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1. B. E. Shively, "The Study and Development of Two Merit Rating Devices for Use by Supervisors to Rate Cooperative Extension Workers" (Masters Thesis, Purdue University, Lafayette, Indiana, 1958), p. 40.

2. D. R. Troyer, "An Analysis of the Paired Comparison Rating Technique for Promotions, Transfers and Salary Increases of Agricultural Extension Workers in Indiana" (Masters Thesis, University of Wisconsin, Madison, 1960), pp. 51-56.

3. Alvin H. Casey, "The Development and Evaluation of an Instrument for the Performance Review of County Extension Agents" (Ph.D. Dissertation, Oklahoma State University, 1961), p. 16.

personal knowledge a core set of items were chosen from which eight activities were used to measure job performance. The items were:

number of farm visits;
number of demonstrations;
number of farmers meetings attended;
number of farmers associations organized;
number of local leaders identified and trained;
number of farmers visit to extension work station;
number of special production campaigns; and
number of joint programs organized with members of other agencies.

A second aspect of the extension worker interview schedule consisted of questions to elicit information on background characteristics, aspects of his job environment, and the organization which could affect his level of performance.

The instrument was pretested on a small sample of extension workers not included in the population studied.

C. Farmer Interview Schedule

This instrument consisted primarily of items designed to obtain information on the perception of the farmer about the agricultural extension services and their staff. The primary objective was to solicit information that could be used to determine his level of satisfaction with the agricultural extension workers. It also included questions on the general characteristics of the farmer, his farm enterprise, and the factors in his immediate farm environment that could influence the performance of the agricultural extension worker.

D. Procedure for Data Collection

This study was conducted in three divisions of the Midwestern State of Nigeria. The divisions were selected because they provided an ecologically contrasting situation among themselves and in terms of the program emphasis necessary for the comparative conceptualization of the study. One of the areas was a predominantly rubber-producing division. It was conjectured that most extension workers and farmers here would best reflect the aspirations and frustrations representative of the work of the single commodity agricultural extension approach. The second was both a rubber-producing and a food growing division and represented an area in which both approaches may be equally applicable. The third division was a predominantly food crop producing area which grows virtually no rubber. These farmers were very likely to have been unaffected by the activities of the single commodity approach and therefore provided the contrasting area to the rubber-producing division. On the basis of the above criteria, Benin West, Ishan, and Etsako divisions of the State were selected for the study.

The agricultural officer in charge of each division convened and held bi-monthly meetings with local level agricultural extension workers under

his supervision in the division. At two of these meetings in each division, the purpose and procedures of the study were discussed with the extension workers. Later, I held individual interview sessions with them and made plans for subsequent farmer interviews. Extension workers who could not be interviewed at these meeting days were interviewed in their duty stations between bi-monthly meetings. The agricultural extension workers attending these meetings have been reassigned under the general extension service (as a result of the decision to revert to a general extension format). Where agricultural extension workers were known to have been employed with the rubber extension service until the reversal action, they were asked to respond to the questions in retrospect. Their interview sessions and questions were prefaced with a statement such as "please respond to these questions as if you were still serving under the rubber division as an extension worker." The response from this group was classified as representing the opinions of the rubber extension workers.

One hundred and seventeen extension workers comprising 44 rubber division workers and 73 general extension workers were interviewed. This represented almost the total population of staff presently engaged in local level agricultural extension work in the three divisions studied. I conducted the interviews with the help of three field assistants.

Data on assessment of extension worker's performance were obtained from farmers in five villages in each of the three divisions in the study area. The agricultural extension worker was asked to convene a meeting of farmers in each of the selected villages. At these meetings, the purpose of the investigation was explained and the farmer's consent to respond to questions was sought. After a preliminary discussion, a sample of questions taken from the interview guide was shared with them. These meetings were preliminary and exploratory, designed to gain access to the communities and identify farmers who were willing to participate in further discussion regarding the problem under study. Three hundred and fifty-three farmers were present at these first meetings. It was apparent that not all the farmers in attendance were willing to be interviewed. Those who were willing to participate beyond the first encounter were identified and interviewed in depth at a later date. The form of interviewing was through group discussion rather than individual interrogation. Six to eight farmers were present at each session with four interviewers. I asked the leading questions and any subsequent, follow-up questions arising from farmer response. Each interviewer then recorded the answers of two farmers assigned to him at the beginning of the meeting. A total of 116 farmers were finally interviewed.

E. Method of Analysis

The method of analysis adopted in reporting the findings of this study was primarily descriptive and explanatory, because the nature of the data and the procedure used in data collection were more amenable to this method. The field research design emphasized the survey technique and the elaboration and conceptualization of factors and variables were accomplished at a rather rudimentary level of development.

However, in order to make data on job performance more "comparative" for the two organizations, it was subjected to quantitative analysis. The raw data obtained from responses to the interview schedules and questionnaires were transformed and punched onto data processing cards to permit as much computer analysis as was practicable.

The data are reported in the form of simple cross tabulations, frequency distributions, and percentages of responses to the major issues in the study objectives. The basic statistic used was the chi-square.

III. FINDINGS OF THE STUDY

This chapter will present information on and a description of job performance of agricultural extension workers employed under the general extension approach and the single commodity rubber extension organization.

In the first section, a description of job performance will be presented, using data from a self-reporting questionnaire of performance on a number of activities essential to job performance. A description of the farmers' evaluation of the general extension and rubber extension systems will then be presented. Finally, documentation of the performance of the two approaches will be undertaken, using file and conversational information to substantiate the extent of differences in job performance between the two groups.

The second section will discuss factors affecting job performance.

A. Description of Job Performance

The primary objective of this study is to determine the level of performance of General Extension and Rubber Extension workers in the Ministry of Agriculture and Natural Resources in the Midwestern State of Nigeria.

As indicated earlier, job performance is conceptualized in this study to mean the actual behaviors and activities with which the agricultural extension worker is involved as he meets the obligations and responsibilities of his position as defined by the agricultural extension services organization.

The quantitative level of performance of the agricultural extension worker was determined by his response to a self-reporting instrument on a cluster of activities considered central to high performance on the job. Each agricultural extension worker was asked to indicate numerically:

1. how many farm visits he made during the past year;
2. how many demonstrations he organized;
3. how many farmers' meetings he attended;

4. how many farmers' associations he organized;
5. how many local leaders he identified and trained;
6. how many farmers visited his extension office;
7. how many production campaigns he implemented; and
8. how many joint programs he was involved in during the past year.

The mean and standard deviations of numerical indicators of performance for each activity were calculated and the data trichotomized accordingly into high, medium, and low performance categories for each activity.

1. Quantitative Data on Job Performance

a. Number of farm visits. In pursuance of the overall educational objectives of the extension service, a major activity of the extension worker is conducting farm visits. As a method of extension teaching, the farm visit complements other educational efforts of the extension worker and the extension service by providing support to the farmer in the decisions he makes to deal with his situation. As an activity, it is perhaps the most important single instrument of the extension worker in a predominantly non-literate society. Therefore, it is usually assumed that to be effective on the job, an extension worker ought to pay frequent visits to farmers in his area. As an index of job performance, agricultural extension workers were asked to indicate how many farm visits they made to farmers during the previous year. As a group, rubber extension workers had more frequent contact with farmers than the general extension workers. The rubber extension workers during their short separate existence had organized farmer groups (alliances) with whom they were in constant contact. The data in Table I shows that 31.82 percent of the rubber extension workers ranked as high performers in this activity compared to 24.66 percent for the general extension service. Also, a small proportion of the rubber extension workers showed up as low performers compared to their general extension counterparts. As an activity, the number of farm visits did not discriminate between the two groups in terms of performance as the scores do not show any significant difference in the levels of performance between general extension and rubber extension workers.

TABLE I. Number of Farm Visits Made by General Extension and Rubber Extension Workers

	General Extension N=73		Rubber Extension N=44	
Level of Performance	No.	%	No.	%
High	18	24.66	14	31.82
Medium	33	45.21	21	47.73
Low	22	30.13	9	20.45

Chi-square 2 d.F. = 1.523 P = N.S.

An extension worker is classified High if he made over 100 farm visits, Medium if he made 49-100 farm visits, and Low if he made 48 or fewer farm visits.

b. Number of demonstrations. Method and result demonstrations constitute a major teaching tool for extension workers--particularly if they are involved in programs for farmers who have little or no reading ability. Demonstrations also are considered a most useful method for convincing farmers and reinforcing their decision-making process through limited trials. Therefore, the extent to which an extension worker plans and executes such demonstrations is very important for his overall performance.

The data indicate that a higher percentage of the rubber extension workers organized more demonstrations than the general extension workers. While only 50.69 percent of the general extension workers were sufficiently involved in this activity to be classified as medium and high performers, 77.27 percent of the rubber extension workers were so classified. This difference was significantly different.

TABLE II. Number of Demonstrations Organized by General Extension and Rubber Extension Workers

Level of Performance	General Extension N=73		Rubber Extension N=44	
	No.	%	No.	%
High	16	21.92	15	34.09
Medium	21	28.77	19	43.18
Low	36	49.32	10	22.73

Chi-square, 2 d.f. = 8.15 P = .05

An extension worker is classified: High if he organized more than 10 demonstrations, Medium if he organized 5-10 demonstrations, and Low if he organized 4 or fewer demonstrations.

c. Attendance at farmers' meetings. The comparative data on attendance at meetings convened by farmers either to organized themselves or to solicit help from the extension worker concerning their agricultural problems are shown in Table III.

The number of such meetings attended by agricultural extension workers was generally low. This is perhaps understandable, considering the limited participation of extension workers in farmers' programs.

That notwithstanding, the rubber extension workers reported higher attendance at farmers' meetings than their general extension worker counterparts. Whereas only 4.1 percent of the general extension workers were high performers under this category, 40.91 percent of the rubber extension workers were classified as high performers. One factor that accounts for this difference was the fact that soon after the establishment of the rubber division, newspaper publicity, radio announcements, and pronouncements by high government officials all encouraged farmers' groups to request

TABLE III. Number of Farmers' Meetings Attended by General Extension and Rubber Extension Workers

Level of Performance	General Extension N=73 No.	%	Rubber Extension N=44 No.	%
High	3	4.11	18	40.91
Medium	46	63.01	21	47.73
Low	24	32.88	5	11.36

Chi-square, 2 d.f. = 26.94 P = .05

An extension worker is classified: High if he attended more than 25 farmer meetings; Medium if he attended 11-25 farmer meetings; and Low if he attended 10 or fewer farmer meetings.

help from the rubber extension workers. Accordingly, therefore, they were invited out to farm group meetings more often than the general extension workers. The difference between the two groups in the performance of this activity is statistically significant.

d. Organization of farmer groups and associations. One of the important tasks of the agricultural extension worker is the formation of target groups through which program plans could be implemented. To this end, he should be actively engaged in the organization of farmers' associations, special commodity groups, and what the rubber division referred to as producer alliances.

In the early days of the agricultural extension service, I was informed, extension workers were deeply involved in the organization of farmer groups and associations. As the service grew older, it became more project oriented and did less organizing of farmers into programming groups. This activity has since been taken over by a voluntary organization with extremely inadequate resources to do the job. In essence, the general extension staff now does very little organizing of farmers into associations or groups. Therefore, there was little mention of participation in this activity by the general extension staff. There were remarks such as, "we are not expected to organize farmers' associations" when respondents were asked to indicate why their response to this activity was consistently so low.

With the creation of the Rubber Division, emphasis on the organization of farmers into working groups and cooperatives increased, and with it extension worker involvement in this activity. Again, the data as shown in Table IV indicate a comparatively higher performance under this activity by rubber extension workers than the general extension staff.

The data in Table IV indicate that while only 8.22 percent of the general extension staff reported themselves as high performers, 61.36 percent of the rubber extension workers were so classified for the activity

TABLE IV. Number of Farmer Associations and Groups Organized By General Extension and Rubber Extension Workers

Level of Performance	General Extension N=73 No.	%	Rubber Extension N=44 No.	%
High	6	8.22	27	61.36
Medium	25	34.25	10	22.73
Low	42	57.53	7	15.91

Chi-square, 2 d.f. = 40.06 P = .05

An extension worker is classified: High if he organized more than 25 farmers' associations; Medium if he organized 11-25 associations; and Low if he organized 10 or fewer associations.

involving formation of farmers' associations and groups. The comparative figure of 57.53 percent for general extension workers and 15.91 percent for the rubber extension workers classified under low performance was equally relevant. The two groups are significantly different with respect to this performance activity.

e. Leader identification and training. The activity described as leader identification and training involves efforts of the extension worker in developing local leadership to support extension programs. Considering the short fall of extension manpower and the extensive areas covered by a single extension worker, the development of local leadership is especially important, Such local leaders, it is expected, provide a multiplier effect to extension worker efforts in reaching local farmers. The data indicate that most of the general extension staff either do very little or no leadership development. The response to this item of performance measurement was particularly poor for the general extension workers. There were indications that this was not part of the extension worker's job because it was not stated in the scheme of service. There were no specific programs for leadership development and where the activity was peripheral and relevant in other program contexts, little effort was directed to encouraging individuals with leadership potential to come forward to be trained and given responsibility. Most of the leader identification that was observed involved the identification of the traditional leader--the local chief--and the leadership structure through which the extension worker gained access to the community. Once the extension worker gained access, he paid less attention to the leadership phenomenon. In some cases, there was no attempt to court the local leadership, the assumption being that the presence of the extension service was sanctioned by statute and legislation, and that the input of the local leadership was marginal to extension's existence. Finally, some respondents indicated that, because of past disappointments, their relationship with local leaders had been destroyed beyond repair and they were very unwilling to go through either the pain of striking fresh relationships or the embarrassment of continued failure to meet their commitment to the leaders.

The data in Table V indicate that 31.82 percent of the rubber extension workers scored high on the index of leadership identification and development compared to none for the general extension worker. Also, 84.93 percent of the general extension workers ranked low on the performance of this activity compared to 22.73 percent for the rubber extension workers. There was frequent reference to the fact that rubber extension workers met often with representatives of producer alliances and marketing groups to resolve problems and plan action programs. Therefore, by implication, their action brought out latent leaders who helped the rubber extension effort.

TABLE V. Local Leaders Identified and Trained By General Extension and Rubber Extension Workers

	General Extension N=73		Rubber Extension N=44	
Level of Performance	No.	%	No.	%
High	0	0	14	31.82
Medium	11	15.07	20	45.45
Low	62	84.93	10	22.73

Chi-square, 2 d.f. = 50.07 P = .001

An extension worker is classified: High if he identified and trained 8 or more leaders; Medium if he identified and trained 3-8 leaders; and Low if he identified and trained 2 or fewer leaders.

For both groups there was a striking lack of a concerted action program for the development of local leadership for agricultural improvement or other purposes. The only real explanation for this state of affairs is the lack of such programs from headquarters or the failure to mention such an activity in the scheme of service (job description) of the local level extension worker. Accordingly, he probably did not perceive this as part of his duty and could not decide on his own initiative to evolve a program at the local level.

However, the performance of activities by the two groups which reflected leader identification and training was significantly different.

f. Farmer visits to extension office. The reciprocal of an extension worker visit--the farmer visit to the extension worker's office--is considered a useful index of the extension worker/farmer relationship, the farmers' use of the extension service, and a contributory factor to the extension worker's performance on his job. Table VI shows the relative performance of general and rubber extension workers as measured by the number of farmers who visited the local extension office.

The data indicate that 45.45 percent of the rubber extension workers performed high on this activity compared to 27.40 percent for their

TABLE VI. Number of Farmer Office Visits Made as Reported By General Extension and Rubber Extension Workers

Level of Performance	General Extension N=73 No.	%	Rubber Extension N=44 No.	%
High	20	27.40	20	45.45
Medium	22	30.14	6	13.64
Low	31	42.46	18	40.91

Chi-square, 2 d.f. = 5.73 P = .05

An extension worker is classified: High if more than 100 farmers visited his office; Medium if 61-100 farmers visited his office; and Low if 60 or fewer farmers visited his office.

general extension counterpart. The proportion of low performance for the two groups is relatively similar but the performance of the two groups measured by the index of farmer visits is, however, significantly different.

g. Special agricultural production campaigns. Like demonstrations, production campaigns were an important method used by the extension services to make farmers aware of their special programs. Most new programs of the extension service were publicized through production campaigns and if new programs were developed each year, it was only consistent that extension workers be involved in frequent campaign activities. The information on agricultural extension worker performance measured by organization of special agricultural production campaigns is presented in Table VII. The data indicate that 81.81 percent of the rubber extension workers showed high performance in this activity compared to 36.99 percent for the general extension staff. Conversely, 21.92 percent of the general extension workers are classified as having low performance compared to none for the rubber extension workers. The test of significance shows that this difference is not due to chance.

h. Joint programs organized with staff of other agencies. The role of agriculture in rural development should be coordinated with the activities and programs of other agencies if maximum results are to be obtained. The extent of involvement of the extension service in this effort was determined by the extent of joint programs organized with other agencies in agriculture and rural development. The data in Table VIII indicate that the rubber extension workers were more involved in joint programs with staff of other agencies than the general extension staff. The agencies involved in this activity were mostly exporters of "rubber sheet" and "coagulum" buyers and processors as well as the Midwestern State Rubber Development Board. These organizations were primarily involved in the marketing of rubber, and in cooperation with the rubber extension staff, have been of great assistance to rubber producers in the State.

TABLE VII. Comparative Performance of General Extension and Rubber Extension Workers on the Organization and Implementation of Special Agricultural Production Campaigns

Level of Performance	General Extension N=73 No.	%	Rubber Extension N=44 No.	%
High	27	36.99	36	81.81
Medium	30	41.09	8	18.18
Low	16	21.92	0	0

Chi-square, 2 d.f. = 342.82 P = .001

An extension worker is classified: High if he implemented more than 11 special production campaigns; Medium if he implemented 6-11 special production campaigns; and Low if he implemented 5 or fewer special production campaigns.

TABLE VIII. Joint Programs Organized and Implemented with Other Agencies by General and Rubber Extension Workers

Level of Performance	General Extension N=73 No.	%	Rubber Extension N=44 No.	%
High	2	2.74	16	36.36
Medium	30	41.10	23	52.28
Low	41	56.16	5	11.36

Chi-square, 2 d.f. = 34.93 P = .05

An extension worker is classified: High is he was involved in 10 or more joint programs; Medium if he was involved in 5-9 joint programs; and Low if he was involved in 4 or fewer joint programs.

The data in Table VIII show that 88.64 percent of the rubber extension workers rated themselves of medium and high performance compared to 43.84 percent for the general extension workers. The difference between the two groups in the performance of this activity was statistically significant.

2. Farmer Appraisal of the Agricultural Extension Services and Workers

A second method of assessing the level of performance of agricultural extension workers in this study was by farmer evaluation of the agricultural extension services and their staff. All the farmers interviewed

had heard of and used the advisory services of either or both of the agricultural extension organizations. They were asked to indicate their level of satisfaction with the performance of the agricultural extension worker on seven activities similar to those used in self reporting on performance by extension workers.

The data indicate a high level of dissatisfaction with the agricultural extension service, irrespective of type. Only 27 percent indicated that they were satisfied with the performance of the extension workers. Their primary reason for dissatisfaction was that the agricultural extension service was doing less and less every year to alleviate the complex problems of the farm family. They expressed least satisfaction with credit for small farmers and most satisfaction with advice on marketing and market information. There was no evidence that the extension service made any credit available to farmers nor counseled them on sources of credit. It is therefore paradoxical, the farmers said, that the same extension workers who are quite aware of their financial predicament should ask them to adopt recommendations requiring capital investment. There were indications that farmers relied heavily, at one time, on the agricultural extension service for advice and information on farming. However, this interest has diminished in recent years as meaningful agricultural programs became less available.

When farmers were asked what services they needed that were not being provided by the extension service, they indicated that credit was the most important. Every farmer interviewed mentioned that he needed credit to purchase farm inputs and planting materials. Technology was the next most often mentioned need and available markets were the third most mentioned need. In a few cases farmers expressed concern about the high cost of transportation in getting farm produce to the markets as well as the inaccessibility of their village to the nearest large town.

In spite of the high dissatisfaction expressed by farmers about the agricultural extension service in general, the comparative analysis of data from the predominantly rubber producing and food crop growing areas indicated that farmers were less dissatisfied with the rubber (extension) division than the general extension service. The data are shown in Table IX. The biggest difference in satisfaction was in the practices adopted as a result of extension worker recommendations. Forty-five percent of the farmers indicated satisfaction with the rubber (extension) division, compared to 31 percent of the farmers who were satisfied with the general extension. In the area of farm visits, 33 percent of the farmers expressed satisfaction with rubber extension compared to 17 percent for the general extension service. Under the provision of credit, 15 percent of the farmers expressed satisfaction with rubber extension compared to 8 percent for the general extension service. There was a 7 percent difference on satisfaction with marketing information and advice by farmers in favor of the rubber extension division. The general extension services were evaluated more satisfactorily on the provision of agricultural input. The differences in extension worker response and recommendations were too small to be significant.

The relevant conclusion from this analysis was that, even though farmers expressed general dissatisfaction with the agricultural extension

TABLE IX. Farmer Satisfaction with General and Rubber Extension Activities

Activities	General Extension (Etsako Div.) N=36				Rubber Extension (Benin West Div.) N=40			
	Satisfied		Not Satisfied		Satisfied		Not Satisfied	
	No.	%	No.	%	No.	%	No.	%
1. Recommendations made by the agricultural extension service	13	36.10	23	63.9	12	30.00	28	70.00
2. Response to request for help and information	8	22.22	28	77.78	9	22.50	31	77.50
3. Practices and changes adopted as a result of recommendations	11	30.56	25	69.44	18	45.00	22	55.00
4. Number of visits by the extension worker	6	16.67	30	83.33	13	32.50	27	67.50
5. Provision of credit	3	8.33	33	91.67	6	15.00	34	85.00
6. Marketing information and help	9	25.00	27	75.00	15	37.50	25	62.50
7. Provision of agricultural inputs	14	38.89	22	61.11	11	27.50	29	72.50

service, they were less dissatisfied with the rubber extension workers. This further substantiates the comparatively higher level of performance of the rubber agricultural extension workers observed earlier in the study.

3. Documentary Evidence on Comparative Performance of General Extension and Rubber Extension Division--1969/70 to 1972/73

A third dimension in determining extension worker performance was through an analysis of official records, reports, and documents inside and outside the Ministry of Agriculture and Natural Resources. Because it was methodologically impossible, in this study, to relate the documentary evidence to the individual performance of extension workers, the data discussed in this section do not constitute an appraisal of individual performance but an assessment of organizational achievement. The information presented, however, has direct implication for extension worker performance, since progress reports on the activities of either extension organization are, in essence, an aggregate of performance of individual extension workers employed in that division. Finally, the Ministry of Agriculture and Natural Resources in its reorganized structure did not

have agricultural extension as a separate, single division but as a field service program to each of the six divisions in agriculture. Therefore, the programs and activities on which performance of the general extension worker has been evaluated in this section are those which are not part of the rubber division field extension efforts.

a. The General Extension Service. As a matter of procedure, extension activities in the general extension organization are formulated into projects planned at headquarters on the basis of policy decisions of the executive council. The field extension and production services staff have major responsibility for implementing such programs along pre-determined strategies.

Some of the projects designed to achieve the overall objectives of the State Development Plan for 1970-74 included the production and distribution of high yielding planting materials to farmers, fertilizer supply services, provision of advisory services through personal contacts, mass media and publications, and the establishment of a tractor hiring service. In the area of cash crop production, the plan called for smallholder replanting schemes in oil palm and cocoa. The encouragement of cotton production in the savannah areas of the State was also given priority during the plan period. Finally, a rural development pilot program, including home economics, cooperatives, and farmer education, was also planned for.

A systematic review of progress reports of these schemes and projects indicated that relatively very little was achieved between April 1969 and September 1973. Much of the effort of the general extension service to increase food production was directed at seed multiplication and fertilizer distribution. Cash crop production efforts in oil palm and cocoa were hardly implemented beyond the production of seedlings at various nursery sites. The special cocoa development scheme had a small number of on-going participants (50-100) and had distributed a substantial number of cocoa seedlings to farmers in the growing areas. Beyond this there was no report of any other activities by the extension service. The chemical supply and disease control programs as well as the marketing efforts were mostly in the hands of local distributors and licensed produce buyers.

There was no progress report on the cotton programs, farm machinery (tractor hiring service), grain storage and facilities, and home economics extension. The general extension progress reports portray an image of several uncompleted programs, several uninitiated programs, and little progress where efforts have been made to implement any schemes.

An observation of local level extension workers in the general extension service gives an impression of severe underutilization of staff time and training since only a few programs of worth are available in which they are gainfully employed. Some of the reasons for this state of affairs will be discussed later under factors affecting performance. Suffice it to say at this point that the general extension service seems to have a low record of performance as reflected by progress reports on primary production under the policy objectives of the 1970-74 Midwestern Nigeria Development Plan.

b. The Rubber Extension Service. The policy of Government specifically required that the Rubber Division should play an advisory role on increased production, improved quality, and better marketing channels for rubber. At its inception in 1969, its main program focus was on:

1. Rubber production and processing--through which it was intended that information on up-to-date production and processing techniques would be provided to farmers;
2. Establishment of rural stores for the sale of fertilizer, and rubber production and processing equipment and materials to farmers at subsidized prices;
3. Seedling supply programs embodying the management of nurseries to produce seedlings and budded stumps to be distributed to farmers at subsidized prices;
4. Rubber rehabilitation schemes to encourage the small producers to replant their presently uneconomic farms with improved varieties;
5. Rubber "coagulum" purchase program--to encourage the production of clean unadulterated coagulum which could command a better price on the world market;
6. Farmer education--through special training in modern typing and processing methods; and
7. Formation of farmer groups and cooperatives for rubber production and marketing.

An evaluation of the annual reports on rubber extension programs and performance for the 1969-72 period reflects a marked difference from general extension in programs, activities, and achievement. There is evidence to suggest that for the first time in the history of the State, the primary export crop was given adequate priority both in programs, budget, and staff support. A large number of farmers were involved in program development for rubber production and marketing. A core staff of those specially trained in rubber production had a first opportunity to put their skills to the acid test of competence, and a reasonable level of inter-agency planning and coordination was achieved as the resources of several agencies related to the rubber industry were pooled to bear on a single problem.

For the purpose of this study, an analysis of the progress and annual reports indicated a higher comparative performance for the rubber extension program than the general extension service. As mentioned earlier, this study will not deduce from this analysis the comparative performance of the local level agricultural extension workers. However, if the premise is accepted that overall organization output is an aggregate of individual efforts put forth by employees, it may be fair to imply that the above analysis has direct relevance to individual staff performance of those employed in the two extension organizations under study. These data are being presented as supportive of the quantitative data that the comparative difference between the performance of general extension workers and rubber extension workers is real and not a chance occurrence.

B. Factors Affecting the Performance of Agricultural Extension Workers

This section will identify and discuss some of the factors that account for the differences in the performance levels of agricultural extension workers employed under the two agricultural extension service organizations. The two sets of factors are:

1. The characteristics of the agricultural extension worker;
2. Organizational and institutional factors operative in the job environment of the agricultural extension worker.

1. Characteristics of the Agricultural Extension Worker

An organization is only as good as the men who work for it and help to implement its programs and policies. Therefore, a basic premise of this study was that if there was any significant difference between the levels of performance in the two organizations, it could be explained in part by differences in the characteristics of the agricultural extension workers themselves. To this end, an attempt was made to obtain information on the personal and background features of the agricultural extension workers employed by both extension services. A second reason for the analysis of extension worker characteristics in relation to performance was because of the emphasis which the Ministry of Agriculture and Natural Resources (i.e., the Civil Service) placed on biographical data in its recruitment, selection, employment, and placement of staff. There has always been the implicit belief that biographical information was predictive of performance and success on the job. Table X shows the distribution of general and rubber extension workers according to their personal and background characteristics. A discussion of those factors with respect to performance follows.

a. Age. The data indicate that agricultural extension workers employed under both approaches to agricultural extension organization were fairly similar with respect to age. This seems to suggest that a large proportion of employees under both extension systems still have a substantial number of productive years ahead of them prior to retirement.

b. First job appointment. The information on the position in which agricultural extension workers were first employed indicated that 53.42 percent of the general extension workers were first employed as field overseers and 46.58 percent as agricultural assistants in training. In comparison, 53.66 percent of the rubber extension workers were employed at positions lower than the field overseers cadre. Only 14.63 percent of them were first employed as field overseers and 29.27 percent as agricultural assistants in training. The data indicate that most of the rubber extension staff were first employed as daily paid laborers. Some of them were special nursery assistants, citrus budders, or rubber budders who were later absorbed into permanent establishment as skilled artisans and headmen and still later promoted to the rank of rubber demonstrators and field overseers. In essence, most of the local level extension staff in the rubber division have been in rubber work for a relatively longer time and are quite knowledgeable of the problems and prospects of rubber production.

TABLE X. Distribution of Agricultural Extension Workers in General and Rubber Extension by Personal and Background Characteristics

Characteristics	General Extension N=73 No.	%	Rubber Extension N=44 No.	%
1. Age				
21-25 years	3	4.41	3	6.82
26-30 "	19	27.94	13	29.55
31-35 "	18	26.47	13	29.55
36-40 "	18	26.47	10	22.73
Over 40 "	10	14.71	5	11.36
2. First job to which appointed				
Laborer	0	00	11	26.83
Rubber Demonstrator	0	00	11	26.83
Field Overseer	39	53.42	6	14.63
Agricultural Assistant	34	46.58	12	29.27
Agricultural Superintendent	0	00	1	2.44
3. Present Job Title				
Rubber Demonstrator/Field Overseer	23	31.51	24	54.55
Agricultural Assistant	40	54.79	10	22.73
Agricultural Superintendent	10	13.70	10	22.73
4. Education				
I. Formal Training				
Primary school	13	17.81	16	36.36
Government Class IV	15	20.55	8	18.18
*WAEC/GCE	21	28.77	2	4.55
School of Agriculture Diploma	23	31.51	13	29.55
Other	1	1.37	5	11.36
II. In-Service Training				
Yes	72	98.10	36	83.72
No	1	1.37	7	16.28

*WAEC = West African School Certificate
GCE = General Certificate of Education

TABLE X (cont'd)

Characteristics	General Extension N=73 No.	%	Rubber Extension N=44 No.	%
III. Is Training Adequate?				
Yes	21	28.77	20	54.05
No	52	71.23	17	45.95
IV. Type of Training Needed				
In-service (short) course	16	29.09	15	53.57
In-service (long) course	39	70.91	13	46.43
V. Desired Area of Training				
Rubber production	1	1.59	26	59.09
Food production	13	20.63	6	13.36
Other tree crops production	9	14.29	5	11.36
Animal production	2	3.17	3	6.82
Extension work methods	38	60.32	4	9.09
5. Tenure				
I. Years in Agricultural Extension				
2-5 years	12	16.44	13	29.55
6-10 "	14	19.18	14	31.82
11-15 "	33	45.21	11	25.00
Over 15 years	14	19.18	6	13.64
II. Years in present position				
2 years or less	14	19.18	7	15.90
3-5 "	32	43.84	24	54.55
6-9 "	16	21.92	8	18.18
Over 9 years	11	15.07	5	11.36
III. Years in present location or office				
2 years or less	42	57.53	26	59.09
3-4 years	28	38.36	14	31.82
Over 4 years	3	4.11	4	9.09
6. Previous Occupation				
None	20	27.40	11	25.58
Teaching	20	27.40	10	23.26
Clerical work	24	32.88	16	37.21
Daily paid laborer	9	12.33	6	13.95

TABLE X (cont'd)

Characteristics	General Extension N=73 No.	%	Rubber Extension N=44 No.	%
7. Rural/Urban Background				
I. Residency				
On a farm	0	00	2	4.55
In a village	38	52.05	15	34.09
In a small town	35	47.95	23	52.27
In a city	0	00	4	9.09
II. Location of School Attended				
Urban area	47	64.38	25	56.82
Rural area	26	35.62	19	43.18

c. Present job title. At the time of study, 31.51 percent of the respondents in the general extension service were field overseers compared to 54.55 percent of the respondents in rubber extension who were either rubber demonstrators and/or field overseers. Of the agricultural assistants responding, 54.79 percent were with the general extension and 22.73 percent with rubber extension. In the agricultural superintendent category, 13.70 percent were deployed with the general extension and 22.73 percent with the rubber division. The higher percentage of agricultural superintendents in the rubber division made up for the shortage of university graduate agricultural officers who normally supervised extension programs at the divisional level.

In general, the percentage of difference between the first job to which the agricultural extension worker was employed and the present post occupied indicated the extent of upward staff mobility through promotions. In this respect, the rubber extension staff, particularly at the local level, did experience substantial movement through promotions as a result of the creation of the new division.

d. Education. i. Formal training: Because employment at different levels in the extension service had fixed educational requirements, no real differences were expected in the formal training that extension workers in the two approaches have had prior to being employed. However, because some of the present field staff in the rubber (extension) division were first employed at levels below the field overseer level, the proportion of staff in this category with only primary school education was higher.

ii. Informal training: The most important informal training open to the agricultural extension staff was in-service training. The data in Table X indicate that 98 percent of the general extension staff and 84 percent of the rubber extension division staff had attended two or

more in-service training programs. Some of these were described as short two or three day intensive programs in the techniques of applying new technology.

The adequacy if not the relevance of these training sessions were always in doubt in the minds of the agricultural extension agents. There was a definite preference for "certified," long in-service training courses as opposed to the several short duration courses.

The message which came across clearly during the interviews was a great desire for training in subject matter areas, even though activities in which the extension workers were more often engaged required more skills in process than content. This may be partially due to the high dependence on qualification in technical subject matter as a criterion for promotion and appointment to positions of authority and higher responsibility.

Another important aspect of the data on in-service training was the nature of the material covered at these training sessions. Respondents in the general extension division indicated that most of the training they had was of a general nature, covering several aspects of agricultural production and development. Much of the information provided at such sessions was not directly applicable to the specific problem situation of the general extension worker and was therefore soon lost to the system. The rubber extension worker, on the other hand, got frequent training on the technology of rubber production and extension methods to help get the message of such technology across to farmers. Since he was concerned only with one crop, he tended to absorb more relevant information and tried harder to directly apply information obtained at in-service training to the problems of rubber farmers in his area of work.

If any of the personal characteristics of the extension worker were important to job performance, it had to be the amount of relevant in-service training sessions attended. It was at such staff development programs that dimensions of new technology and how they could best be disseminated were discussed. Also the in-service training sessions provided a useful forum for reviewing field extension problems in general and how they could best be solved.

e. Tenure in Extension. The data on tenure indicated that 64.39 percent of the general extension workers have been on the job for over ten years compared to 38.64 percent of the rubber extension workers. On the other hand, 61.37 percent of the rubber extension workers have been on the job for less than ten years compared to 35.62 percent for the general extension service. It was suggested as a side remark from some respondents that the less flexible extension workers as well as those who had not developed core attitudes on how extension should be run were specially selected and deployed to rubber extension work when the division was created. It was generally considered that the younger extension workers were more energetic, more responsive to supervisory suggestions, flexible to change, and therefore more likely to make a success of the new division. It was also recognized that this group might also be short on experience, but the extent to which this could be a limitation to performance was not actually considered when personnel placement was undertaken.

In terms of years spent in the same position, i.e., without promotion, fewer general extension staff had been in the same position compared to the rubber extension staff. Sixty-three percent of the general extension staff had been in their present positions for less than five years compared to 70 percent for the rubber extension staff. This may be related to the entry qualification of the rubber extension workers whose low qualification precluded them from the fast promotion that may have been enjoyed by the general extension staff. For most of the rubber extension workers, the position of the field overseer was the highest attainable unless they obtained higher formal training.

f. Previous occupation. The amount of work experience that an individual brought to the extension service was usually considered important to how well he would perform on the job. While there was no proof as to the validity of this claim, the data on previous occupation of extension workers indicate that 72.61 percent of the general extension staff and 74.42 percent of the rubber extension workers had other jobs prior to being employed in the extension service, including teaching, clerical office jobs, and daily paid labor.

g. Rural-urban background. For many years, the Ministry of Agriculture and Natural Resources had emphasized rural background and residency on a farm or in a predominantly agricultural village as a favorable prerequisite to employment in the extension service, the rationale being that persons of rural and farm background would better empathize with the problems of farmers, be more willing to live and work in rural areas, and be more motivated to help farmers. However, most of the educational institutions where prospective extension workers are trained are located near urban areas, and living on the farmstead was not a usual form of settlement in the Midwestern State.

The data show that 52.05 percent of the general extension workers and 42.64 percent of the rubber extension workers could be classified as having a rural background. The implication is that even when extension workers are born in rural areas, they have spent a substantial part of their formative years in urban areas or small towns with strong urban influence. The two groups were similar in their rural-urban characterization.

2. Organizational Factors

The General Extension Service and the Rubber Extension Division in the Midwestern State of Nigeria belonged in the same Ministry of Agriculture and Natural Resources. They both operated under a similar structure. The rules and regulations as well as work procedures which determined staff behavior on the job were relatively similar, but this study posited that the organizational and institutional arrangements within each division for interpreting objectives, procuring resources, supervising staff, and getting work done may be sufficiently different to affect levels of performance between divisions within the Ministry. This section and the following will discuss the effect of organizational and institutional factors on the performance of extension workers under the two organizational approaches under study.

It is usually considered that an organizational structure which prescribes the relationship between people and their jobs may not by itself be a sufficient condition for effective performance. An equally important condition is that the functional relationship between people and their jobs as well as the duties and responsibilities of their positions are clearly defined in terms of desired levels of performance. It is also important that sound supervisory and management practices are pursued to enhance high performance by staff members. The discussion that follows explores how differences in the level of performance of agricultural extension workers might be explained by some of these organizational factors.

a. The mission of the Extension Services. One factor that should affect the performance of employees in an organization is its mission, how succinctly and precisely the objectives are defined, how well they are understood by its employees, and what legitimate and effective action administrators of the system take to ensure behavior that is consistent with the objectives. The Ministry of Agriculture and Natural Resources in the Midwestern State of Nigeria is committed to agricultural improvement through research and extension.

The data on which this discussion was based indicated that both the general extension and rubber extension workers construed and interpreted the objectives of the extension component of the Ministry differently. Table XI shows the response of general extension workers when asked to verbalize what they consider to be the mission of extension. For the most part, the general extension workers were fully aware of the broad objectives of the extension service. However, they were not so sure of the specific objectives of their position and how the tasks and activities they performed were related to the overall objectives of the extension service. There was always an indication of "we do not make decisions about

TABLE XI. Mission of Agricultural Extension Service as Perceived by General Extension Workers

The Mission	No. N=73	Percent*
1. Introduction of scientific agriculture to farmers	69	94.52
2. General Advisory Service	43	58.9
3. Identify farmers' problems and help formulate solutions to them	40	54.79
4. Promote government policy in Agriculture	23	31.51
5. Increase food production	17	23.29
6. Interpreting the Ministry's policy to farmers	5	6.85
7. Education of farmers	3	4.11
8. Developing markets for farmers' produce	3	4.11

*The percent response is based on a possible total of 73 respondents for each mission mentioned.

what we do on the job; we implement the instructions and programs sent to us by the program officers in the headquarters." They, therefore, tended to do less field work in extension, outside of administering the local extension office. Even when program instructions were sent from headquarters, they were implemented along general lines of objectives so that the impact of the local client group was always less than maximum.

The rubber extension workers were quite aware of the overall purpose of government and the extension services of the Ministry as primarily desirous for increasing the agricultural production of the State through increases in the production levels of individual farmers. There was also frequent mention of persuading farmers to adopt new farming methods necessary to increased income levels and living standards for the rural population. A summary of their responses in shown in Table XII. The rubber extension workers were more specific in their perception of what they thought was the mission of the rubber division. They were also more articulate in discussing the specific tasks and activities that they performed to accomplish each of the objectives mentioned.

TABLE XII. Mission of Rubber Extension Division as Perceived by Rubber Extension Workers

The Mission	No. N=44	Percent*
1. Create an awareness and educate the small farmer on the use of improved rubber	38	86.36
2. Farmer training in rubber establishment, maintenance, harvesting, processing, and marketing	31	70.45
3. Establish and operate a subsidy scheme for small farmers--supply of materials and equipment	29	65.91
4. Implement rubber replanting programs with farmers	16	36.36
5. Traditional extension work	7	15.91

*The percent response is based on a possible total of 44 respondents for each mission mentioned.

The main difference between the two groups was their knowledge of and ability to verbalize the specific objectives of their organizations and requirements of their position. The rubber extension workers were more aware of their organization's objectives and what they had to do to sustain that mission. They, therefore, pursued activities and exhibited behaviors that were consistent with their expected level of performance. The general extension workers were aware only of the broad objectives and found it difficult to perform specific tasks necessary for the achievement of these broadly defined objectives. The data suggest that the rubber

division reflected a higher level of program performance because its field workers understood the general and specific objectives better.

b. Similarities and differences in programs and programming procedure. The proper development of programs and work plans is considered an essential determinant of work success. A well-developed program and plan of work provides a guide to what the agricultural extension worker should be doing. It also serves as a valuable method for obtaining citizen participation and inter-agency commitment to extension programs. In this study, no attempt was made to critically evaluate the planning process in terms of the conceptual ideal, but basic information was obtained on the usual Ministry approach to program development, and how procedures followed in the two organizational types were similar or different.

As a framework for decision and action, program development in the Midwestern Nigeria Ministry of Agriculture and Natural Resources was done by top level technical administrators. The work plans were usually based on the National and State Development Plan which attempted to set objectives and criteria by which both government and private activity could be coordinated to create the kind of situation that would be in the best interest of the people. In this sense, central planning is justified as the systematic development of procedures, logical both in content and sequence, to facilitate a community (the state or nation) becoming what it wishes and has the ability to become.[1]

A review of official records and interviews with both local level extension workers and headquarters staff indicated that the procedure for program development in the two organizations was similar if not identical. The major activity, decision-making in the planning process, was centralized at the headquarters with the Deputy Chief Agricultural Officer in charge of each program division having major responsibility. Theoretically, it was he who, in consultation with his immediate assistants, decided and determined what programs should be implemented during any given period of time. Instructions legitimizing such decisions were then communicated to the local level extension worker for action through the division agricultural extension officer.

Table XIII indicates extension worker response to questions on program decisions and involvement in program development. The data suggest that extension workers of both organizations were not involved in program decisions. Most of the decisions were made by the headquarters staff. However, those who perceived the divisional agricultural extension officer as their immediate boss saw him as making the decisions on programs since directives on programs came from him. The responsibility of the local level extension worker was purely that of program implementation. This procedure was considered by several authorities as inefficient, because the extension worker, closest to the point of action, made no decisions. He therefore did not feel a part of the program, saw himself in

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1. Robert J. Bervis and Frederick Culver, Planning in Missouri: A Primer (University of Missouri, 1968), p. 2.

TABLE XIII. Program Decisions and Extent of Involvement

Question of Program Decision	General Extension N=73 No.	Percent	Rubber Extension N=44 No.	Percent
1. Who decides programs on which you work with farmers?				
Headquarter staff	29	39.7	16	36.4
Divisional officer	44	60.3	28	63.6
Total	73		44	
2. Are you involved in any aspect of this decision?				
Yes	00	00	00	00
No	73	100.0	44	100.0
Total	73		44	
3. Is your involvement mainly one of implementing the programs?				
Yes	73	100.0	44	100.0
No	00	00	00	00
Total	73		44	
4. Have you specific instruction on your role in implementing local programs?				
Yes	00	00	18	40.09
No	73	100.0	26	59.90
Total	73		44	

no position of authority, had less commitment to the program, and did not feel responsible for any failures and sometimes even the success of any particular program. I thought that the problem could be ameliorated if specific instructions on the extension worker's role and responsibilities accompanied program instructions. But, as the data show, general extension workers never received such specific instructions and only 40 percent of the rubber extension workers conceded that such specific instructions sometimes accompanied programs from headquarters for implementation at local levels.

Similar as the procedure for program development might be, a few subtle differences were observed between the two organizations. The programs of the general extension service were directed to all farmers while rubber extension programs were designed purely for rubber farmers, even though they might produce other crops. To that extent, therefore, the rubber programs had specific groups on whom the activities of the rubber extension worker were primarily focused.

The rubber farmers through the "rubber alliances" got involved in program discussions and suggested changes to suit their local situation. They helped, directly, in the marketing of their produce through special arrangement with the Midwest Rubber Development Board. Most of these programs were not equally accessible to or with the same level of interest to other farmer clients of the general extension worker. The net result was that, even though the world price of rubber was low, the interest level of the rubber farmer was sustained at a higher level, which influenced their participation in rubber extension programs.

c. Staff. The number of staff available for local extension work was proportionately comparable for both types of extension organization. Usually, the local office consisted of the agricultural assistant and field overseer. However, in a few exceptional cases, there were three or more staff in the same office. Table XIV shows that 80.8 percent of the general extension offices had one to three persons compared to 86.4 percent for the rubber extension division. The problem of staff inadequacy was of equal concern to the two divisions and response to alternative solutions is also shown in Table XIV.

TABLE XIV. Staff Disposition

Question	General Extension N=73		Rubber Extension N=44	
	No.	Percent	No.	Percent
1. How many of your staff are actually involved in agricultural extension?				
1 - 3	59	80.8	38	86.4
Over 3	14	19.2	6	13.6
Total	73		44	
2. Is this number adequate?				
Yes	00	0.0	00	0.0
No	73	100.0	44	100.0
Total	73		44	
3. Recommended Solution				
Reduce area of work	31	42.5	15	34.1
Increase staff strength	30	41.1	16	36.4
Better administration and logistic support	9	12.3	13	29.5
Improve planning	3	4.1	00	0.0
Total	73		44	

A review of official records and in-depth interviews with headquarters and field staff suggested that much of the differential performance between the two organizations was attributable to differences in the quality of staff employed under either approach. It was often mentioned that those who were initially transferred to the rubber extension division were, for the most part, persons with proven ability and known success with the general extension. They were, in general, those who had special training in rubber technology and extension work but had been employed in general extension duties. With the formation of the Rubber Division, they were given an opportunity to use their expertise, had more logistic support, had relatively more control over their programs, and with a motivated farmer group were pre-disposed to succeed.

The general extension workers reported a severe neglect of their division during the years when the rubber extension service operated as a separate division. "If we had the same encouragement and support we could have done just as well," they indicated.

d. Time utilization. An important aspect of the staff factor was the amount of time an individual extension worker devoted to actual field extension and program implementation. The data in Table XV indicate that 75 percent of the rubber extension workers spend over one-half of their time in field extension, compared to 41.1 percent for the general extension workers. Ordinarily, the rubber extension workers felt more satisfied with the time they spent with farmers compared to the general extension workers.

TABLE XV. A Comparison of Proportion of Time Spent by Agricultural Extension Workers on Field Extension Programs

Question	General Extension N=73		Rubber Extension N=44	
	No.	Percent	No.	Percent
1. What proportion of your time do you spend in actual extension work in the field?				
1/2 or less	43	58.9	11	25.00
Over 1/2	30	41.1	33	75.00
Total	73		44	
2. Is this time				
Adequate?	26	35.6	36	81.8
Inadequate?	47	64.4	8	18.2
Total	73		44	

e. Relationship and contact with other agencies. The agricultural extension service is one of several agencies of government in the

Midwestern State of Nigeria operating to implement rural development programs. Each of these agencies emphasized different activities as major areas of concern, but the overall purpose was the improvement in the life style of the rural family. The system of service agencies ought and should be in contact with each other and work cooperatively to bring about overall rural development.

Since the agricultural extension worker cannot and should not tackle the agricultural problems of the farmer in isolation from his other problems, an attempt was made to determine the extent of inter-agency programming and cooperation between agencies at local levels. To learn something about the agencies with whom the extension worker worked, they were asked to respond to a set of questions on how often they worked with staff of other agencies such as the agricultural credit corporation, the community development, the cooperative society, the Ministry of Works and Transport, the Ministry of Health, or the local school headmasters and teachers.

The data in Table XVI indicate the percentage of respondents reporting any contact with staff of other agencies. It was always mentioned during the interviews that there were no official channels for inter-agency program planning for overall rural development. However, staff of these agencies knew each other and had informal contacts on a personal and friendly basis. During these informal meetings they rarely discussed their jobs, the interrelationship between their jobs, or possibilities for inter-agency cooperation. There was general agreement by the general and rubber extension workers that inter-agency relationship and cooperation could enhance program performance at the local level if there were ways of implementing such a suggestion. Both systems of extension organization were similarly handicapped by a lack of inter-agency programming and contact at local levels.

TABLE XVI. Agencies with Which Respondents Have Contact and Working Relationship

	General Extension N=73		Rubber Extension N=44	
Agency or Staff	No.	Percent	No.	Percent
Cooperative Inspectors	17	23.28	26	59.09
Community Development Officers	00	0.0	6	13.64
Midwest Rubber Development Agency	00	0.0	12	27.27
School Headquarters and Teachers	13	17.80	00	0.0
Ministry of Works	8	10.96	00	0.0
Health Inspector or Dispenser/Nurse	4	5.48	00	0.0
Agricultural Credit Corporation/Bank	00	0.0	00	0.0
	73		44	

f. Relationship and contact with other non-government organizations. It is customary that extension workers should involve the local people in program development. In addition, extension workers were expected to

be involved in the programs and activities of organizations and groups in their areas of work. In order to determine extension worker involvement in community organized activities, they were asked to indicate how they participated in the programs of several non-governmental organizations and how such involvement affected their performance on the job.

The results show that there was very little direct contact reported between agricultural extension workers and several of the non-government organizations in their area of work. Again, the main reason was lack of formal channels of transaction through which such contacts could be made. Respondents reported a fair amount of contact with farmer's organizations and cooperatives as a group. The general extension workers had contact with some farm organizations while rubber extension workers had more frequent contact with farmer cooperatives better known as "producer alliances." However, the extent of contact was not considered sufficient to make a difference in the performance of the two types of extension workers.

g. Similarities and differences in staff management and supervision. The pattern of staff management and supervision which agricultural extension workers perceived themselves operating under was perhaps the most important organizational factor in this study affecting their attitude towards and performance on the job. In the Ministry of Agriculture and Natural Resources, there was little definitive procedure for personnel management and staff supervision to guide the extension administrator and/or supervisor on how he should monitor the behavior of local level extension workers on the job. Therefore, patterns of supervision based on individual attributes emerged which, according to the description of respondents, could be characterized as participative and democratic or authoritative and directive. Table XVII shows the response of general and rubber extension workers and the characteristic supervisory style identified by them. The data indicated that 28 percent of the general extension workers perceived their supervisors as providing frequent and relevant supervision on the job compared to 86 percent for the rubber extension workers. There was no resentment to frequent supervision by both groups of extension workers; on the contrary, they thought it was particularly helpful in accomplishing their assigned tasks to have someone to

TABLE XVII. Extension Worker Perception of Supervisory Style

	General Extension N=73		Rubber Extension N=44	
Supervisory Style	No.	Percent	No.	Percent
Provides close supervision	21	28.77	38	86.36
Provides general supervision	53	72.60	6	13.64
Spends 50 percent or more of time on supervision	27	36.97	35	79.55
Spends less than 50 percent of time on supervision	46	63.01	9	20.45
Provides specific guidance	32	43.84	30	68.18
Provides less than adequate guidance	42	57.53	15	34.09

consult with in case of problems requiring quick decision and action. The general extension workers thought the agricultural officers supervising their work provided very general supervision. There was very little station supervision by the agricultural officers, who indicated that they could not do a better supervisory job because of limitations in travel funds. Most of the general extension supervision was done through correspondence and progress reports, and because of long distances between the supervisor and supervisee, the effect on the performance of the general extension worker was, if anything, very minimal.

Respondents indicated that 79 percent of the divisional agricultural officers in charge of rubber extension spent over half of their time on field supervision of extension workers compared to 37 percent for the supervisors of general extension work. In terms of providing guidance, 68 percent of the rubber extension workers thought that their supervisors provided specific guidance compared to 44 percent for the general extension workers.

h. Technology. Hayami and Ruttan in their study of the role of technology in agricultural development suggested that the common basis for achieving rapid growth in agricultural productivity is a capacity to generate an ecologically adapted and economically viable agricultural technology in a region or country.[2]

The Research Division of the Ministry of Agriculture and Natural Resources is the primary source of agricultural technology for all field programs of the general extension service. The division as it is presently constituted was greatly handicapped in its ability to produce relevant technology for lack of staff and funds and the absence of a well-defined direction or purpose. The stated objectives of the division included:

a. Investigation into the problems of farming in so far as they affect production and processing of agricultural products;
b. Research into pests and disease control measures;
c. Determination of ways of increasing production by the use of high yielding seeds, good husbandry, and judicious use of fertilizers;
d. Selection and multiplication of high yielding planting materials for extension workers' eventual transmission to farmers;
e. Conduct of social and economic surveys and censuses;
f. Making available to the extension service research information for dissemination to farmers;
g. Soil survey of the state with a view to classifying the soils for land use management; and
h. Provision of soil services to farmers in particular and the public in general.[3]

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2. Yujiro Hayami and Vernon W. Ruttan, Agricultural Development: An International Perspective (Baltimore, Maryland: Johns Hopkins Press, 1971), p. 4.

3. Ministry of Agriculture and Natural Resources, "Memo on Research" (Benin City, Nigeria, March 1972), p. 2.

There was also general interest in livestock research, especially husbandry and breeding. Therefore, the research division in its present structure was supposed to conduct both basic and adaptive research. The small staff of relatively competent researchers in this division had undertaken a fair amount of basic research in plant protection and soil survey and fertility. There was some basic research information available on soil classification, plant-soil relationship, and biological control of pests and diseases. However, none of these studies have been translated into action at the farm level because of fundamental problems inherent in the "basic research" orientation to agricultural development. Most of the studies developed within the basic approach are not directly applicable to solving the problems of the farmers.

Efforts in adaptive research had concentrated on the verification, testing, and screening for agronomic and ecological suitability of rice, maize, and cassava varieties developed at Federal experimental stations. However, little progress had been made, and information that had been collected was not available to the broad masses of the farming population. There were no programs for seed multiplication and distribution; consequently farmers had no supply of planting materials screened and certified as superior varieties by the research division. There were also doubts at the farm level about whether the yield potential of new varieties attested to by the research division were achievable by farmers. Finally, the absence of a coordinated program of research relevant to the problems of farmers has stifled the effort of the research. Consequently, agricultural research in the state had not developed to a level where it could produce the type and variety of technology needed to revolutionize agricultural production. As a result, agricultural extension workers had little new information with which to operate an effective advisory and educational service.

The single most important constraint to the development of agricultural technology in the state was the lack of funds and materials. There was frequent reference, during this study, to well-trained researchers idling away in the offices of the research division because they had no laboratories to work out of or materials with which to conduct research. The effect has been that the general agricultural extension workers rated very low when evaluated in terms of the progress made by farmers in the state--a situation brought about through no fault of theirs, but because of several limitations imposed on them and their job by the organization, including the absence of viable technology.

The Rubber Extension Division, on the other hand, had a better developed technological base. The Rubber Research Institute located a few miles away from the state headquarters conducts research into all aspects of rubber production and serves as a primary source of new technology for the rubber industry. Equipped with modern facilities and an ample number of qualified researchers, the institute now has a large seed nursery producing improved planting materials for distribution to all the rubber producing states in the country including the Midwest State. The institute also conducts research into rubber disease and pest control, management, processing, and alternative uses for the rubber trees. The findings of the institute are shared with the extension services of the

Ministries of Agriculture and Natural Resources through reports, special seminars, and consultancy services. In this respect the rubber program officers have easy access to specialist advice and information for solving farmers' problems and improving the lot of the entire industry.

The contrasting situation described above suggests that the technological research base for rubber extension is much more developed and relevant to problems of the rubber industry than that enjoyed by the general extension. This may very well account for the differential performance of extension workers employed under the rubber extension service compared to their general extension counterparts.

i. Budget. The basic resources of an organization are the human, ideational, financial, and material elements at its disposal for getting work done. This section will focus on budget resources available to the extension services for the implementation of their programs.

Tables XVIII and XIX show the approved capital and recurrent expenditures for all ministries in the Midwestern State of Nigeria. The data indicated that since 1968/69 the emphasis usually placed on agriculture as the backbone of the economy was never reflected in the budget allocations. The allocation of N£1,066,960 for special agricultural development for the 1972/73 financial year was still well below allocations for the construction of infrastructure (buildings, roads, and bridges), industrial development, and special education development. Therefore, it could very well be implied that the problem of inadequate funding, long accepted as a limitation to agricultural extension program implementation in most developing countries, was still very much a problem with extension programming in the Midwestern State of Nigeria.

Apart from budget inadequacy, extension workers in both organizational approaches indicated a lack of participation in the preparation of budgets (advance proposals). They indicated that budget releases were usually inadequate for implementing extension programs and approved budgetary allocations were usually released too late to be effectively utilized for programs for which such monies were intended.

The effect of limited budget on the two extension services, if any, would be similar and was not considered a major factor in the differential performance of the two extension organizations.

3. Institutional Factors

The early proponents of agricultural extension organizations in Nigeria may be best described as institution builders. Unfortunately, their orientation to the problem centered on a few institutions, primarily research, extension, and education. Recent experiences on the agricultural development process have indicated that the process is much more complex than previously believed. Even though research and educational institutions may have direct implications for what agricultural extension can do to help farmers to aspire to a better and more fulfilling life, other institutional forms also have indirect influence on the process of agricultural growth, development, and change. As agricultural development

TABLE XVIII. Approved Capital Expenditure
Midwestern State, Nigeria
1968/69-1972/73

Details of Expenditure	1968/69 £	1969/70 £	1970/71 £	1971/72 £	1972/73 £
Buildings	1,101,080	883,590	2,152,850	1,647,170	3,401,701
Roads and Bridges	910,630	1,643,230	633,480	1,499,000	3,251,310
Water Development Scheme	371,010	1,000	3,000	3,000	3,000
Electricity Development	--	1,000	210,000	340,000	320,000
Industrial Development	299,620	438,860	No data	2,312,000	2,438,570
Special Agricultural Development	462,810	361,300	830,380	471,240	1,066,960
Special Education Development	462,400	539,300	1,127,070	1,536,020	1,888,760
Loans to Statutory Corporation and other government sponsored companies	1,916,020	1,628,350	527,090	50,000	178,410
Integrated Rural Development	50,000	34,000	39,650	79,620	110,020
Contractor Finance Programme	809,320	899,000	713,640	769,380	480,000
Other non-recurrent Expenditure	267,840	552,480	189,040	1,288,090	1,465,060

Source: Midwestern Nigeria Government, "Approved Estimates," 1968/69-1972/73.

gathers momentum, sometimes through the efforts of agricultural extension, farmers will tend to demand institutional adjustments and new institutional forms necessary for sustained growth and development. In most cases agricultural extension organizations, as separate institutions, cannot bring these new institutional forms into existence; yet the absence of such institutions or the malfunctioning of already existing ones could present a major obstacle to effective agricultural extension work.

This concept of institution building for agricultural development was best articulated by Hill when he stated that "If developing countries are substantially to increase agricultural production on a sustained basis, they too must provide the institutions that make it possible for farmers to adopt improved practices and incentives that will induce them to do

TABLE XIX

Recurrent Expenditure: Midwestern State of Nigeria, 1968/69-1972-73

	1968/69		1969/70		1970/71		1971/72		1972/73	
	£	%	£	%	£	%	£	%	£	%
Military Governors Office	525,800	5.4	656,980	5.6	350,480	2.8	733,780	4.5	1,218,030	5.8
Ministry of Agriculture and Natural Resources	612,700	6.3	776,430	6.6	829,570	6.4	1,015,930	6.2	1,509,730	7.2
Ministry of Education	3,623,140	37.4	4,107,700	35.1	4,803,610	37.2	5,604,190	34.0	7,382,600	35.0
Ministry of Establishment	75,420	0.8	98,220	0.8	95,130	0.6	81,560	0.5	--	--
Ministry of Finance and Economic Development	225,210	2.3	258,170	2.2	213,090	2.1	--	--	--	--
Ministry of Health and Social Welfare	1,040,530	10.7	1,186,570	10.1	1,788,430	13.9	1,901,910	11.6	1,849,820	8.7
Ministry of Justice	94,360	1.0	119,680	1.0	115,050	0.9	117,350	0.7	125,740	0.6
Ministry of Local Government and Chieftaincy Affirrs	167,410	1.7	204,960	1.7	216,890	1.7	814,640	4.9	597,000	2.8
Ministry of Trade and Industry	235,260	2.4	255,420	2.2	218,810	1.8	503,250	3.1	285,050	1.4
Ministry of Works and Transport	1,227,550	12.7	1,737,390	14.8	1,335,910	10.4	1,585,090	9.6	1,920,680	9.1
Public Service Commission	29,170	0.3	33,650	0.3	40,480	0.3	47,820	0.3	65,420	0.3
Ministry of Information and Home Affairs	--	--	--	--	217,180	1.9	142,680	0.9	651,830	3.1
Ministry of Lands and Housing	--	--	--	--	261,910	3.8	412,840	2.5	414,390	2.0
Ministry of Finance	--	--	--	--	--	--	261,970	1.6	290,730	1.4
Ministry of Economic Development	--	--	--	--	--	--	459,970	2.8	219,190	1.0

Source: Midwestern Nigeria Government, "Approved Estimates," Benin City, Nigeria, 1968/69 to 1972/73.

so."[4] His list of institutions, along with education, research, and extension, included an effective supply line of agricultural credit, storage facilities, and incentives to encourage increased agricultural production. Other scholars have identified land and labor as major institutional forms that must be considered complementary to agricultural extension in the formulation of agricultural production programs. In this section, an attempt was made to explore the role of relevant institutional arrangements in the Midwestern State of Nigeria on the performance of the two agricultural services under study.

a. Land. Due to the great emphasis on the productive power of the small farmer and his family in the Midwestern State of Nigeria, ownership of land, use rights, and access to useable land are quite important to what agricultural extension can do under any system of organization. Data from extension studies in other parts of the world indicate that farmer-owner operators adopted more new practices than tenant-operators. The farmer-owner and tenant-operator idea may not apply directly in this situation; the central concern is rather such questions as:

Do farmers have access and use rights to land for agricultural purposes?
Is land availability a major factor in the adoption of new crops and farming patterns?
Is there a problem of land scarcity in absolute terms or is the issue that of soil fertility and conservation, i.e., a technological problem?
Do agricultural extension workers perform better under situations of land availability compared to situations in which land is in short supply?

There are, of course, no empirical answers to these questions, at least not in this study. Information obtained from interviews of extension workers and farmers indicated that whereas there was no consistent concern over acute land shortages at the time of the study, farmers perceived the probability of an apparent problem. Agricultural extension workers of both organizations indicated that, in general, farmers had easy access to land for agricultural purposes within their communities. Under the communal tenure arrangements, land is held in trust for the entire community by the paramount chief. Access to free land was easy and where family ownership has been established over a period of years, land can be made available to persons outside the family by special negotiation. Finally, where individuals claim personal ownership by the cultivation of permanent crops, such land can always be transferred to alternative uses at any time. It was therefore true that land was not in short supply in the absolute sense. This was not to say that pockets of land

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4. F. E. Hill, "Developing Agricultural Institution in Underdeveloped Countries," Agricultural Sciences for the Developing Nations, Albert H. Moseman, ed., Publication 76 (Washington, D.C.: American Association for the Advancement of Science, 1964), p. 142.

starvation did not exist. Agricultural land was critically short in communities bordering government forest reserves (National Forest Reserves), where Tungya farming* is widely practiced.

While the problem of land availability may have been a factor in the non-adoption of some of the Ministry of Agriculture and Natural Resources recommendations for improved agriculture, land tenure was not the most limiting factor. Rubber extension workers indicated that, apart from the lack of budget appropriations for implementing the smallholder replanting scheme, farmers were unwilling to cut down their rubber trees for fear of the land reverting to family or communal ownership. In addition, it was difficult to get farmers' agreement on combined action to rehabilitate five hundred acres of rubber in one contiguous area, the area stipulated in the scheme objectives. The general extension workers also expressed similar difficulties in implementing maize and cotton programs where participation of several farmers in a contiguous area was needed. In this and similar cases, the land ownership and use pattern presented a difficulty which was not unique to either of the approaches under study. Finally, there were indications from extension workers of both organizations that land availability, access to land, or the system of allocation presented an obstacle to their work and to the farmers' level of production.

The real difficulty, however, was with soil fertility and conservation. The farmers were well aware that their yields were low because the soil was overworked and depleted of nutrients. The extension workers' solution was fertilizer application, which was recommended across the board for broad areas of the state and therefore not adaptable to the unique fertility problems of each farm and farmer. The land problem was basically a technology problem to which the research division had found no solution. Therefore, the extension services were powerless to correct the situation.

b. Labor. The amount of labor available to the farmer determined how many acres he could cultivate as well as how much yield per acre he could handle and was, therefore, an important factor in how much and how well the sector could perform.

Information obtained from farmers and agricultural extension workers suggested that labor was in short supply over the entire study area during the periods of important farm operations--land clearing and soil preparation, planting and harvesting. A large proportion of the farmers' children were away in school in the urban areas. The housewife was cultivating her own land on which she grew the home food crops for feeding the family. The farmer was left with his own resources in performing his farm work. A large number of the farmers interviewed were past middle age and feeble and not as fit to work as they might be. How then did farmers obtain labor for agricultural production?

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*A system of land allocation to farmers for arable crop production with the promise that they will plant and maintain a selected species of forest trees for one year.

The most important source of labor apart from direct hire and paid labor was labor exchanges. Under this system farmers organized themselves into groups and crews which moved from farm to farm performing tasks that an individual farmer could not accomplish with the same level of efficiency if he were working alone. The groups made the rounds until farm operations for all members of the group were accomplished.

An important source of farm labor in these areas was direct hire for wages. There was general indication that not only was labor expensive, it was neither reliable nor dependable. An alternative to hired labor was the sharecropping system which has operated well in export crop production, particularly with rubber.

Table XX shows the percentage distribution of agricultural extension worker response to selected questions on labor. There was general agreement that there was seasonal shortage of farm labor in the state, as 79.45 percent of the general extension workers and 88.64 percent of the rubber extension workers indicated in their response. As a result of this realization, one of the primary objectives of the Rubber Division was explicitly to "pursue a vigorous training program designed to produce a labor force of rubber tappers capable of harvesting the vast acreage of mature and untapped rubber trees in the state." The mass exodus of relatively skilled

TABLE XX. Percent Distribution of Agricultural Extension Workers by Response to Selected Questions on Labor

Question	General Extension N=73		Rubber Extension N=44	
	No.	Percent	No.	Percent
Farmers here are too old to provide adequate labor of their own to farm.				
Agree	60	82.19	24	54.54
Disagree	13	17.81	20	45.46
Total	73		44	
Labor for farming is available if only one can pay for it.				
Agree	32	43.83	33	75.0
Disagree	41	56.17	11	25.0
Total	73		44	
There is always seasonal shortage of labor here.				
Agree	58	79.45	39	88.64
Disagree	15	20.55	5	11.36
Total	73		44	

rubber tappers and processors from the state during the civil war left a void in the expert labor force available to the industry. Labor continued to be in short supply and what was available demanded a specified minimum wage rate, a cost which the local farmer could not afford. Whenever labor was available at less than the minimum rate, it was difficult to get a fair amount of work accomplished without close and sometimes near violent supervision.

General extension workers did not perceive wage rates alone as the major deterrent to the procurement of farm labor. The data indicate that 56.2 percent of the general extension workers disagreed that farm labor is available if one could pay for it. In contrast, 75 percent of the rubber extension workers agreed that farm labor is available if the farmer is prepared to pay the price. This difference is a reflection of the demand for, accessibility to, and use of hired labor by farmers in the two farm enterprises. The demand for farm labor in food production is high, but because of its accompanying high wage rates and the bargaining procedures, general crops and food farmers rarely relied on hired sources of labor. They could not afford to pay labor since most food crops are grown primarily for subsistence, and they do not generate adequate surplus income to pay the cost of labor. Therefore, to the general extension worker, the labor problem was not only that the farmer could not procure labor, but if available he could not pay for it.

Where an export crop such as rubber, cocoa, or cotton was involved, the farmer sometimes employed labor on credit and paid for it when his crop was sold. In the rubber producing areas in particular, sharecropping was prevalent and itinerant laborers hired out their labor in exchange for a fixed proportion of the harvest. Prior to the civil war this method of obtaining farm labor was widely practiced, but its use has diminished because of a fall in the price of rubber.

There was general indication that the norm was to work for wages in cash rather than other forms of payment, even if it was at less than minimum specified wages. Therefore, if the farmer could pay the wages he could hire the labor, and 75 percent of the responding rubber extension workers agreed with this contention.

Finally, the age of the farmer was considered by agricultural extension workers in both organizations as an important determinant of the actual labor available to agriculture, rubber or otherwise. The data indicate that 82.19 percent of the general extension workers and 54.54 percent of the rubber extension workers thought that farmers in the state were generally too old to provide adequate labor of their own on their farms. This opinion was reflected in suggestions from farmers that unless help was forthcoming from government, they could not, at their age, adopt and produce at the levels expected of them by the agricultural extension services.

Again, the effect of this differential labor situation on the general extension performance versus the performance of the rubber division could not be so easily deciphered. However, it might be inferred that the labor shortage in primary production has been a major deterrent in

the adoption of extension worker recommendations. The rubber extension workers and the general extension workers both indicated that more could have been accomplished by farmers if more labor had been available to them.

c. Credit. The Midwestern State of Nigeria has a long history of credit institutions which were primarily responsible for granting agricultural credit to farmers. When the Region (now state) was created in 1963, it inherited the credit institutions then operated by the Western Region. By statute of the State Legislature, the Midwestern Nigeria Agricultural Credit Corporation began operation on June 1, 1964. The functions specifically were to:[5]

a. Organize and carry out an effective and supervised program for the provision of agricultural loans to large-scale and medium-scale farmers;
b. Undertake the direct granting of agricultural loans to large- and medium-scale farmers;
c. Make arrangements to enter into agreement with the Cooperative Bank of Midwestern Nigeria, Ltd., as a medium for granting loans to cooperative members;
d. Carry out approved projects for all forms of agricultural operations;
e. Provide appropriate guidance and supervision for farmers' agricultural activities;
f. Take over direct administration, development, and expansion of any farm settlement scheme or other agricultural scheme initiated by government.

The corporation also inherited the assets and liabilities of the Western Nigeria Finance Corporation in the Midwest Region. However, the activities of the corporation during its first three years were largely organizational and reorganizational. No loans were issued. A budget allocation of N£200,000 for small farmer loans in 1966-67 was not released by the Ministry of Finance, and appropriations thereafter were mostly to cover staff salaries and recurrent expenditure.

The Midwestern Nigeria Cooperative Federation operated, through its field offices, some form of credit program for cooperative society members. Funded partially and supervised by the Ministry of Trade and Industry, the federation's target group was predominantly made up of cooperative marketing associations. Production loans were rarely extended to small farmers and when available were always too small to be of any real impact on the production levels of the farmer. At the time of this study, the work of the federation was still seriously handicapped by lack of funds.

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5. Harold Bauman, Chan Connolly, and John Whitney, A Situational Report of Agricultural Credit in Nigeria [CSNRD-3] (Columbus, Ohio: Ohio State University Press, June 1966).

The commercial banks, though a viable institution in the state, had always been unwilling to provide loan services to the small farmer for all kinds of reasons, the most important being the high risk factor involved in lending to the small producer. There was evidence that, at various times and in various ways, attempts had been made to encourage the banks to provide credit to farmers. The results were usually negative. No commercial bank credit was available for primary production except on the large estates.

At the time of this study, no formal credit institution in the state had made any loans to small farmers. In essence, agricultural credit was still a major constraint to all forms of increased agricultural production, rubber and food crops alike. The need for credit was real because farmers requested credit, and agricultural extension workers attested to the fact that they usually had no solution to the credit problems of farmers. The government was, likewise, aware of the role of credit in small farmer development. The Federal Government has just begun to establish a formal institutional agricultural credit system with an initial capital of US$18 million. In the current four-year plan (1970-74) these monies will be used to establish a National Agricultural Credit Bank.[6] Even though the debate about its structure and relationship to states and farmers has not been worked out, it is anticipated that a federally funded, state agricultural credit agency will soon begin operations in the state to provide loans to farmers.

In the interim, agricultural extension workers continued in their persistent persuasion of farmers to adopt practices and recommendations, all of which required additional capital investment. Where such recommendations involved divisible costs, they were financed from personal savings, but where the adoption of a total package was recommended and a high investment was involved, the farmers' savings were usually insufficient for the procurement of the necessary inputs. The result was no adoption or partial adoption, both of which yielded less than maximum return.

The information obtained from secondary sources and staff interviews indicate that there was substantial use of informal sources of credit by farmers in the state. The actual extent was not known, but agricultural extension workers of both organizations indicated that money lenders continued to be an important source of credit. The farmer groups interviewed in this study were very reluctant to accept their indebtedness to money lenders and the purposes for which credit was accepted, but did concede to a need for agricultural credit for the purchase of inputs and farm labor.

The response of general and rubber extension workers to selected issues on credit for local farmers is shown in Table XXI. The data indicate that 87.6 percent of the general extension staff and 88.6 percent

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6. Herbert Kriesel, "Small Farmer Credit in Nigeria," AID Spring Review of Small Farmer Credit XVII (June 1973), p. 109.

TABLE XXI. Percent Distribution of Agricultural Extension Workers by Response to Selected Questions on Credit

Question	General Extension N=73		Rubber Extension N=44	
	No.	Percent	No.	Percent
Credit for small farmers is not a problem in this area.				
Agree	9	12.32	5	11.36
Disagree	64	87.68	39	88.64
Total	73		44	
Whenever farmers in this area have no money to buy agricultural materials they adopt less of extension worker recommendations.				
Agree	43	58.90	27	61.36
Disagree	30	41.10	17	38.64
Total	73		44	
Chemical salesmen sometimes provide credit to farmers in this area.				
Agree	53	72.60	41	93.18
Disagree	20	27.40	3	6.82
Total	73		44	

of the rubber extension staff agreed that credit was a major problem for farmers in their area of work. Only 12.32 percent of the general extension staff and 11.36 percent of the rubber extension workers thought that credit was not a major problem.

Agricultural extension workers of both organizations indicated that they had never had a solution to the credit issue. Their strategy had been to respond to credit requests in an official context of: "I will convey your concern and credit problem to my superior officer." Persistent farmers were told, "the matter is receiving official attention." This approach, though unacceptable to agricultural extension workers themselves, seemed to be the only way out of an institutional dilemma to which no one had a solution.

The possible effect of credit on extension worker performance is indicated by 58.9 percent of general extension workers and 61.4 percent of rubber extension workers who agreed that "whenever the farmer had no money to invest in a package of recommendations, his propensity to adopt was reduced." There was general reference to the fact that farmers no longer expected institutionalized credit to be forthcoming; therefore,

they had grown less willing to consider extension recommendations if financial costs beyond their resources were involved. The basic determinant was not whether the farmer could try the innovation, but whether he could afford to try the new idea.

Besides the local moneylenders who provided most of the credit to small farmers, 72.6 percent of the general extension workers and 93.2 percent of the rubber extension workers indicated that chemical and fertilizer salesmen sometimes provided an alternative source of credit to farmers who showed a low probability to default. Most of these services were in the cotton and cocoa producing areas of the state. There was little evidence that any proportion of this source of credit went into the food production aspects of the farm enterprise. Rubber farmers had a fair access to loans in the form of materials and equipments supplied by local buying agents and middlemen who deducted such loans, plus interest, from subsequent purchases.

d. Marketing. The primary purpose of the agricultural extension worker in the context of the policy objectives of the Midwestern State of Nigeria is to influence farmers through an educational process to increase their farm production through the application of new technology. This means that a market capable of absorbing such an increase at a price satisfying to the farmer should be available. The extent to which the farmer will continue to innovate and follow agricultural extension recommendations will depend to some extent on how easily he can dispose of his surplus at a reasonable margin of profit.

A second aspect of marketing is the availability of a market for inputs. Agricultural production requires the application of technology and the use of facilities and materials which must be available on time to the farmer for each farm enterprise. If seeds, fertilizers, and other factors of production become available too late in the season, the result is crop failures and low production.

An observational analysis of these two aspects in the Midwestern State of Nigeria suggested that major marketing problems existed. The response of general and rubber extension workers to selected questions on the marketing of agricultural produce in the state is shown in Table XXII. The data indicate that 76.7 percent of the general extension workers and 72.7 percent of the rubber extension workers agree that a ready and profitable market for food crops existed in the state and that farmers could benefit from it. This view was repudiated by farmers themselves who indicated that they were advised by the extension service to plant crops which they later could not dispose of. The farmers indicated that they were promised marketing services by extension workers when they were persuaded to plant maize and rice. They were encouraged to leave their maize crop to mature on the cob in the field with the promise that government was embarking on a grain program and would buy the maize from the farmers. This promise was never fulfilled; consequently, farmers sustained heavy losses due to lack of storage facilities. Farmers in general did not agree that the markets available to them were profitable. There was the suggestion that only a small fraction of their produce got to the market because of high perishability and even then they had very little control over the prices they were paid.

TABLE XXII. Percent Distribution of Agricultural Extension Workers by Response to Selected Questions on Marketing

Question	General Extension N=73 No.	Percent	Rubber Extension N=44 No.	Percent
Farmers who produce food crops here have a ready and profitable market.				
Agree	56	76.71	32	72.73
Disagree	17	23.29	12	27.37
Total	73		44	
Rubber production is still profitable despite its low price.				
Agree	30	41.10	36	81.82
Disagree	43	58.90	8	18.28
Total	73		44	
Market advice is not part of my job as an agricultural extension worker.				
Agree	39	53.42	25	56.82
Disagree	34	46.58	19	43.18
Total	73		44	

Regarding the profitability of the rubber business, only 41.0 percent of the general extension workers felt that rubber was still a profitable enterprise in the state despite the low market price. In contrast, 81.8 percent of rubber extension workers agreed that rubber production was still a profitable business. The low percentage response of the general extension workers is a reflection of the general opinion held by farmers and extension workers that the price of rubber on the world market had fallen too far below the profit level to make cultivation worthwhile. There was evidence that farmers in the rubber producing areas so convinced were engaging in expanded food crop production and were cutting down large areas of rubber farms to make land available for other food crop production. The rubber extension workers were, however, closer to the economics of rubber production and were better informed of the profit margin available to rubber farmers compared to food crops.

By far the most important information available on marketing was indicated by the 53.42 percent response of the general extension workers and the 56.82 percent response of the rubber extension workers who agreed that advisory services on marketing were not part of their job as agricultural extension workers. This information may not be new, but it was relatively significant that over 50 percent of the respondents in both organizational types did not feel a real commitment to the marketing problems of the farmer. This fact also confirmed the complexity of the small

farmer's problem and the inadequacy of the present system of services and development. The agricultural extension workers indicated that their primary responsibility was dissemination of agricultural research information to farmers and its proper use in the increase of agricultural production. The marketing function, they said, belonged in the Ministry of Trade and Industries. This opinion was also echoed by headquarter staff who intimated that the Ministry had no regulatory power over marketing, could not involve itself in organizing information on marketing channels, and had no responsibility for market advisory services.

In general, farmers had legitimate complaints with respect to the acquisition of production inputs and the marketing of their produce. The rubber farmers were relatively less affected by a lack of market, except for the frequent fluctuation in prices. The rubber extension workers, in cooperation with staff of the Midwestern Rubber Development Agency, organized producer marketing groups otherwise known as "Rubber Alliances." The Agency was basically a marketing institution complementing the production-education efforts of the rubber extension workers. It guaranteed regular purchase of rubber produce from all organized groups at a price consistent with the current world price of rubber. The farmer was encouraged by group standards to produce clean and unadulterated coagulum or high quality sheets in order to benefit from this arrangement. The results of this program have been very satisfactory to both farmers and staff members of the rubber extension service. At the time of this study, efforts were being made to expand this program.

The availability of a market for inputs in the state was relatively difficult to evaluate. In general, factors of production, chemicals, seeds, fertilizers, supplies, and materials were available at central stores several miles from the points where they were most needed. The demand for chemicals was partially satisfied by chemical salesmen who operated through small local storekeepers in making chemicals available to local farmers. The prices at which such services were provided were usually prohibitive and deterred their extensive use. The rubber division had decentralized stores all over the state for the sale of chemicals, materials, and supplies. The price was fair, but most of these stores were short stocked most of the time.

In summary, it could be argued that the rubber division had an edge over the general extension service in access to produce and input markets. Rubber farmers continued to respond favorably to rubber extension advice because of the combined effect of technology, credit, and market facilities that were available to them, rather than the single effect of any of these factors. The general extension programs, on the other hand, were seriously handicapped by the absence of or poor administration of these production factors.

IV. SUMMARY OF FINDINGS, IMPLICATIONS AND RECOMMENDATIONS

A. Problem and Purpose of the Study

The major purpose of this study was to determine the level of performance of general and rubber extension workers employed in the Ministry of Agriculture and Natural Resources in the Midwestern State of Nigeria.

Dissatisfaction with the state's agricultural extension organization as an effective institution for implementing agricultural development programs resulted in the creation of a rubber division with an independent extension service in 1969. The rationale was that the creation of a single commodity extension service, with sole responsibility for disseminating information and services to the primary producers of a major export crop, was a more viable alternative than the multi-purpose general agricultural extension service. Implicit in this view was the assumption that extension workers operating the new extension service would perform better because of the creation of the new organization. The main objective of this study was, therefore, to determine if the new organizational approach had any measurable influence on the performance of agricultural extension workers.

Specifically the objectives were:

1. To determine the level of performance of agricultural extension workers employed under the general and rubber extension;
2. To determine if the levels of performance of agricultural extension workers under the two systems were significantly different from each other;
3. To identify and discuss factors which explain the difference between the two approaches to agricultural extension organization.

B. Methodology

The study was conducted in three divisions (political units) of the Midwestern State located in different ecological and agricultural zones. The Benin West division was a predominantly rubber-producing area, even though some farmers here were also involved in intensive food crop production.

The Ishan division was a mixed zone or transitional area from rubber production to predominantly food production. Farmers on the western boundaries of the division were primarily rubber farmers. However, as one progressed east and north, the farming system concentrated on food production with small pockets of cash crop production of cotton and cocoa.

The Etsako division was a predominantly food-producing area. The farmers in this area paid less attention to cotton and cocoa.

Data were collected from local-level agricultural extension workers who were presently involved in agricultural extension program implementation in the three divisions. A few extension workers who had previously been employed in the defunct field extension units of the rubber division, but had been reassigned to general extension duties outside the study area, were also interviewed.

A second group of subjects in the study were headquarter agricultural extension administrators and divisional agricultural extension supervisors. They were interviewed for background information necessary to a better understanding and interpretation of events in the field. These were in-depth interviews to obtain information relevant to field-level extension programs which, more often than not, could not be provided by local-level extension workers.

Also, 116 farmers in fifteen villages in the three study areas were interviewed for their assessment of and reaction to programs and local level staff of the two agricultural extension services. An open-ended interview schedule was used. The interview sessions were primarily open discussions, using the interview schedule as a guide.

Finally, information was obtained from such documents, files, and reports of the Ministry of Agriculture and Natural Resources as were considered relevant to the problem under study.

C. Analysis of Data

The procedure for data collection and the nature of the data itself provided information more amenable to descriptive and qualitative analysis. However, in order to make the data on job performance more "comparative" for the two organizations, it was subjected to quantitative analysis.

Agricultural extension worker response on the performance-reporting instrument was coded and classified into high, medium, and low levels of performance for each of the activities. The frequency distribution of high, medium, and low performance for each activity was recorded and the chi-square statistic used to test for significant difference between the performance of the two groups.

D. Conclusions, Implications, and Recommendations

A review of the major findings of this study resulted in a number of conclusions regarding the performance of agricultural extension workers employed by the two agricultural extension organizations in the Mid-western State of Nigeria. These conclusions are particularly important because of their implications for improving overall staff performance and organizational effectiveness. This section will present the major conclusions of the study and will discuss the implications for improvement in extension worker performance.

Conclusions

A reflection on the original issues raised in the purpose of the study leads to the following conclusions.

1. Agricultural extension workers employed by the two agricultural extension organizations were significantly different in their levels of performance on seven of eight indicators of job performance. In each of the seven activities, the rubber extension workers performed significantly more than their general extension counterparts.

2. Technology was a major determinant of differences between the level of performance of the two groups studied.

3. Other factors which accounted for differences in the level of performance of agricultural extension workers were:

(a) the type and nature of in-service training obtained by extension workers;

(b) time utilization in actual field extension work;

(c) extension worker perception of the mission of their services;

(d) participation in programming and decision-making processes;

(e) extension worker perception of supervisory style and procedures for getting work done;

(f) budget limitations and indirect effect of institutional factors--land, labor, credit, and marketing arrangements.

4. Other factors reported by extension workers as affecting their levels of performance included:

(a) shortage of staff in absolute numbers and quality; and

(b) absence of open channels of communication for inter-agency cooperation for rural development at local levels.

From the data in this study, it may be concluded that the performance of rubber extension workers was higher than that of the general extension workers on most of the activity indices of performance measured. The study provided evidence to suggest that the difference in the organizational form--general (multi-commodity) extension and the rubber (single commodity) extension approach--was not the major block to effective performance. Where differences in the level of performance existed, they were due to the availability of a steady stream of economically viable and ecologically adaptable technology supported by an appropriate system of educational and supply services.

The formation of a rubber division was important only to the extent that it made the delivery of educational, advisory, and production

services more accessible to rubber farmers in the state. A conclusion of this study is that in the absence of sufficient and necessary supportive elements, reorganization and the creation of new bureaucratic structures may not have made the differences in performance between the two groups possible.

These conclusions have certain implications for theoretical and methodological considerations in the study of job performance appraisal and organizational effectiveness. These implications will now be briefly discussed.

Implications for improvements in the performance of extension workers

The Ministry of Agriculture and Natural Resources is dependent on the competence of the local-level agricultural extension worker for the implementation of its programs. The findings of this study suggest that the general extension service has not given adequate attention to developing the competence of its extension workers to a level necessary and sufficient for effective performance. In addition, the tools essential for effective work behavior were either in short supply or not available at all. Therefore, the scale of performance was tilted relatively in favor of the rubber extension division where these prerequisites were better planned for. These inferences have significant implications for manpower development and training in the agricultural extension services of the Midwestern State of Nigeria.

An analysis of the background characteristics of extension workers interviewed in this study indicated that only in-service training showed any significant effect on the levels of performance of the two groups of agricultural extension workers. The level of formal education, previous job experience, and tenure did not make any difference. An explanation for this finding could be the structure and content of the training given to agricultural extension workers in the schools of agriculture or other pre-service institutions. The training programs were usually subject-matter specific, primarily cognitive in nature, and delivered in abstraction to the farm problems.

The learning process itself instilled neither the skills necessary to cope with field extension work nor the expertise to deal effectively wiht farmers' problems. The extension worker's level of incompetence on the job was aggravated by a lack of relevant and adequately focused on-the-job training with a problem-solving orientation. This had resulted in the accumulation of a large number of ill-equipped agricultural extension workers whose cumulative low performance led to recognizable ineffectiveness in the agricultural extension services.

To improve the situation, it is recommended that the Ministry of Agriculture and Natural Resources undertake a massive retraining program to develop and equip its local-level extension staff with new skills and the sense of direction and purpose necessary for more effective performance. A necessary condition for the success of this recommendation is that attempts should be made to avoid the traditional training procedures of providing instructional content in abstract and hypothetical situations.

Rather, learning experiences should be aimed at educating extension workers to learn how to deal with real life situations. This recommendation does not negate the importance of specific subject matter knowledge, but implies that such knowledge should be acquired based on its relevance to alternative lines of action in a real life situation.

This recommendation has implications for professional improvements of the agricultural extension workers. It is my belief that professional improvement begets personal competence which enhances individual performance. At the time this study was conducted, there was very little indication of professionalism among agricultural extension workers in the state. But what constitutes a profession or professionalism? Hearn[1] suggested that "practice is professional to the extent that it is sanctioned by society. Such sanction to practice and to educate to practice is earned as a field demonstrates its ability to perform its ascribed function with integrity, knowledge and skill. To act with integrity is to act consistently within a framework of values that is shared generally by members of the profession. To act with knowledge is to act with an awareness of the rationale and possible consequences of one's actions. To act with skill is to exercise such control that one's actions more closely approximate one's intentions. Thus professional practice is a combination of believing, knowing, and doing." Based on this description of professional action, professional development becomes a valuable instrument for performance improvement.

This study determined performance on the basis of eight activities considered to be shared norms of effective performance in the two extension organizations. As a basis for professional development and performance improvement, the agricultural extension services themselves could select what activities they wish to emphasize and ignore in order to improve performance. It may very well be that all the appropriate activities were not identified in this study and new ones would have to be added. The fact remains, however, that the general extension service has to develop a focus, a set of norms, and criteria of performance shared by members of the profession. This set of values provides a guide for action.

A second major task of the agricultural extension service in improving performance through professional competence is to make sure that agricultural extension workers have a body of knowledge which enables them to be familiar with the possible consequences of their educational and advisory role with farmers. One of the factors which differentiated extension workers of the two organizations in this study was the availability of economically viable and ecologically adaptable technology. This finding has implications not only for the nature of the technology, but also for the method involved in the development of the new technology. If agricultural extension is to be an effective profession, it should assume the added responsibility of seeing that more comprehensive research is undertaken so that new technology is constantly made available, enlarged,

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1. Gordon Hearn, Theory Building in Social Work (Toronto: University of Toronto Press, 1958), p. 1.

and revised as farm problems get solved and new problems are created. The method used in gaining new knowledge and developing new technology in this situation should be more adaptive than basic, and more responsive to specific ecological conditions than to broad regional areas.

This recommendation implies a redefinition of the role of the state agricultural research division in the production of development-oriented agricultural technology. It will also require an appraisal of government policy on investments in equipment, materials, and staff training necessary for technology development research.

A third broad implication of this study is concerned with the role of the Ministry of Agriculture and Natural Resources in professional skill development, i.e., improvements in the levels of performance of agricultural extension workers through professional development. The need for skill development is particularly important considering the inadequacy of pre-service training for the specific jobs on which staff were employed. Agricultural extension workers need to be considerably skilled in the handling of human, technical, and conceptual problems at a most practical level; yet most of their formal training was in theoretical subject matter. The result, as mentioned earlier, was that most agricultural extension workers did not have the skill necessary to diagnose or suggest solutions to farm problems. Traditional approaches to on-the-job and in-service training have not been tremendously successful. It is suggested that new approaches be used to educate and develop new skills in the agricultural extension worker so that he can better deal with field extension work. On-the-job training should concentrate on problem-solving and decision-making relevant to providing counsel for farmers. In-service training should emphasize technical knowledge tied to a relevant extension problem in the field with the problem situation providing the important training in a real life situation.

Harrison,[2] in his study of agricultural extension workers in the Western State of Nigeria, found that "the single most important factor explaining differences between the best and worst groups of extension workers in the state was the greater concern of the best workers with making a career within the extension service, and therefore greater desire to go ahead on the job." If agricultural extension workers in the Midwestern State of Nigeria are to perform well on their jobs, they have to be encouraged to commit themselves to a career in the extension service by an on-going personal development program of professional improvement.

There is a need to evolve a pattern of supervision and management which humanizes the individual and encourages him towards greater commitment to his job. Training programs for extension administrators in staff

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2. R. K. Harrison, Work and Motivation: A Study of Village Level Agricultural Extension Workers in the Western State of Nigeria (Ibadan: Nigerian Institute for Social and Economic Research, September 1968), p. 35.

supervision and management should be undertaken to develop a spirit of team effort in extension workers.

The findings on institutional factors affecting the performance of agricultural extension workers in the two systems suggested that land, labor, credit, and marketing arrangements had direct and indirect effects on the performance of agricultural extension workers. It is true that agricultural extension was not organized to deal with these kinds of problems, but in the absence of private institutions available to provide these services, extension staff performance suffered whenever these factors became precursors to successful program implementation.

At the time of this study there were no clear indications as to which agency of government had sole responsibility for any of these factors. What was clear was that very little was being done to provide a solution. This was perhaps due to the fact that very little information was available on the nature of the problem and how it could be solved. It can only be suggested here that each of these factors should be investigated in relation to agricultural extension program implementation with a view to recommending alternative lines of action. Again, the implication here is for government action and investment in research that could provide information needed for policy decisions and action.

Implications for methodology and further research

Research is characterized more by its tendency to raise new questions and issues for further research than by its propensity to provide solutions to old problems. In this section, the implications of this study for methodology and further research are discussed.

A major implication of this study for methodology is with the development of criteria for the measurement of performance. The concern derives from three significant issues:

(a) the complexity of job performance;
(b) the multiplicity of value issues that are involved in the concept of performance; and
(c) the relationship between job performance and organizational effectiveness.

The fundamental fact is that how well an individual performs on a job cannot be measured by one simple instrument. Therefore, the development of criteria for performance appraisal must make room for several indicators of performance. These criteria should allow for identification of individuals who perform well in one dimension of the job and less well in other activities. This study did not make this differentiation, but the result of further studies in this area will be relevant for extension staff development and placement. Agricultural extension workers who have particular abilities in one activity could be selected and trained for similar situations and activities. Such a study should emphasize job demands and individual performance.

Another aspect of the issue is who should be the ultimate judge of performance. It might be necessary to investigate further the degree

of congruence between employee appraisal of themselves and that of their immediate supervisors and the client groups. While such a comparison was not undertaken in this study, I believe that such an analysis could reveal inconsistencies in individual performance and organizational effectiveness. Differences in perception of what activities should be given priority by the different groups could result in the performance of activities which meet neither the client's needs nor the organization's demand for effective performance.

A factor often ignored in the study of performance is the level of frustration and lack of enthusiasm by staff. Extension workers seem to be aware that farmers could listen to their advice and yet ignore their recommendations. Under such a situation the extension worker could be reporting a high level of performance measured by indices similar to those used in this study and yet be contributing very little to enhanced organizational effectiveness. This is not to imply that high individual performance on the job could not lead to high organizational effectiveness, but to caution that such an interpretation should be done with reservation.

Finally, what do the findings of this study mean for the Midwestern State of Nigeria and other areas of the developing world that are still groping for a better approach to extension organization? The single commodity approach could be an alternative if increased farmer production is the priority objective. This orientation to extension programming could have useful application in the short run. The understanding seems to be that the Government has programs which have to be implemented by extension through farmers who are subjects of production, not partners in the production process. They play very little role in the decisions about what they should be growing and how to grow it. They are, as it were, passive actors. This approach could breed dependence on extension service as the prime mover of decisions and actions. However, if long-range growth and development of the farmer is the objective of government, then a more integrated approach capable of developing extension workers who are both process and content oriented should be adopted. Such men working in an extension service as multi-purpose specialists might have a higher capacity to develop farmers into more critical thinkers.

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