An organizational basis for facilitating increased agricultural productivity in Central Province, Zambia

Robert E. Meyer
Iowa State University

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An organizational basis for facilitating increased agricultural productivity in Central Province, Zambia

Meyer, Robert E., Ph.D.
Iowa State University, 1989
An organizational basis for facilitating increased agricultural productivity in Central Province, Zambia

by

Robert E. Meyer

A Dissertation Submitted to the
Graduate Faculty in Partial Fulfillment of the
Requirements for the Degree of
DOCTOR OF PHILOSOPHY

Department: Sociology and Anthropology
Major: Rural Sociology

Approved:

Signature was redacted for privacy.

Signature was redacted for privacy.
In Charge of Major Work

Signature was redacted for privacy.
For the Major Department

Signature was redacted for privacy.
For the Graduate College

Iowa State University
Ames, Iowa
1989
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DEDICATION

This dissertation is dedicated to LaVera H. Meyer for all her love, support and encouragement.
This research plan is set within the alternate dissertation format. This format provides for the production of a series of papers, suitable for submission to professional journals, as a means of satisfying the requirements for the doctoral degree. With regard to the three papers in the dissertation, each focuses on a single topic, but addresses various facets of the overall research. Each paper is able to stand on its own merit, yet taken together they provide a comprehensive investigation of the research area.

The advantage of such a format is that it allows the investigator to explore a broad range of related ideas using divergent research techniques and methods of analysis, thereby allowing for a wider analysis of the topic and providing for a more comprehensive learning experience for the student. The approach adopted in this dissertation is designed to make contributions to the sociological and organizational bodies of knowledge as well as making practical recommendations of potential benefit to policy makers in Zambia.

In the following sections, the problem is defined, the research objectives are specified, and each of the three papers comprising the dissertation are outlined.
GENERAL INTRODUCTION

Improving the quality of life of rural Zambians is an increasing concern among development practitioners, government officials, international donors, and of course, the rural poor. Rural agricultural development has been listed as a top priority in each of Zambia's four five-year National Development Plans. Government assistance to improve the quality of life of Zambians living in the rural areas has taken a variety of forms, ranging from the establishment of cooperatives, the provision of marketing facilities, rural credit, and the introduction of new administrative structures designed to facilitate rural development.

Zambia's ability to achieve agricultural self-sufficiency, however, remains an elusive goal. Since receiving independence in 1964, Zambia has been forced annually to import substantial quantities of its staple crop, maize, despite vast resources of arable land and labor. In addition, wheat, rice, and edible oils have also been imported. In 1966, about 20 percent of Zambia's food was imported from abroad, but by 1983 the amount had increased to 40 percent (Elliott 1983). It is estimated that during the recent period between 1984 to 1986, Zambia imported nearly 160 thousand metric tons of maize from its neighbors, Malawi and Zimbabwe (Good 1986a:273). These shortages, Good argues, cannot be attributed to the lack of production potential, but rather to inefficiencies in the distribution of inputs and the marketing of the crop. Good (1986b:258) reports that between 5 and 10
percent of the total marketable maize is lost annually because of poor planning of the marketing activity.

The goal of agricultural self-sufficiency and increased pressure to deliver a wide range of services at reasonable cost are occurring as the economic situation in Zambia continues to deteriorate. It is difficult, however, to provide adequate support for services when economic resources are scarce and where the number of professional and technical personnel is limited - especially in local governments (Rogers and Molnar 1976). As a result there is a need to develop improved relations between the organizations and agencies that provide services in rural areas to maximize the utilization of scarce resources. Coordination in particular is perceived by many not only as a means for increasing the quality of public service systems, but also as a way to improve the efficiency of government (Whetten 1982).

Statement of the Problem

The agricultural sector in Zambia has been given prominence in each of Zambia's Development Plans, as socio-economic development has been repeatedly linked to the improvement of both agricultural production and living conditions in the rural areas.

Agriculture's role in national development has been consistently viewed as fourfold:

1. to aid in diversifying the economy away from copper by producing and selling abroad agricultural surplus;
2. to increase personal incomes and employment in the rural areas;
3. to decrease dependency on imports of major foodstuffs and some agricultural products;

4. to redress the imbalance of development between the urban and rural sector (World Bank 1984:15).

The overall strategy for rural development as stated in the Third National Development Plan envisages coordinated programs for the improvement of agriculture, agro-industries, transportation, communication, social services, water supplies, and other activities that have a bearing on the standard of living in the rural areas.

A variety of policies and programs have been adopted to achieve these long-term objectives of the government. These programs have included a multiplicity of production schemes, state or cooperative farms, the provision of agricultural inputs, services and credit to small-scale producers. Hindsight analysis of such policies and programs indicates that they have tended to be less effective than their original intentions and were inadvertently inconsistent with one another because they were adopted without the benefit of a coherent overall development strategy. For example, the implementation of the highly mechanized and management intensive settlement schemes and the state farms required huge amounts of scarce public financial and human resources at the expense of agricultural research and extension activities which were aimed at providing technical support to traditional and commercial farmers. These programs also strained and, hence, weakened the Ministry of Agriculture's capacity for managing and coordinating the agricultural sector (World Bank 1984). At the same
time the Government pursued, with good intentions, pricing and subsidy policies which turned out to have adverse effects on the success of such programs.

Recent reviews of Zambian agricultural policy by Scott (1989) and the World Bank (1984) reveal, however, that although the top priority of agriculture is consistently stated, it has not been given.

A frequent criticism of agricultural development in Zambia is the lack of a clear national agricultural policy involving coordinated efforts of the agricultural policy makers and the organizations involved in program implementation. In this regard, Scott (1989) reiterates Ollawa's earlier conclusion that there remains a pervasive lack of coordination among the various entities involved in agricultural development planning and between them and the policy-makers on the one hand and the beneficiaries on the other (Ollawa 1978:117). The main organizations carrying out agricultural planning at the national level include the National Commission for Development Planning (NCDP), the Ministry of Agriculture and Water Development (MAWD) (through the Planning Division and its operational departments), the agricultural parastatals, such as the National Agricultural Marketing Board (NAMBOARD) and the Lint Company of Zambia (LINTCO), and the bilateral and multilateral donors. At the provincial and local levels, the main planners are the Provincial Cooperative Unions, the District Councils, the Provincial administrators, and the farmers themselves. Scott (1989) notes as a rule the coordination mechanisms
among these major planners are either non-existent or inoperative. For instance, while both (NCDP) and (MAWD) have planning officers deployed at the provincial and district levels, neither institution has established a continuous, two-way flow of information and ideas between headquarters in Lusaka, and the provincial and district personnel. Usually the flow is only in one direction, from the top down.

Ollawa (1978:113-114) states the resulting lack of coordination is evident in the elaboration of disjointed and unbalanced plans, which bear little relationship to what is attainable. Scott (1989) adds, the lack of coordination also results in 1) ad hoc actions, with ensuring wastages, 2) little or no participation of the rural masses in decision making nor in project formulation or implementation, 3) inordinate donor ascendancy and/or influence in decision making, which prevents the development of local planning and implementation capacity, and 4) misallocation of scarce resources, particularly when there is duplication of efforts.

In the Zambian agricultural sector the need for coordination is considerable because of program specialization by organizations, the relative lack of competition, decentralization, and the funding policies of government and donor agencies. The inefficiencies in the quality and quantity of services appear to result more from the lack of adequate coordinative linkages and the absence of clear agricultural policy than from the lack of necessary programs. Attempts to coordinate agricultural services both between and within the national,
provincial, district and local levels have proved ineffective in the past.

While coordination continues to be stressed as a corrective strategy, its potential has not yet been realized. Systematic research is needed to better understand the nature of coordination and to determine both the facilitators and barriers to improved interorganizational coordination. The question of interorganizational coordination is important for two reasons. One is that well established and maintained organizational linkages oriented towards the welfare of the small-scale farmer, may maximize organizational resources and contribute more effectively towards overall rural development goals. Similarly, well established and maintained linkages with local level organizations may make services more accessible to the people, and the government effort more responsible to the specific requirements of the rural areas. Second, by examining the structure of organizations and their linkages to other organizations, an understanding is obtained of the events and actions by which organizations attempt to achieve their overall program goals. Through developing an understanding of the environment in which interorganizational relations occur and of the existing interorganizational linkages, possibilities arise for alternative types of strategies in the organization of agricultural development.

Thus, the goal of this dissertation is to examine one crucial aspect of ongoing agricultural programs in Central Province, Zambia;
the nature of interorganizational coordination among the organizations in the agricultural support network. The agricultural support network reviewed in this study is limited to Kabwe Rural and Serenje Districts and includes organizations involved in planning activities for the agricultural sector and/or the delivery of agricultural services (i.e., inputs, credit, marketing, and extension) to small-scale producers.

Central Province was selected for study because it is a major agricultural producing region, and the site of two ongoing development programs of particular interest for this study. In Serenje District, an international donor supported district development program is working to improve the institutional planning capacity of the district personnel. In Kabwe Rural District, a non-governmental private voluntary organization is working in selected rural areas to provide leadership training and general development knowledge to small-scale producers. The different strategies and different level of intervention of the two organizations provided the opportunity to gain information regarding linkages between government organizations and two very different non-governmental programs.

The agricultural support network in Central Province

The agricultural support network in Central Province can be described as diverse, heterogeneous, and comprehensive. Although the network organizations possess a broad range of goals and objectives, it is assumed they all, to a greater of lesser extent, share the collective or system goal of increasing agricultural productivity and
hence improving the situation of the small-scale producer through providing support and/or services, be it through planning or the actual delivery of services.

The Zambian Government organizations in the study included: the National Commission for Development Planning (NCDP), and its provincial counterpart, the Provincial Planning Unit, Central Province (PPU/CP), the Ministry of Decentralization, the Department of Agriculture, the Planning Division, Ministry of Agriculture and Water Development, the Department of Marketing and Cooperatives (DMC), and the Kabwe Rural and Serenje District Council Secretariats. The following parastatal organizations also participated: the National Agricultural Marketing Board (NAMBOARD), the Lint Company of Zambia (LINTCO), the Zambia Cooperative Federation, Financial Services (ZCF/FS), the Agricultural Finance Company (AFC), and the Central Province Cooperative Marketing Union (CPCMU). Zambia Seed Company (ZAMSEED), a private Zambian company, also participated. Ward Development Committees in Chibale, Serenje District and in Chowa, Kabwe Rural District were also included in the network, as were local level primary cooperative societies in both areas. The non-Zambian participants included the British Overseas Development Administration's Integrated Rural Development Program, Serenje/Mpika/Chinsala (IRDP/SMC) and the Institute of Cultural Affairs, an American based private voluntary organization.

Ward Development Committees (WDC) in Chowa and in Chibale were the only political organizations included in the sample of organizations.
There were two reason for this. First, the WDC is the primary Zambian organization responsible for development activities at the grassroots (sub-district) level. Second, in both Serenje and in Kabwe Rural Districts, political officials elected to the district councils declined to participate in the study. Thus, political officials were excluded at all administrative levels.

**Specific research objectives**

The research objectives for the dissertation include the following:

1. To examine the extent to which linkages between organizations, especially those related to agricultural productivity and marketing, are well established and maintained.

2. To identify constraining conditions in the context within which interorganizational linkages are established and maintained.

3. To integrate related theoretical works into a causal theoretical model explaining interorganizational relations.

4. To contribute to the sociological and organizational bodies of knowledge, particularly the comparative sociological literature concerned with the cross-cultural applicability of commonly used Western sociological and organizational concepts.

5. To provide the host country with information that could inform policy choices relative to agricultural development.

To accomplish these objectives, field research in Zambia was undertaken between March and December 1986. The primary data gathering technique involved face-to-face interviews using structured questionnaires.
In each network organization, two surveys were conducted; an organizational characteristics survey to gather information about the organization; and an interorganizational relations survey, to obtain information regarding the respondents' relationships with other organizations in the agricultural support network. For each selected organization, an attempt was made to include top-level administrators, decision makers, and "boundary spanners" - individuals who interact with other organizations as part of their organizational responsibility.

In addition to the questionnaires, extensive use was made of secondary materials from the Rural Development Studies Bureau, University of Zambia and the Ministry of Agriculture and Water Development library. Participant observation and unstructured personal interviews with a broad spectrum of informants, including government and international donor personnel, and private individuals, also complemented the primary research instruments.

Another important aspect of this study is that it recognizes the importance of administrative level in assessing interorganizational relations. Whereas, most previous interorganizational studies have paid little attention to hierarchical level, this study includes relations both between administrative levels (vertical relations) and within administrative levels (horizontal relations) and includes organizations at the ward, district, provincial, and national levels of administration. Figure 1 shows the agricultural support network in
Figure 1. The agricultural support network in Central Province, Zambia showing organizations indicated by respondents as critical to their organization.
Central Province. The linkages depicted in Figure 1 indicate the organizations reported by the respondents as being critical to their organization in doing its work. It can be seen that most organizations maintain relationships with other organizations at different administrative levels as well as within their same administrative level.

The following sections: 1) review the literature on interorganizational coordination emphasizing its relevance in Zambia, 2) review the theoretical approaches most often used in interorganizational studies, 3) present the theoretical orientation used in this study - the political economy perspective, and 4) review the three papers that comprise the dissertation.

**Interorganizational Relations - Coordination**

The impetus for interorganizational analysis has come primarily from a perceived need to reduce duplication and overlap of services, to reduce conflicts and tensions between organizations, and to enhance the delivery of services (Benson 1982:141). One important aspect of interorganizational relations concerns coordination among organizations, which has increasingly been recognized as desirable. According to Mulford and Rogers (1982), the term coordination means different things to different people, and it has been operationalized in many different ways. It has commonly been confused with a variety of concepts such as cooperation and resource exchange. Cooperation and
coordination differ in terms of the presence of decision rules, degree of formalization, kinds of goals emphasized, amount of resources involved, primary actors, relative threat to autonomy, and implications for vertical and horizontal ties. Mulford and Rogers (1982:12) define coordination as "the process whereby two or more organizations create and/or use existing decision rules that have been established to deal collectively with their shared task environment." This definition is useful because it (1) emphasizes that decision rules can be established by a third party or created by the participants, (2) underlines the importance of shared task environment, (3) focuses on the role of the collectivity and its attainment of a unique level of goals, and (4) stresses joint decisions and action.

At the heart of understanding interorganizational relations is the premise that no organization is self-sufficient to solve complex social problems such as rural development (Pfeffer and Salancik 1978). The World Bank (1975) has recognized for more than a decade that rural development projects, in particular, depend critically on coordination, and it has called for the specification of institutional barriers that may impede rural development efforts. The assumption is that coordinated efforts will lead to more successful outcomes than will independent actions of the same organizations (Rogers and Whetten 1982). Moris (1973:100) emphasized the importance of coordination to agricultural development noting that "agricultural service activities typically consist of a chain of serially linked actions performed by
various departments and administrative actors in sequence. A slip-up at only one or two points may nullify the impact of all subsequent actions." Leonard (1977:207) notes that the days of autonomous agricultural development are ended. He adds, however, that although the key concept in successful agricultural development is the establishment of effective organizational linkages, development literature has very little to offer regarding effective linkages.

The importance of interorganizational coordination (IOC) between the agricultural service organizations has also been recognized in Zambia. The Third National Development Plan of Zambia mandated a decentralized form of administration requiring coordination of the various units involved and the participation of small farmers in decision making (GRZ 1979). More recently, the newspapers in Zambia have been replete with directives from government officials and requests from organizational leaders calling for increased coordination (see Good 1986a).

Despite the interest in coordination and the many calls for increased coordination, it has not been specified how coordination should take place, nor have provisions been made to determine if the necessary linkages are in place and operating efficiently. However, Zambia is not alone in this respect. Despite the increasing evidence of problems caused by poor coordination between organizations, Whetten (1977:78) reports that the literature on this subject contains surprisingly few guidelines for solving them and even fewer
recommendations for designing interorganizational linkages to achieve better coordination.

Approaches to Studying Interorganizational Relations

Interorganizational relations may be analyzed using different conceptual schemes. Three types of general conceptual discussions concerning interorganizational relations appear in the literature. The first, focuses on intraorganizational characteristics as preconditions for IOR. The second, deals with the various types of interaction that may take place. The third, is concerned with the relationship between organizations and their environments. Each type will be reviewed briefly.

A number of authors in the past two decades has suggested focusing on interorganizational relationships as a subfield of organization analysis (Evan 1966; Guetzkow 1966; Turk 1977). The origin of the first perspective is deeply embedded in organization theory, and it will first be discussed in that context.

The topic of organizational structure dominated the field of organization research during the '60s and '70s. Attention, however, has shifted and now focuses more on the effect of the environment on organizational behavior as well as the nature of interorganizational relations in an organization's environment.

While the shift has had the beneficial effect of examining a much broader range of phenomena than once was the case, the unfortunate
aspect of this shift is that it has curtailed the theoretical
development that was emerging in regard to structure. Some
contemporary writers such as Perrow (1979), Zey-Ferrell (1979), Hage
(1980) and Hall (1982) continue to emphasize the importance of
structure while others, such as Aldrich (1979) pay little attention to
the issue. In addition, the shift in emphasis has occurred at a time
when other disciplines were beginning to acknowledge the contributions
organizational research has made toward expanding the body of knowledge
in their field. In his review of the current state of comparative
public administration, Henderson (1982) concluded that modern
organization theory has made enormous inroads into this area of study.
Jreisat (1975), Springer (1976), and Tapia-Videla (1976), in articles
evaluating the status of comparative public administration, also
alluded to the importance of organizational theory (Henderson 1982).
According to Jun (1976:645), the change-oriented themes encountered in
organization theory have important implications for the development of
comparative administration, including the best methods for changing
organizational structures so they may cope more effectively with
complexity and with turbulent environments.

Leonard's (1977) analysis of the extension system in Kenya and
Rubin's (1980) study of rural Thai bureaucracy have also demonstrated
the utility of organization theory in the related fields of development
administration and comparative policy analysis.
It is not the intent to imply that these other disciplines have abandoned organization theory as a result of the shift in emphasis. Quite the contrary, they too have shifted their attention to examining organization-environment relationships, which has only exacerbated the situation regarding the theoretical development of the study of organizational structure.

The shift from analyzing organizational structure to focusing on the environment has also limited the theoretical development of the relationship between organizational characteristics and IOR. Whetten (1982) notes it is the one aspect of IOR about which we have very little understanding. Although several writers have implied the causal relationship between organizational characteristics and IOR (Dillman 1969; Klonglan et al. 1969; Klonglan and Paulson 1971) few empirical studies have focused on organizational characteristics as determinants of IOR. Some notable exceptions include Aiken and Hage (1968) and Paulson (1971; 1974).

The second paper in this dissertation focuses on the organizational characteristics of the organizations which make up the agricultural support network. Although no causal relationships are posited between organizational characteristics and environmental or interorganizational variables, an open-systems perspective is adopted which assumes interaction of the organizations with their task environments and the more macro, general environment. Zey-Ferrell (1979) states that this does not denote a closed-system theoretical
model, it merely omits environmental variables from the analysis. The results of the analysis, however, will be used in part to make recommendations for improved IOR in the other two papers.

The second method of analysis focuses on the patterns of interaction between organizations in the performance of their individual and collective goals. Analysis of this type might focus on the flow of resources between two organizations, their participation in joint programs, or the conflict that arises in the delivery of their mandated services. Exchange theory is the predominate theoretical orientation in this type of research.

Zeitz (1980:72) is critical of this method as overly simplistic. He stresses that interorganizational relationships are characterized by tremendous variety, pervasive change and conflict, the presence of many confounding variables, and the propensity of organizations to socially construct their own environment. To eliminate the limitations of the traditional approach to studying IOR, Zeitz stresses the need to consider the nature of the organizations involved, as well as the larger context of IOR, i.e., the environment.

The relationship between organizations and their environments is the prevalent orientation in contemporary interorganizational writings. Aldrich and Pfeffer (1976:79) consider IOR to be a special case of the more general study of organizations and their environments. Most writers agree the environment should be conceptualized at two levels, the micro level and the macro level. At the micro level, whether it is
referred to as the specific environment (Hall 1982), the task environment (Thompson 1967), or the relevant environment (Dill 1958), it generally refers to organizations, groups, and persons with which the organization is in direct interaction. The macro or general environment (Hall 1982) includes those conditions that indirectly affect an organization, including technological, legal, political, economic, demographic, ecological and cultural conditions.

Although there is almost consensus regarding the importance of organizational environments, there are two major approaches to the relationship between organizations and their environments. Several models exist within each approach, but the primary difference lies in whether it is the organization or the environment that is the predictor variable. The natural selection model (Hannan and Freeman 1977), population ecology model (Aldrich 1979), and structural-contingency model (Lawrence and Lorsch 1969) perceive the environment as controlling the organization, thus the environment is the predictor variable. In the second approach, the organization is viewed as the independent variable influencing other organizations in its task environment. The resource dependence model (Pfeffer and Salancik 1978) and political economy model (Benson 1975) are of this type. The resource dependence perspective has been the predominant model in contemporary IOR studies.
Interorganizational theory used in this dissertation

Most IOR studies to date have been conducted using exchange theory or the resource dependence perspective, both of which assume that coordination between organizations evolves as a rational response of organizational administrators who establish linkages with other organizations because they believe it will enhance organizational performance. That is, decisions to establish IOR are based on rational decisions of administrators of the organizations involved. The rational model of decision making contains two key assumptions: (1) that the administrator has considerable freedom to choose between alternatives and (2) that choices are made on the basis of what are generally considered to be rational/economic considerations (Whetten and Leung 1979:328). The present analysis of IOR differs because the Zambian agricultural policy sector precludes the above assumptions. Policy decisions by the state are important determinants of interorganizational partners and linkages.

In addition, Benson (1982:145) argues that the principal failure of traditional IOR theory is its "de-contextualized character." It fails to include a concern with or theory about the larger societal context and its institutional arrangements. In contrast, Benson argues that a political economy perspective utilizing policy sector analysis could provide a context for interorganizational studies that directs attention to the connection of interorganizational patterns to the major structural problems of society, particularly those of the state.
To understand the role of the state and the relationship between it and IOR in the agricultural support network, it is imperative to first view the network in the larger environmental context of which it is a part. Policy sector analysis provides the vehicle to do this. It goes beyond theory in that it also helps to provide an overall understanding of the agricultural policy sector that will facilitate practical contributions. To view the agricultural support network without first examining its relationship to the larger patterns of interorganizational and institutional dominance would prohibit a clear understanding of IOR.

Benson (1982:149-168) proposes that the policy sector is a multileveled social structure, and its study involves analysis at two partially autonomous, but related levels. The surface level consists of the primary organizations and their administrative arrangement (division of labor), policy paradigms, and interorganizational dependencies. A second underlying level, which puts limitations on the first level, includes the interest-power structures and rules of structure formation.

Operationalization of the variables is limited to the first level of Benson's model. The influence of factors in the second level, however, will be included in a discussion of IOR when appropriate.
Review of the Papers

Paper #1

The original draft of the paper, "Designing organizational linkages for effective marketing and input supply in Zambia," was written by request from the editors of The Dynamics of Agricultural Policy and Reform in Zambia (Wood et al., 1989).

The paper reviews interorganizational relations in the agricultural support network within the theoretical context of Benson's political economy perspective. Using data from this study, Whetten's (1977) contingency model for designing integrated service delivery systems is used as a model for making recommendations for designing a service delivery system for the agricultural support network.

Methods and data analysis

Data analysis for the paper includes calculation of mean organizational scores (N = 18) based on data from multiple respondents per organization, for the dependent variable, IOR Effectiveness, and the following independent variables: organizational autonomy, resource adequacy, resource dependence, information dependence, joint planning, joint implementation, domain consensus, conflict, and conflict resolution. In addition to organizational mean scores for the network, mean scores were determined for each administrative level at which the organization participates (N = 28). Data for the district and ward levels were combined into a single level due to the small sample size at the ward level.
Second, one-way analysis of variance is used to determine the degree to which each variable is a property of organizations or organizational units. Essentially, one-way classification allows for the comparison, for any one variable, of two variances: variance among observations within an organization and variance between organizations. F distributions allow for a determination of the probability of chance alone being responsible for differences between the two variances.

Third, two-way analysis of variance allows for the inclusion of a second classification, i.e., administrative level, as a control. That is, the above discussed within organization variance is calculated within administrative levels of the agriculture support network. This procedure reduces the amount of within organization variance. The remaining variance may be termed variance between levels and, thus, three sources of variance can be analyzed, between organizations, between administrative levels and within administrative levels. The usefulness of this procedure, for this work, is that it can be used to demonstrate that administrative level is also a meaningful aggregation of the data. The statistics will determine the degree to which a variable is a property of the level versus the network.

Finally, zero-order Pearson Product Moment correlation coefficients were used to determine the association between variables. Correlation coefficients were computed for each administrative level and for the network.
Paper #2

The second paper is entitled "Aiken and Hage revisited: a cross-cultural examination of modified centralization, formalization and task routineness scales."

The rationale for the paper is two-fold. First, analysis of the organizational characteristics will provide information that will be beneficial in making recommendations for improved IOR. Second, the paper will make a contribution to the comparative organizational sociology literature by assessing the cross-cultural applicability of the widely used scales.

The cross-cultural applicability of the scales will be assessed by answering the following questions: (1) to what extent are the measures of centralization, formalization and task routineness appropriate for use in Zambia, and (2) what, if any, are the similarities and differences among the relationships between the subconstructs when used cross-culturally.

The answer to the first question will be determined by examining the reliability and validity of the subconstructs which make up the scales. These results will be compared to earlier studies by Aiken and Hage (1968; Hage and Aiken 1967b; 1969; 1970), Dewar et al. (1980), and by Mulford et al.(1984).

The answer to the second question will be answered by reviewing the relationships between the subconstructs to determine if they support hypothesized relationships determined in earlier studies. The
The relevance of stable relationships across cultures is emphasized by Hickson et al. (1979:30) who state "that although in cross-cultural research differences between countries (in level of scores) may arouse curiosity, fundamentally it is the relationships between variables that is first priority for study." Przeworski and Teune (1970:45) concur that "systems differ not when the frequency of particular characteristics differ, but when the patterns of the relationships among variables differ."

The cumulative works of Aiken and Hage have generated the following general hypotheses:

1. The higher the degree of centralization, the higher the degree of formalization (Hage and Aiken 1967b).

2. The more routine the work in an organization, the greater the degree of centralization of organizational power (Hage and Aiken 1969).

3. The more routine the work in an organization, the greater the degree of formalization (Hage and Aiken 1969).

On the assumption that the six subconstructs which make up the centralization, formalization and task routineness scales form a closed system of interrelated variables, the rules of syllogism permit the following corollaries to be tested in this study:

1. The greater the hierarchy of authority, the lower the participation in decision making.

2. The greater the participation in decision making, the lower the job codification.

3. The greater the participation in decision making, the lower the rule observation.

4. The greater the participation in decision making, the lower the job specificity.
5. The greater the hierarchy of authority, the greater the job codification.

6. The greater the hierarchy of authority, the greater the rule observation.

7. The greater the hierarchy of authority, the greater the job specificity.

8. The more routine the work, the less the participation in decision making.

9. The more routine the work, the greater the hierarchy of authority.

10. The more routine the work, the greater the job codification.

11. The more routine the work, the greater the rule observation.

12. The more routine the work, the greater the job specificity.

Methods and data analysis The unit of analysis is the organization and is based on data provided by multiple informants (N = 78) representing sixteen organizations at the national, provincial and district levels.

Once the determination is made that a variable is an organizational property, a decision must be made regarding how to reflect this information in measurement. Because the major objective of this paper is to compare the results of this study with those obtained earlier, the method used involves aggregation of the data by organization and taking the mean of all respondents' scores to create organizational mean scores. In their original work, Hage and Aiken utilized a slightly different method whereby means of "social positions," described as intersections of levels and departments were used. Hage and Aiken (1967b:77) reported that scores using the social
position and mean aggregation procedures were highly correlated. Most coefficients were about .88, however, the coefficients for hierarchy and job codification were .70 and .68, respectively (Dewar et al. 1980).

In order to be consistent with the work of Dewar et al. (1980) and Mulford et al. (1984), reliability coefficients (Cronbach's alpha) will be calculated to determine the internal consistency of each subconstruct, median inter-item correlations will be calculated to determine convergent validity, and median off-diagonal correlation coefficients will be calculated to determine the discriminant validity for each scale.

Evaluation of the modified scales for cross-cultural organizational research will be made by comparing the results obtained in this analysis with the results of similar evaluations of the scales when used in the United States by Aiken and Hage during the 1960s, by Dewar, Whetten and Boje, and by Mulford et al. in the 1980s.

Paper #3

Paper #3 is entitled "Analysis of interorganizational effectiveness in the Zambian agricultural policy sector: A political economy model."

The focus of this paper is to investigate the factors associated with perceived effective interorganizational relations between organizations in the agricultural support network. This will be accomplished through the development and testing of a causal path
model. Development of the model combines theoretical and empirical considerations in exploring the combined ability of various categories of variables to account for variation in interorganizational effectiveness. The objective of the paper is to build a model, using the political economy perspective, that will explain effective interorganizational relations in the Zambian agricultural policy sector.

The major emphasis is placed on delineating variables for consideration in future research using the political economy perspective in environments where the majority of interorganizational linkages are mandated. A major concern, then, is the combined ability of the variables examined to account for the variation in the dependent variable, IOR effectiveness. If little variation can be accounted for, then a high priority should probably be placed on searching for other variables. If most of the variation can be accounted for, then perhaps it would be more meaningful to place a higher priority on examining the interrelationships among the independent variables already developed.

Presentation and discussion of the model Development of the final model will include introducing in successive stages each of three categories of variables. The primary objective in using this approach is to determine what proportion of the variation in the dependent variable can be accounted for by each temporally ordered a priori variable categories. The variables found to differ significantly from zero will be included in further testing using regression to analyze
the fully recursive model. A revised path model will be developed and analyzed.

**Stage 1** The first stage to be evaluated includes only those variables categorized as contextual variables. This stage is presented in order to determine what proportion of the variation of the dependent variable can be accounted for by factors existing prior to present interorganizational relations and which present opportunities as well as constraints on the nature and form of the linkages established. The contextual variables include: (1) the nature of the relationship (whether formal or informal) between organizations in the network, (2) the presence of persons from network organizations on boards, councils or committees of other network organizations, (3) the extent to which network organizations are informed about the specific goals and services of other network organizations, and (4) the extent of agreement (domain consensus) between organizations on the needs and problems of small-scale producers in general and the specific services and goals of programs. Analysis includes the variation accounted for by all variables in the situational category, for the four possible three variable combinations, the six two variable combinations, and for each variable individually.

**Stage 2** The second stage retains the contextual variables and adds to them three interorganizational resource dependency variables. The major distinguishing factor between contextual variables and resource dependency variables is that the latter reveal
which network organizations are involved in IOR and to what extent. The question to be addressed is the combined ability of the contextual variables and resource dependency variables to account for the variation in the dependent variable. The resource dependency variables include: (1) the dependence of network organizations on each other for information, (2) the dependence of network organizations on each other for money, staff support, and equipment or office space, and (3) the joint activities of network organizations in planning and implementing rural development activities. To gain some insight into possible relationships among the variables included in stage 2, all possible variable combinations were considered to determine which combination of variables account for the greatest proportion of variation when from two to seven variables are included.

Stage 3 The final stage in building the model retains the contextual variables and interorganizational resource dependency variables and adds to them two transaction process variables. The transaction process variables characterize the quantity and quality of the resource transactions between organizations in the network and include: (1) the frequency of disagreements or disputes between network organizations, and (2) how well these differences had been resolved at the time of the study. The variables in stage 3 were entered into the model individually to determine the additional r-square accounted for by each variable.
Path model  To determine the final model, more traditional model building statistical techniques were used. To specify the relationship between variables for analysis, an initial set of nine regression equations was constructed using each variable in turn as a dependent variable with the variables preceding it in the causal ordering as independent variables. The general analysis technique is an ordinary least squares solution of this recursive set of simultaneous equations. The revised model was determined and evaluated according to the criteria below.

Evaluation of the model  Paulson (1971:52) states that path analysis typically follows these eight steps:

1. Draw a causal model diagram.

2. Obtain regression coefficients for each independent variable in each equation of the recursive set.

3. Obtain partial F values for each coefficient.

4. Drop all variables for the equation which do not have significant partial F values for their coefficients.

5. Repeat steps 2 through 4 until all coefficients have significant F values.

6. Standardize the coefficients by multiplying the coefficient by the quotient of the standard deviation of the independent variable by the standard deviation of the dependent variable. The standardized coefficients may be termed "path values" and allow for direct comparison of weights (coefficients) of variables between equations.

7. Place the path values on appropriate arrows in the causal model and delete arrows without significant path values (i.e., nonsignificant partial regression relationships).

8. Calculate for each variable, the standardized amount of variance not explained by its hypothesized causes (the square root of (1 - R-squared)) and place it on the diagram
as a causal path representing the causal effect of all variables not included in the original model.

Several methods of evaluation of the final model may be used. This work will utilize the following:

1. Degree to which the final path model corresponds to the original model in terms of:
   (a) variables included,
   (b) causal arrows included, and
   (c) direction of prediction (positive or negative).

2. Relative strength of the various paths.

3. Amount of variance not explained in each variable.

4. Decomposition of the path coefficients into their direct and indirect effects.

Data analysis The primary statistical procedure utilized in the analysis is SAS GLM (General Linear Models). GLM was selected for use in analysis rather than more traditional regression because of its inherent advantages. Of particular relevance for this work is the "ease of specifying categorical effects" (SAS 1985:7). GLM automatically generates dummy variables for class variables, thus permitting evaluation of variable relationships by administrative level.

The basic context within which the above statistical procedures will be employed is one of theory building, and as such, Paulson (1971) suggests taking a rather lenient position with regard to significance levels and meeting of assumptions. Therefore, the alpha level used to determine statistical significance is .15. This position is taken so as to avoid premature rejection of variables of marginal significance.
to an overall model and utilize existing data which favorably provide measurement of the concepts, but unfavorably, was not collected according to random selection procedures.
Zambia is a landlocked country, resembling a sprawling butterfly lying in the heart of the central African plateau. Zambia shares its borders with eight countries: Zaire and Tanzania to the north, Malawi to the east, Mozambique, Zimbabwe, Botswana, and Namibia to the south, and Angola to the west (Figure 2).

Zambia has a land area of 752,614 square kilometers (239,519 square miles), an estimated 1984 population of 6.2 million people, and an uneven population density of 8.2 persons per square kilometer (World Bank 1984:1). Zambia is second only to South Africa as the most urbanized country in Africa. Forty-three percent of the population live in cities or towns, with nearly 80 percent of the urban dwellers residing in ten urban areas located along a 40 kilometer-wide zone stretching from the "copperbelt" in the center of the country southward through the capital city, Lusaka, and onto Livingstone on the southern border. This zone, referred to as the "line of rail," has a population density of about 35 persons per square kilometer, whereas, the rest of the country is thinly populated with an overall density of only 2 persons per square kilometer.

During the inter-censal periods 1963-1969 and 1969-1980 the population increased at an average annual rate of 2.5 percent and 3.1 percent respectively. The last rate of growth of population implies a doubling of the population in less than 23 years. The population of Zambia is not only growing fast, but the rate of growth itself is also
Figure 2. Republic of Zambia
accelerating (GRZ 1986:1). The relatively young age of the population suggests the growth will continue to accelerate. Nearly half (46.3%) of the population is less than 15 years old with another 10 percent between 15 and 19 years of age (GRZ 1986:22).

The poor performance in the agricultural sector since independence has, undoubtedly, increased the migration to the urban areas, especially to the Lusaka and Copperbelt provinces. Recent urban/rural income differences are a significant explanation of this urban drift. The World Bank (1984:7) reports the average cash earnings of formally employed Zambians in agriculture are about K612 per year, or about 35-40 percent of average wages for African workers generally. Estimates of incomes for small-scale traditional producers reveal such farmer's incomes are about K200 to K300 per year per farm, or less than half the average annual cash earnings of farm workers. These sorts of differentials cause subsistence farmers to want to become farm workers and to cause farm workers, in turn, to seek non-farm work in the urban areas.

Other statistics further elaborate the poverty of much of the Zambian population. A recent food security study by the World Bank (1988a) revealed 48% of the population (2.7 million) in Zambia are food insecure, that is, they have failed either to produce adequate food or to generate enough revenue to buy it on the world market. Additional data reveal life expectancy is 54 years, infant mortality is 82 per thousand, and adult literacy is about 39 percent (World Bank 1988b).
With respect to income, per capita Gross National Product (GNP) has declined by 50% since 1981, from K600 to K300 (World Bank 1988b). The distribution of wealth in the form of incomes derived from cash or other sources, however, remains highly skewed. In percentage terms, the top 20 percent claimed 61.1 percent of the total incomes while the bottom 20 percent received a mere 3.4 percent (World Bank 1988b).

**Ethnicity**

Zambia is characterized by some seventy-three ethnic groups. Kaplan (1979) argues although there are differences between groups, the divisions are essentially artificial entities created by the colonial government for administrative convenience. In comparison with other African nations, there are few sharp cultural boundaries among Zambia's ethnic groups. In Zambia, all ethnic groups, even the major ethnic blocs are minorities inside the nation's boundaries and, furthermore, relatively evenly matched (Kaplan 1979).

Kaplan (1979:81) adds, "'tribalism' is not the deeply rooted social structure so often depicted; rather, tribalism and charges of it are political phenomena in contemporary Zambian society." A great deal of the credit, however, belongs to President Kaunda, who has striven continuously to remain above tribe and has taken great care to apportion power among all constituencies. In fact, his constant reshuffling of ministerial posts in attempts to achieve a sectional balance at times frustrated his goal to mold an efficient administration.
Historical Background

As a geographical unit, Zambia was created by the European Partition of Africa in the late nineteenth century and was administered by the British South Africa (BSA) Company. Company rule was superficial but exploitive until 1924, when, for mainly economic reasons, BSA handed over its administration role of what was then Northern Rhodesia to the British Colonial office (Kaplan 1979).

The British assumption of control coincided with the discovery of major copper deposits and the subsequent establishment of the "copperbelt" as the economic and political center of the territory in the 1930s. The discovery of copper intensified the demand for labor to work in the mines. This and the thriving slave trade had a significant impact on de-populating the rural areas.

As the African political consciousness matured into nationalism, the insecure European minority sought closer association with the larger white settler population in Southern Rhodesia (Zimbabwe). Thus, in 1953 the two Rhodesias joined Nyasaland (Malawi) to form the Central African Federation of Rhodesia and Nyasaland, despite the opposition of Northern Rhodesia's Africans. Following an African majority in the Legislative Council elections in 1963, Northern Rhodesia demanded secession from the federation, internal self government under a new constitution, and a new parliament based on democratic franchise (Kaplan 1979:5). In 1963, the federation was dissolved, and Northern Rhodesia became independent in October 1964 as the Republic of Zambia under President Kenneth Kaunda.
Many of Zambia's current problems can be traced back to British colonial rule and the brief interlude of federation with Southern Rhodesia and Nyasaland before independence in 1964. The British needed cheap labor to work the copper mines, so they imposed a Native Tax payable only in cash to force the Africans to work for pay. They reserved the best agricultural land for large-scale expatriate farmers and relied on them to produce cheap maize instead of developing the indigenous farming system. Tax revenues and income from the mines was spent on urban infrastructure and services to benefit the European population, while the rural areas and African agriculture and education were neglected. Traditional systems of agriculture actually deteriorated due to the loss of labor from the rural areas. Bates (1980) argues that if subsistence agricultural production was ever the dominant characteristic of African rural society, the onset of European colonialism put and end to it.

The Zambian Economy

At independence Zambia inherited a dual economy with a highly developed mining sector with its line of rail, while the rest of the country was undeveloped. In order to correct this imbalance in development and this bias towards the line of rail and the mining sector, there was an urgent need for a more equitable distribution of resources.
The Mulungushi and Matero Economic Reforms in 1968 invoked government control over the economy and "Zambianization" of the labor force. These reforms mandated government ownership on a 51% basis of the 25 leading companies in Zambia and provided that Zambians take over jobs previously held by expatriates. In addition, the reforms limited the amount of profits from copper production that could be sent abroad. The reforms resulted in the creation of a massive bureaucracy of parastatal organizations to control every major segment of the economy.

For several years after independence high copper prices kept the government coffers well-filled and permitted the development of what Presthus (1961) refers to as a "welfare bureaucracy." Large sums were invested in education, medicine, transportation and energy, and a variety of rural initiatives and projects.

Urban improvements were primarily focussed on large-scale projects and modern industry. Most of the industries were capital intensive and heavily dependent on imported raw materials and other production inputs and as a result did very little to achieve a solid base for expansion of employment and income-generating opportunities (ILO 1980:6-11).

The government's program for mobilizing mass participation in the government controlled economic development was centered around "Humanism," the official ideology of Zambia's single political party, the United National Independence Party (UNIP). Introduced in 1967, Humanism was the Zambian brand of African socialism, emphasizing the role of the state in the development of the economy. Some important
aspects of Humanism include state ownership of big companies, free medical services, free public education, and subsidized services like transportation. More importantly, Humanism alluded to the communalist mode of administration in which mass participation in administrative decision making would be effected at the grassroots level.

In constant 1970 prices, Gross Domestic Product (GDP) grew by an average of 2.7 percent annually between 1965 and 1975, but then fell by 1.9 percent a year the next few years due primarily to falling copper prices on the world market. After rising 3 percent in 1980 the growth rate turned negative again, falling by 1.8 percent. The trend toward negative growth has continued, as recent World Bank statistics reveal current economic growth to be -1.7 percent (World Bank 1988a).

Zambia continues, however, to be heavily dependent on low-priced copper for most (95%) of its export earnings, while simultaneously, there is a heavy reliance throughout the economy on imported inputs, whose prices have been steadily rising since 1974 (Scott 1989).

Low prices for copper, declining reserves and quality of copper, and the rising costs for imported goods - especially food, have made it apparent that the solution to many of the nation's problems lies in shifting the foundation of the economy away from mining and towards agriculture.

Regarding the state of the economy, the World Bank (1984:5) concluded that the poor performance of the economy is not due to inadequate levels of aggregate investment, nor is it due to
government's lack of resolve and/or ability to rigorously pursue macroeconomic stabilization policies. Instead, major problems have been caused by the poor allocation and inefficient use of resources. While improved interorganizational coordination is not a panacea for Zambia's economic problems it can be a major step toward improved planning and the conservation of scarce resources.

Characteristics of the Agricultural Sector

Zambia also inherited an acutely dualistic agricultural sector at independence with a relatively small well developed large-scale commercial farming subsector and a much larger traditional subsistence subsector. While this dualism is still present, it has become less marked with the emergence of an increasing group of small-scale emergent commercial farmers who currently make up approximately 20 percent of the farm households (World Bank 1984).

Three types of farmers have been identified in Zambia: commercial farmers, emergent farmers, and traditional farmers. The traditional farmers, numbering 500,000, or about 80 percent of the estimated farm households, cultivate an average of 2 hectares, or about 1.6 million hectares, using farm labor and simple hand tools. The traditional small-scale producer produces for subsistence purposes primarily because he/she is constrained by the lack of regular cash income to purchase appropriate technological inputs. Commercial farmers number about 6,000 or 1 percent of the farm households. They produce
predominantly for the market and account for about 40 percent of the volume of marketed maize and about 55 percent of other crops. The commercial farmers consist of about 5,300 semi-commercial farmers, cultivating 20-40 hectares, using oxen and tractors and about 700 large-scale, highly mechanized farmers, cultivating up to 600 hectares. Of the 700 large-scale commercial farmers, about one-fourth are African Zambians. This group is in the top 5 percent of all income earners in the country. Sources vary as to the numbers of small-scale commercial, or emergent farmers, with estimates varying from 60,000 to 120,000. These farmers cultivate from 5 to 20 hectares, producing both for subsistence and for the market. These emergent farmers account for about 60 percent of the volume of the marketed maize and 45 percent of the other marketed farm crops.

Estimates of the total area cropped annually vary from a low of 620,000 hectares to a high of 1.41 million hectares (World Bank 1984). More importantly, regardless of which figure is selected, it is estimated that less than ten percent of the land presently suited for agriculture is continuously cultivated. Thus, there is a considerable resource of unutilized land which represents great potential for growth.

Overall real growth in the agricultural sector was a mere 2.4 percent between 1965 and 1982. The commercial sector, which grew at an average real rate of 5.9 percent per annum during this period, was the major source of economic growth in the sector. It increased its
contribution to agricultural output from only 19 percent in 1965 to about 40 percent in 1982. The traditional sector, however, was stagnant, experiencing a real growth rate of 0.3 percent per annum during this same period. By contrast, its share of the sectoral market declined from 81 percent at independence to only 59 percent in 1982 (World Bank 1984:5).

The existence of such a large traditional sector and the availability of arable land represents a large potential resource which can be mobilized for increased agricultural production. The World Bank (1984) argues the negative growth in the traditional sector is more the result of the lack of effective technical and marketing support than the lack of price incentives. Thus, if traditional farmers can be effectively linked to the agricultural support network, enabling them to obtain the necessary services (i.e., credit, inputs, extension, and marketing) their contribution to the economy in the aggregate would be significant.
Designing organizational linkages for effective marketing
and input supply in Zambia

Robert E. Meyer

From the Department of Sociology and Anthropology, Iowa State University, Ames, IA 50011

Supported in part by the Graduate Technology and Social Change Program, Iowa State University, and research grants from the World Food Institute, Iowa State University, and Sigma Xi, The Scientific Research Society. The field work for the paper was conducted during 1986 while the author was a Research Affiliate with the Rural Development Studies Bureau, University of Zambia.
SECTION I. DESIGNING ORGANIZATIONAL LINKAGES FOR EFFECTIVE MARKETING
AND INPUT SUPPLY IN ZAMBIA

Introduction

Government assistance to improve the quality of life of Zambians living in the rural areas has taken a variety of forms, ranging from the establishment of cooperatives, the provision of marketing facilities, rural credit, and the introduction of new administrative structures designed to facilitate rural development. Pressure to deliver a wide range of services at reasonable cost increases while the economic situation continues to deteriorate. It is, however, difficult to provide adequate support for services when economic resources are scarce and where the number of professional and technical personnel is limited - especially in local governments (Rogers and Molnar 1976:598). Thus, there is a need to develop improved relations between the organizations that provide services in rural areas to maximize the utilization of scarce resources. Coordination in particular is perceived by many not only as a means for increasing the quality of public service systems, but also as a way to improve the efficiency of government (Whetten 1982:4).

Following her review of decentralized development in Zambia, Tanzania, and Papua New Guinea, Conyers (1981:114-115) concludes that the theoretical advantages of coordination tend to be greater in the case of rural development because of the need for sensitivity to local
conditions and attitudes, the need for flexibility and participation in implementation, and the range of government departments involved. In the Zambian agricultural sector the need for coordination is considerable because of program specialization by organizations, the relative lack of competition, decentralization, and the funding policies of government and donors agencies. The inefficiencies in the quality and quantity of services appear to result more from a lack of adequate coordinative linkages and the absence of clear policy than from the lack of necessary programs. Attempts to coordinate agricultural services both between and within the national, provincial, district and local levels have proved ineffective in the past.

This paper reviews interorganizational relations (IOR) in the agricultural support network, discusses the political economy within which IOR occur, and makes recommendations for designing an interorganizational agricultural service delivery system. The agricultural support network referred to in this paper includes those agencies and organizations in the agricultural policy sector responsible for planning and providing agricultural support and services to small-scale producers. These organizations are characterized by a broad range of goals, concerns, and objectives that define their specific organizational missions, but collectively they comprise a network with the general, overall objective of providing support to small-scale producers. The network includes organizations operating at the national, provincial, district and local (sub-district) administrative levels.
Interorganizational Relations - Coordination

The impetus for interorganizational analysis has come primarily from a perceived need to reduce duplication and overlap of services, to reduce conflicts and tensions between organizations, and to enhance the delivery of services (Benson 1982:141). One important aspect of interorganizational relations concerns coordination among organizations, which has increasingly been recognized as desirable.

At the heart of understanding interorganizational relations is the premise that no organization is self-sufficient to solve complex social problems such as rural development (Pfeffer and Salancik 1978). The assumption is that concerted decision making and cooperative program implementation will lead to more successful outcomes than will independent actions of the same organizations (Rogers and Whetten 1982). The World Bank (1975) has recognized for more than a decade that rural development projects in particular depend critically on coordination and has called for the specification of institutional barriers that may impede rural development efforts.

The importance of interorganizational coordination (IOC) between the agricultural service organizations has also been recognized in Zambia. The Third National Development Plan of Zambia mandated a decentralized form of administration requiring coordination of the various units involved and the participation of small farmers in decision making (GRZ 1979). More recently, the newspapers in Zambia have been replete with directives from government officials and
requests from organizational leaders calling for increased coordination. For example: Chairman of the Commercial Farmers Bureau (CFB), Ben Kapita, stated that "although Zambia is blessed with 24 million hectares of good soil, the nation had failed to produce sufficient food and supply the required raw materials to industries because of the lack of coordination between concerned ministries and organizations" (Zambia Daily Mail March 21, 1986); Central Province Member of the Central Committee, Mr. Rankin Sikasula has urged Namboard and the Central Province Cooperative Marketing Union (CPCMU) to "coordinate their activities to make the 'lima' programme a success. . . a breakdown in communication. . . in which both organisations wanted to operate in isolation would only hinder progress" (Sunday Times October 12, 1986) and; referring to the movement of the 1986 harvest to safe storage facilities, Minister of State for Power, Transport and Communication, Brigadier-General Enos Haimbe stated: "had it not been for inertia by the National Agricultural Marketing Board (Namboard) and provincial unions, who failed to coordinate their activities, the whole exercise would have been completed before this" (Times of Zambia October 8, 1986).

Despite the interest in coordination and the many calls for increased coordination, it has not been specified how coordination should take place, nor have provisions been made to determine if the necessary linkages are in place and operating efficiently. Zambia, however, is not alone in this respect. Despite the increasing evidence
of problems caused by poor coordination between organizations, Whetten (1977:78) reports that the literature on this subject contains surprisingly few guidelines for solving them and even fewer recommendations for designing interorganizational linkages to achieve better coordination.

**Approaches to Studying Interorganizational Relations**

The analysis of the agricultural support network discussed in this paper uses two frames of reference. The first, attempts to place the agricultural support network within the context of the Zambian political economy. The political economy is the macro-structural environment that shapes and influences the composition and operation of these organizations. The most important actor at this level is the Zambian state, with its political and administrative apparatus. The second frame of reference focuses on the IOR among the organizations in the agricultural support network in Central Province. The concepts considered at this level include: organizational autonomy, domain consensus, resource dependence, joint programs, conflict, conflict resolution and their relationship to IOR effectiveness.

**Interorganizational relations in the Zambian agricultural policy sector: a political economy perspective**

One of the objectives of policy sector analysis is to determine and explain the emergence, maintenance, and transformation of patterned interorganizational relationships. It is argued that the structure and
contradictions of the sector are linked to the developmental logic of the state (Benson 1982). Benson (1982:149-168) proposes that the policy sector is a multileveled social structure and its study involves analysis at two partially autonomous, but related levels. The surface level consists of the primary organizations and their: (1) administrative arrangement (division of labor), (2) policy paradigms and (3) interorganizational dependencies. A second underlying level, which puts limitations on the first level, includes: (4) the interest-power structures and (5) rules of structure formation.

Administrative arrangements are the patterns of functional differentiation (division of labor) and control over activities in the policy sector (Benson 1982:149). These patterns are based on the notion that each organization has specialized functions to perform for the maximum efficiency and survival of the sector. These arrangements range from highly differentiated, involving a complex division of labor between organizations, to nonspecialized. Variations also occur with regard to the criteria for separating activities. A common principle of functional differentiation used in the agricultural sector in Zambia is that of separating planning functions from implementing functions. Differentiation also varies in its degree of orderliness and clarity. A relatively clear division of labor exists between many of the organizations in Zambia's agricultural policy sector. For example, the Zambia Seed Company (Zamseed) is the sole supplier of seed; the Agricultural Finance Company (AFC) is the major, although not only,
supervisor of agricultural credit; the Planning Division, Ministry of Agriculture and Water Development (MAWD) plans for the agricultural sector and, the Department of Agriculture implements those plans. A disorderly division of labor may result in domain conflict, or lack of agreement with regard to the functions an organization provides. The problems experienced between the provincial cooperative unions and the National Agricultural Marketing Board (Namboard) provide an example of a disorderly and unclear division of labor which has resulted in overlap and duplication of functions and created unresolved conflict between the marketing organizations.

The system of administrative arrangement employed in Zambia is most accurately described as corporatism. Corporatism exists when organizational structures are dominated by central government. In corporate strategies the goals, structures, and processes of each organization are explicitly designed to achieve goals of the larger system (Benson, 1982). The delivery of agricultural inputs and marketing of crops, as with many other agricultural functions, are in the hands of the state. It is the state, or more specifically, the Central Committee, representing the Party, and the Cabinet, representing the Government, that determine agricultural policy. Policy establishes, to a great extent, the division of labor between organizations in the agricultural support network and the subsequent linkages between them. Organizational linkages are often mandated through directives from the central government or legislated by law to
ensure predetermined resource exchanges (dependencies) based on the
division of labor. Obviously the options of organizations, whose
status is fixed by legal mandate, will be quite limited (Hall 1982;
Aldrich and Whetten 1981). In the corporate strategy, control from the
center is not necessarily exercised by bureaucratic authority. Rather,
such control can be exercised through the manipulation of incentives
and funding formulas, through the distribution of authorizations
(mandates and domains), and through the control of information (Benson
1982).

Policy paradigm refers to the substantive content of policy
orientation that is evident in practice. The agricultural sector
displays a commitment to a particular set of policy options, selected
from a wider range of potential policies (Benson 1982:150). For
example, in general terms, agricultural policy would determine whether
it is the small-scale producer or the large commercial farmer who is to
be the focus of agricultural sector support and services. It is
important to note that a policy paradigm must be inferred from the
practices followed in the sector. National Development Plans and
speeches by politicians and government officials are quite imperfect
guides to actual policy, although they may be useful as indicators of
assumptions and values widely shared in the sector.

Interorganizational resource dependencies arise in part from the
division of labor created by the administrative arrangement and policy
paradigm. The division of labor within the sector lessens the
possibility of any single organization achieving self-sufficiency, thus requiring most organizations to enter into transactions with other organizations to obtain resources that cannot be generated internally. For example, the policy paradigms of the Department of Agriculture, Agricultural Finance Company (AFC), and the Ward Development Committee (WDC) include, among other things, promoting small-scale agricultural production. AFC's role in promoting agricultural production is limited to the provision of credit, but because it lacks the human resources necessary to evaluate the credit worthiness of each applicant, it must depend upon other organizations for resources to meet its organizational objectives. AFC is dependent upon the Agricultural Assistant (AA) in the ward to prepare a confidential statement certifying the farming standards for each loan applicant. The WDC, with input from the AA, then decides whether AFC credit should be provided. Thus, the relationship between AFC and the small-scale producer is dependent upon linkages with the WDC and the Department of Agriculture.

A change in the administrative arrangement or in the policy paradigm can produce a different set of resource dependencies. In fact, reorganizations are often undertaken with the explicit aim of altering an existing set of dependencies. Centralizing or consolidating into supraorganizations may dramatically alter an existing set of dependencies. Johns (1980) reports that reorganization as a tool for control and rationalization has been regularly utilized
by President Kaunda. Ministries and components within ministries have been reorganized quite frequently. The elimination of Namboard's monopoly power as sole buyer of maize provides an example of a change in administrative arrangement, and the movement of Namboard from the Ministry of Agriculture and Water Development to the Ministry of Cooperatives provides an example of consolidation. Although it is still too early to determine the long-term effect of the movement, the intended action was to consolidate the marketing organizations, or perhaps dissipate Namboard's power.

Analysis of the existing power structures is in the second level of policy sector analysis where attention is given to the interface between the underlying power structure and the administrative arrangement and policy paradigm of the sector. Benson (1982:154) argues that the interests and power of various groups are embedded in the administrative apparatus and policy commitments of the sector and tend to preserve the existing relationships. Reorganization of the relationships are generally political acts emanating from the interest-power base and frequently reflect change or challenges to that base.

Analysis of the existing power structure requires identification of the various interest groups and a determining of whether their interests serve or conflict with the existing administrative structure and policy paradigm. Rogers and Mulford (1982:74) identify four principal groups with vested interests in the sector:

1. demand groups, which are the recipients of services provided by the sector;

2. support groups, which are characterized by their interest in
policy and fiscal accountability and include, among others, the Party and its Government;

3. administrative groups, (including those occupying positions of administrative control in the sector organizations), these groups have an interest in maintaining and/or extending their spheres of control, and;

4. coordinating groups, which have an interest in reducing inefficiencies, consolidating programs and creating a more effective division of labor.

In addition to these four groups, Benson (1982) adds a fifth interest group, the provider group, which includes those groups engaged in the actual delivery of services.

These interest-power groups determine, to a large extent, the organizing of activity in the policy sector. They, however, do not provide a unified fixed structure. Conflicts exist both within an interest category and between interest categories. An example of conflicting interests within an interest category is provided by the demand group of subsistence, emergent and commercial farmers. Although they all require agricultural services, their demands vary and their interests are not equally represented. Usually the group that prevails in terms of services received is the group that is best able to mobilize its interests by organizing its members to provide concerted representation of their interests. Commercial farmers' interests are well represented by the Commercial Farmers Bureau, whereas small-scale producers lack the necessary organization to represent their interests. In the absence of their own interest-power group, adequate support of small-scale producers' interests will require support from other
interest-power groups or from agricultural policy which assures their interests that is more than rhetoric.

Conflict and competition not only exist within and between interest groups in the agricultural policy sector, but between policy sectors as well. The power structure of a sector link it to the larger societal patterns of dominance, resulting in competition between sectors for power. In Zambia's dual economy it is primarily the mining sector that competes with the agriculture sector for scarce resources. The mining sector is better organized, possesses strong labor union support, and is the primary earner of the country's much needed foreign exchange. "The state's differential position towards the mines and urban areas on the one hand, and the poor peasantry, on the other, was neatly summarized by a member of the National Assembly early in 1984, when he declared that the Party and its Government loved the rural people but feared the townspeople, and in Zambia it was better to be feared than to be loved" (Good, 1986b:260).

Rules of structure formation set boundaries or limits to organizing activity within the sector by establishing a range of acceptable alternatives available to the sector with regard to its policy paradigm and administrative structure. Increasing agricultural productivity, while maintaining the essential nature of Zambia's philosophy of Humanism, provides an example of a structural formation rule that sets limits on policy paradigms.
Implications of policy sector analysis for IOR in Zambia

Policy sector analysis provides a context for interorganizational studies that directs attention to the connection of interorganizational patterns to the major structural problems of society, particularly those of the State (Benson 1982). To understand the role of the State and the relationship between it and IOR in the agricultural support network, it is imperative to first view the network in the larger environmental context of which it is a part. Policy sector analysis provides the vehicle to do so. It goes beyond traditional IOR theory in that it also helps to provide an overall understanding of the agricultural policy sector that will facilitate practical contributions. To view the agricultural support network without first examining its relationship to the larger patterns of interorganizational and institutional dominance would prohibit designing an effective coordinated service delivery system.

In the concluding sections of the paper, using data collected in the agricultural policy sector, the political economy perspective will be used to guide the application of Whetten's contingency model for designing coordinated service delivery systems.

Case Study - IOR Analysis in Central Province

This section describes a study of interorganizational effectiveness in the agricultural policy sector. It reviews specific features of the agricultural support network in Central Province and
presents the variables utilized in the study. These include interorganizational effectiveness as the dependent variable and selected potential coordination problems and contextual dimensions as independent variables. These variables will be utilized in a model for designing coordinated delivery systems in the agricultural support network proposed by Whetten (1977).

Sample of network organizations

The unit of analysis is the organization and includes those organizations involved in agricultural planning and service delivery (i.e., inputs, credit and marketing) to small-scale producers in Serenje and Kabwe Rural Districts, Central Province. In addition, local level organizations in Chibale, Serenje District and in Chowa, Kabwe Rural District are also included. These particular areas were selected for study because of the presence of an international donor supported Integrated Rural Development Program in Serenje District and the involvement of a private voluntary organization in Chowa, Kabwe Rural District. In this study, the term organization is used in a broad sense and includes: Zambian Government departments and parastatal organizations, public companies, two district council secretariats, an international donor, and a private voluntary organization. These organizations together form the agricultural support network.

In each of the network organizations, two surveys were conducted; the organizational characteristics survey, to gather information about the organization; and the interorganizational relations survey, to
gather information about the organizations' relationships with other organizations in the agricultural support network. The primary focus of both surveys was to determine the factors which inhibit and those which facilitate effective interorganizational relations.

The surveys were conducted between March and December 1986. For each selected organization, an attempt was made to include top-level administrators, decision makers and "boundary spanners" - individuals who interact with other organizations as part of their job. A total of 97 staff were interviewed in 18 organizations. These 97 respondents provided information about 234 linkages with the eighteen organizations comprising the agricultural support network. The number of different organizations indicating each of the network organizations as being important to achieving their organizational goals included: Department of Agriculture (14); Namboard and CPCMU (11); AFC (9); Serenje District Council/Secretariat, Kabwe Rural District Council/Secretariat and Department of Marketing and Cooperatives (6); NCDP, Integrated Rural Development Program/Serenje, Mpika, Chinsali (IRDP/SMC), and Zamseed, (5); Lintco, Provincial Planning Unit, Central Province and Ward Development Committees (3); Planning Division (MAWD), Ministry of Decentralization, ZCF/FS, and Primary Societies (2) and; Institute of Cultural Affairs (1).

The Ward Development Committee (WDC) is the only Party organization included in the study. There are two reasons for this: first, the WDC is the primary Zambian organization responsible for
development activities below the district level and second, in both Serenje and Kabwe Rural District Councils Party officials declined to participate in the study. Respondents from the district councils are therefore limited to the Secretariat. Because Party officials at the district level did not participate, they were excluded at other levels too.

The agricultural support network in Central Province

The agricultural support network in Central Province can be described as diverse, heterogeneous, and comprehensive. Although the network organizations possess a broad range of goals and objectives, it is assumed they all, to a greater or lesser extent, share the collective or system goal of increasing agricultural production and hence improving the situation of the small-scale producer through providing support and/or services, be it through planning or the actual delivery of services.

An important aspect of this review is that it recognizes the importance of administrative hierarchical level in assessing interorganizational relations. Whereas most IOR studies have paid little attention to hierarchical level, this study includes relations both between administrative levels (vertical relations) and within administrative levels (horizontal relations) and includes organizations at ward, district, provincial and national levels. Figure 1 shows the agricultural support network and the existing linkages between the organizations in the network. It can be seen that most organizations
Figure 1. The agricultural support network in Central Province, Zambia showing organizations indicated by respondents as critical to their organization.
maintain relationships with organizations at different administrative levels as well as within the same administrative level. The horizontal linkages represent linkages between sixty-four pairs of organizations. The vertical linkages represent linkages between thirty-five pairs of organizations at different administrative levels.

Prior to the passage of the Local Administration Act in 1980, Zambia's administrative structure consisted of a number of functional ministries organized in a hierarchical manner with the top of the hierarchy being the staff at national headquarters and the bottom being the field staff at the local level. The primary linkages were vertical between staff at headquarters and those in the field within each ministry. Horizontal linkages between departments were weak. Passage of the Local Administration Act established new structures where the district becomes the focal point of development planning producing a situation where horizontal linkages between organizations and departments within the district are at least as important as vertical linkages within each organization.

The propensity for IOR may differ between administrative levels. Among the differences that might exist are available resources for exchange (Klonglan et al. 1976). This should have important implications for the present state of decentralization in Zambia. Although the district is the focal point in Zambia's decentralized administration, it has fewer resources to exchange, such as qualified personnel. A lack of resources controlled by the district would
increase its propensity for IOR in an attempt to acquire needed resources. However, other organizations may be reluctant to engage in IOR if they perceive equity will not be achieved. In contrast, organizations at the national level control most of the resources and therefore, may be reluctant to engage in IOR so that they are able to retain their position of dominance.

Boje and Whetten (1981:380) found that interorganizational relations of organizations at the local level are significantly affected by funding and policy decisions originating at higher administrative levels. Aldrich (1976) and Hall et al. (1977) have shown that a considerable number of interorganizational relations are mandated by law and that cooperation among human service organizations is often explained primarily by these mandates. The data reveal the same is true for the agricultural support network in Zambia. More than three-fourths of all linkages were reported to be "written down in detail" or "mandatory by law." Fifty-three percent were reported as mandatory and an additional twenty-six percent were written down in detail. When asked about their relationships with other organizations, many respondents reported they had no choice, it was the law. Others reported they were subordinate to, and/or supervised by 'umbrella' organizations and required to interact with them. Initially, many respondents reported the nature of their relationship with other organizations was "on the basis of a specific need or problem - no formal agreement exists," thus indicating they were not
aware of any mandate. Further investigation, however, revealed the existence of mandates, thus, their response reflected when the organizations interact and not the nature of their relationship.

Uncertainty, instability, and incompatibility among organizations at upper levels may result in changing or inconsistent guidelines. This could discourage local involvement in IOR (Gans and Horton 1975), as well as explain why some respondents were unaware of mandates or contractual agreements.

**Measurement of Variables and Statistical Analysis**

The following sections present the dependent and independent variables, the methods used to operationalize the variables, and the statistical procedures used to analyze the data.

**Dependent variable: perceived effectiveness of IOR**

Perceived effectiveness (EFFECT), as used here, refers to the extent to which organizational decision makers in the agricultural support network perceive other organizations in the network to carry out commitments to their organization and judge the relationship to be worthwhile, productive, and satisfying (Morrissey et al. 1980:100).

To determine their perceptions of IOR effectiveness organizational respondents were first asked to identify the three or four organizations which are the most critical in enabling their organization to achieve its goals. Respondents were asked four questions with regard to the organizations they had indicated as being critical to their organization:
(1) how often the organizations named "carry out the commitments made to their organization"; (2) "to what extent the relationship is productive"; (3) "to what extent the time and effort required to maintain the relationship is worthwhile" and; (4) "to what extent they are satisfied with the relationship."

A five point scale, ranging from "not at all" to "very great," was used for each of the questions. Responses to the four questions were summed to form an effectiveness scale (EFFECT). The individual responses were aggregated by "named organization" thus producing an effectiveness score that reflects the mean effectiveness of the organization with all organizations that named it. The four item scale produced a reliability coefficient (Cronbach's alpha) of .7361.

Independent variables: determinants of IOR Effectiveness

The independent variables are divided into two types, categorized by Whetten (1977), as contextual conditions and potential IOC problems. Contextual conditions include: compatibility of organizations, resource adequacy, resource dependency and participation in joint programs. Potential IOC problems include organizational autonomy and domain consensus. Each of the variables will be discussed in greater detail below.

Contextual conditions

The idea that organizational environments play a critical role in the activities of organizations is receiving increased attention in much of the recent literature on organizations and IOR. There are several typologies for describing the environments of organizations but
the basic premise in all of them is that organizations function in an open systems context and are affected significantly by their environments (Whetten 1977). Whetten (1977) has selected three contextual dimensions that are particularly relevant for designing coordinated delivery systems: (1) an organization's ability to control resources, (2) compatibility of organizations being integrated, and (3) the point at which the initiative for coordination originates. An organization's ability to control resources was operationalized in the study using empirical measures for the following concepts: (1) organizational resource adequacy, (2) resource dependency between organizations and (3) participation in joint programs. Compatibility of organizations was operationalized by measuring: (1) the extent of conflict between organizations and (2) measuring the extent of conflict resolution. The point of initiation for coordination was not measured empirically, but it is reviewed as it exists in the Zambian political economy.

**Compatibility of organizations in the network** It has been proposed, earlier in this paper, that the pursuit of similar goals fosters exchanges and a division of labor and responsibilities between organizations. As noted by Benson (1982), there often exists a discrepancy between official and operational goals that serve as an obstacle to IOR.

The Department of Marketing and Cooperatives, CPCMU and Namboard include in their official goals the support and delivery of services to small-scale producers. However, there are many who argue that the
organizations are not compatible, nor do they share the same operational goals. High ranking administrators in these organizations argue that they are not compatible for the following reasons: (1) "DMC is a political organization whereas Namboard is a commercial organization"; (2) "Namboard's goal is to provide the nation with sufficient food quantities, whereas, the cooperatives are only interested in marketing the crops"; and (3) "at the moment we are working out of fear - each of us feels the other will take over - it is the survival of the fittest."

Compatibility of organizations was operationalized using two concepts, conflict and conflict resolution.

**Conflict** There exists a wide variety of definitions with regard to conflict in the organizational literature. However, in this study, conflict (CONFLICT) was operationalized in general terms by asking respondents: "During the past six months, how often were there disagreements between persons in your organization and this other organization?" A five point scale ranging from "almost never" to "almost always" was used to code the responses.

**Conflict resolution** Conflict resolution (RESOLVE) refers to how effectively disagreements or disputes between organizations are resolved. The variable was operationalized by asking respondents "how well are any disagreements worked out between your organization and this other organization?" Responses were indicated on a five point scale ranging from very poorly (1) to very well (5).
Ability to control resources  Whetten (1977) lists several factors that have been suggested as influencing the ability of an organization to secure resources, e.g., the abundance of a given resource in the environment (Aldrich 1972; Benson 1975), an organization's linkages with resource bases outside the local community (Levine and White 1961; Warren 1974; Benson 1975), as well as the internal activities and structures of the organization (Whetten and Aldrich 1979). The ability of organizations to control resources was operationalized using five variable measures: resource adequacy, resource dependence, information dependence, joint planning, and joint implementation. Each will be reviewed below.

Resource adequacy  To determine the perception of resource adequacy (ADEQ) in the agricultural support network in Central Province, respondents were asked to indicate the adequacy of the following resources in their organization: facilities, equipment, administrative/staff support, money, and qualified personnel. The responses were recorded on a five point scale ranging from considerably less than enough (1) to considerably more than enough (5). A composite resource adequacy scale (ADEQ) was created using the five resource categories. The five item scale produced a reliability coefficient (Cronbach's alpha) of .7304.

Resource dependency  In an effort to determine an organization's dependence for resources, respondents were asked: "In order to achieve your organization's goals, does it need (and receive)
the following services, resources, or support from this other
organization (a) information, (b) money, (c) staff support, and (d)
equipment or office space?" Principal component factor analysis
revealed that money, staff support and equipment or office space loaded
on a single factor, whereas information loaded on a second factor.
Thus, a resource dependence scale (DEPRES) was create using the three
variables. Information (DEPINFO) was analyzed separately.

Joint programs Joint Programs is defined as "the cooperative
behavior by organizations which involve decisions by the interacting
organizations to formally work together" (Morrissey et al., 1980).
Organizations in resource scarce environments will oftentimes enter
into joint ventures in order to optimize the use of their resources.
However, they may be reluctant to do so because joint ventures reduce
the autonomy of the participating organizations. Joint programs was
operationalized with respect to two specific joint activities: (1)
planning (JTPLAN) and; (2) implementation (JTIMP) of specific services
or rural development activities.

Potential coordination problems

The argument was presented earlier that one obstacle to efficient
input delivery and marketing in the agricultural support network is the
lack of clear division of labor between the organizations in the
agricultural support network - especially Namboard and the
cooperatives. In October, 1985, the Minister of State for Lands,
Cosmos Masongo, argued that the existence of two official marketing
organizations resulted in the duplication of functions and inefficiencies. The presence of two agencies was retarding agriculture, and he called for scrapping of either Namboard or the cooperatives (Good 1986a:259). One month later, speaking before Parliament, Michael Sata, member for Kabwata, declared that the functions of the two inefficient organizations overlapped, and that either one of them should be phased out or they should merge (Good 1986a:259). The lack of a clear division of labor is related to and/or contributes to other coordination problems as well, including those discussed below.

Whetten (1977:79-82) stresses four basic coordination problems that should be considered when designing a coordinated service delivery system, such as the agricultural support network. They include: (1) a threat to the autonomy of the organizations to be integrated, (2) lack of domain consensus, (3) conflicting requirements for integration, and (4) extensive internal integration.

The scales developed to measure organizational autonomy and domain consensus in the study are discussed below. Conflicting requirements for integration and extensive internal integration were not measured in the study, but their effect on designing a coordinated service delivery system in the agricultural support network is discussed.

**Threat to organizational autonomy** Autonomy (AUTO1) refers to the degree of power and control an organization has over its environment, and reflects an organization's ability to make decisions
about staff, products or services, operations or procedures, and other resource allocations. Participation in joint activities with other organizations may mean some loss of control over resources and programs.

Aiken et al. (1975:18-19) found the most serious barrier to IOR is the desire of organizations to maintain their autonomy and minimize loss of independence. Some theorists argue that the existence of autonomous organizations and programs, each with their own protected boundaries, not only fragments programs but also creates nearly insurmountable obstacles to coordination. Organizational administrators defend their own domain and seek to preserve the integrity of their organization's boundaries (Aldrich and Pfeffer 1976).

In centralized policy making systems, such as in Zambia, member units have limited autonomy with respect to overall policy. Decisions are made by the Central Committee and Parliament, not at the organizational level. Organizations, however, do have some control with regard to operations and procedures within the organization. However, Simwinga (1980) argues even internal control is limited. He states that "government control has extended beyond major policy determination to the day-to-day activities of public enterprises, ostensibly in an effort to ensure that the latter serve as development agents" (Simwinga 1980:131).
To obtain an indicator of organizational autonomy, organizational directors and/or department heads were asked to indicate on a five point scale, ranging from "not at all" to "very important", the extent the following activities were a part of their job: (1) determining new services, (2) dismissal of personnel, (3) salary determinations of personnel, (4) promotion of personnel, (5) creation of new departments, (6) alteration of work responsibilities, (7) determining training methods, (8) creation of new jobs, and (9) spending unbudgeted funds. The nine item scale (AUTO1) produced a reliability coefficient (Cronbach's alpha) of .8789.

Domain consensus A lack of domain consensus (DOMAIN) between organizations is likely to preclude cooperation. Domain consensus, in this paper, refers to the extent of agreement, among parties in an interorganizational relationship, on the needs and problems of clients served by the agricultural support network in general and the specific services and goals of each organization involved in the network. Domain also refers to the geographical area served by the organizations and is limited to Central Province in this study.

Benson (1975) argues that organizations can agree on matters of domain and ideology only to the extent that such agreement does not threaten their interests. Relations become particularly acute where domain claims of the organizations are in conflict, as when each claims the same or similar spheres of activity. The relationship between Namboard and the provincial cooperative unions best illustrates the
situation. To achieve consensus in this context requires a carefully worked out compromise in which interests of the organizations are protected or the upholding of one set of claims at the expense of the other (Benson 1975).

The concept domain consensus was operationalized in this study by asking respondents if they agreed with the other organizations in the network on the following items: (1) the most important needs of small-scale producers, (2) the way services in general should be provided to small-scale producers, (3) the goals of rural development project or programs operating in their service area, and (4) the specific way rural development services are provided by the projects or programs in their service area. The four constructs were summed to form a composite domain consensus scale. The scale produced a reliability coefficient (Kuder-Richardson KR-20) of .9324.

Analysis of variables

For the dependent variable, IOR Effectiveness, and each of the independent variables, mean organizational scores were determined for each organization based on data from multiple respondents from each organization. In addition to a network mean score for each organization, a mean score was determined for each administrative level at which the organization participates. Data for the district and ward levels were combined due to the small sample size at the ward level.

One-way analysis of variance was used to determine the degree to which each variable is a property of organizations. Essentially, one-
way classification allows for the comparison, for any one variable, of two variances, that among observations within an organization and that between organizations. F distributions allow for a determination of the probability of chance alone being responsible for differences between the two variances.

Two-way analysis of variance allows for the inclusion of a second classification, i.e., administrative level, as a control. That is, the above discussed within variance is calculated within administrative levels of the agricultural support network. This procedure reduces the amount of within organization variance. The remaining variance may be termed variance between levels and, thus, three sources of variance can be analyzed, that between organizations, between administrative levels and within administrative levels. The usefulness of this procedure, for this work, is that it can be used to demonstrate that administrative level may also be a meaningful aggregation of the data. The statistics will determine the degree to which a variable is a property of the level verses the network.

Zero-order Pearson correlation was used to determine the magnitude and direction of relationships between variables. Correlation coefficients were computed between the variables for the network and for each administrative level.
Summary of Findings

IOR Effectiveness

The mean organizational scores and standard deviations for IOR Effectiveness are presented in Table 1. The scores for each organization represent the mean score of all respondents naming the listed organization as important to achieving the goals of their organizations. The data reveal IOR is perceived to be most effective with organizations at the national level, second with organizations at the provincial level, and least effective with organizations at the district-ward level. Only the Department of Marketing and Cooperatives (DMC) and the Agricultural Finance Company (AFC) received higher mean scores at the district-ward level than the national level. However, two-way analysis of variance for difference between mean scores for IOR Effectiveness revealed the differences between administrative levels were not statistically significant (p > .05).

The information in Table 2 presents the mean IOR Effectiveness reported by each organization for each of the organizations they named as important, thus, making it possible to determine the IOR Effectiveness for specific organizational pairs.

The one relationship that stands out in Table 2 is between Namboard and CPCMU. It is the one relationship where both organizations reporting perceive the relationship to be poor. Namboard's rating of the relationship is 2.900 and CPCMU's rating is 2.500. The average of their combined scores (dyad score) is 2.700, the
### Table 1. IOR Effectiveness - mean organizational scores

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<th>Named Organization</th>
<th>Administrative Level of</th>
<th>Network Mean</th>
<th>Network Std Dev</th>
<th>N</th>
<th>National Mean</th>
<th>National Std Dev</th>
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<tr>
<td>PPU/CP</td>
<td></td>
<td>4.100</td>
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<td>4.250</td>
<td>.791</td>
<td>5</td>
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<td>4.068</td>
<td>.549</td>
<td>11</td>
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<tr>
<td>ZCF/FS</td>
<td></td>
<td>4.063</td>
<td>.375</td>
<td>4</td>
<td>4.500</td>
<td>---</td>
<td>1</td>
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<tr>
<td>IRDP/SMC</td>
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<td>3.950</td>
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**Statistics:**
- **F-Value**: 1.39 1.25
- **PR>F**: 0.082 0.233
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Table 2. IOR Effectiveness - mean rating by organization

<table>
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<tr>
<th>Reporting Organization</th>
<th>NCDP</th>
<th>M. Dec</th>
<th>Agric</th>
<th>Plan</th>
<th>DMC</th>
<th>Namb</th>
<th>Lintco</th>
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<tr>
<td>NCDP</td>
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<td>4.375</td>
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<td>4.000</td>
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<td>3.625</td>
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<tr>
<td>Plan Div</td>
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<td>DMC</td>
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<td>5.000</td>
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<td>2.500</td>
<td>3.000</td>
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<td>PFU/CP</td>
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<td>3.500</td>
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<td></td>
<td></td>
<td>4.750</td>
<td>4.750</td>
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</tbody>
</table>
lowest of all organization pairs. On account of the importance of CPCMU and Namboard and because they face the greatest obstacles to coordination, therefore they will be the focus of much of the remainder of the paper. The problems experienced between Namboard and CPCMU, however, do not occur in isolation and cannot be confined to the relationship between these two organizations. There are other organizations that intervene, as well as contextual and coordination problems that affect the effectiveness of their relationship. The results of one-way analysis of variance reveal the mean organizational scores were not significantly different for the network, or within any administrative level (p < .05) (Table 4).

Influence of independent variables

The relationships between the dependent variable, IOR Effectiveness (EFFECT), and the independent variables are summarized in Table 3. Relationships are presented for the agricultural support network and for each administrative level within the network. The data show that both contextual conditions and potential IOC problems are significantly associated with IOR Effectiveness. In addition, significant relationships between independent variables are discussed.

Contextual conditions

The following contextual conditions were included in the study: conflict, conflict resolution (RESOLVE), resource adequacy (ADEQ), resource dependence (DEPRES and DEPINFO), and joint programs (JTPLAN and JTIMP). Each will be discussed below.
Conflict and conflict resolution  The data in Table 3 suggest conflict is an obstacle to achieving effective IOR. Conflict produced moderate to strong negative zero-order correlation coefficients for the network and at all administrative levels. The data also suggest conflict resolution (RESOLVE) may be a primary facilitator to improving IOR. Conflict resolution produced strong positive associations with IOR Effectiveness for the network and at all administrative levels.

Two-way analysis of variance revealed there was no significant difference between administrative levels in conflict and conflict resolution scores. However, one-way analysis of variance revealed the differences between organizations in mean conflict scores were significantly different (p < .01) for the network and the national and provincial levels (Table 4). The mean conflict resolution scores were significantly different for the network (p < .01), provincial (p < .01) and district-ward levels (p < .05).

Namboard received the highest mean conflict score of all organizations in the network (2.865), and the national (2.938) and provincial levels (3.000). Namboard also received the lowest conflict resolution mean score in the network (2.946) and at all three administrative levels. CPCMU's mean conflict score was the second highest score reported at the provincial level (2.556) and third highest for the network (2.475) and district-ward level (2.308). Its conflict resolution scores ranked similarly.
Table 3. Zero-order correlation coefficients between the dependent variable and independent variables for the network and administrative levels

<table>
<thead>
<tr>
<th>Variable</th>
<th>Network</th>
<th>National</th>
<th>Provincial</th>
<th>Dist/Ward</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTO1</td>
<td>-.065</td>
<td>.084</td>
<td>-.068</td>
<td>-.182</td>
</tr>
<tr>
<td>ADEQ</td>
<td>-.045</td>
<td>-.243</td>
<td>.072</td>
<td>-.028</td>
</tr>
<tr>
<td>DEPINFO</td>
<td>.233**</td>
<td>.214</td>
<td>.348*</td>
<td>.193</td>
</tr>
<tr>
<td>DEPRES</td>
<td>.147</td>
<td>.235*</td>
<td>.054</td>
<td>.152</td>
</tr>
<tr>
<td>JTPLAN</td>
<td>.391**</td>
<td>.453**</td>
<td>.430**</td>
<td>.353**</td>
</tr>
<tr>
<td>JTIMP</td>
<td>.352**</td>
<td>.368**</td>
<td>.358**</td>
<td>.368**</td>
</tr>
<tr>
<td>DOMAIN</td>
<td>.299**</td>
<td>.347**</td>
<td>.234</td>
<td>.319**</td>
</tr>
<tr>
<td>CONFLICT</td>
<td>-.461**</td>
<td>-.303**</td>
<td>-.391**</td>
<td>-.609**</td>
</tr>
<tr>
<td>RESOLVE</td>
<td>.654**</td>
<td>.684**</td>
<td>.562**</td>
<td>.698**</td>
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</tbody>
</table>

* = Significant at .05 level.

** = Significant at .01 level.
Table 4. One-way analysis of variance for differences between organizational means

<table>
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<th>Variable</th>
<th>Network</th>
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<th>National</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>F-Ratio</td>
<td>PR &gt; F</td>
<td>Mean</td>
</tr>
<tr>
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</tr>
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<td>.0001**</td>
<td>1.9315</td>
</tr>
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<td>3.6550</td>
<td>2.78</td>
<td>.0002**</td>
<td>3.8591</td>
</tr>
<tr>
<td>DOMAIN</td>
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<td>1.32</td>
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<td>.0131*</td>
<td>2.1939</td>
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<tr>
<td>DEPRES</td>
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<td>.0001**</td>
<td>.3835</td>
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<tr>
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<td>.9523</td>
<td>2.27</td>
<td>.0038**</td>
<td>.9444</td>
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<tr>
<td>JTPLAN</td>
<td>.7191</td>
<td>1.97</td>
<td>.0141*</td>
<td>.6301</td>
</tr>
<tr>
<td>JTIMP</td>
<td>.6128</td>
<td>1.65</td>
<td>.0546</td>
<td>.5205</td>
</tr>
<tr>
<td>AUTO1</td>
<td>2.3803</td>
<td>2.17</td>
<td>.0194*</td>
<td>2.2323</td>
</tr>
</tbody>
</table>

*= Significant at .05 level.

**= Significant at .01 level.
<table>
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<tr>
<th>Administrative Level</th>
<th>Provincial</th>
<th>Dist/Ward</th>
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</thead>
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<tr>
<td>Mean F-Ratio PR &gt; F</td>
<td>Mean F-Ratio PR &gt; F</td>
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</tr>
<tr>
<td>3.6818 0.75 0.6153</td>
<td>3.6789 1.03 0.4287</td>
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<tr>
<td>2.2576 3.24 0.0081**</td>
<td>2.0213 1.22 0.2926</td>
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<tr>
<td>3.4848 3.74 0.0032**</td>
<td>3.6344 2.07 0.0366*</td>
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<tr>
<td>3.3000 1.11 0.3839</td>
<td>3.5428 0.30 0.9893</td>
<td></td>
</tr>
<tr>
<td>1.7733 0.66 0.6823</td>
<td>2.0087 1.39 0.2792</td>
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</tr>
<tr>
<td>.3234 2.01 0.0787</td>
<td>.4028 3.25 0.0014**</td>
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</tr>
<tr>
<td>.9701 1.86 0.1032</td>
<td>.9462 0.31 0.9776</td>
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<tr>
<td>.7612 1.26 0.2896</td>
<td>.7604 1.05 0.4142</td>
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<tr>
<td>.6269 0.49 0.8100</td>
<td>.6771 0.50 0.8822</td>
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</tr>
<tr>
<td>2.1704 3.06 0.0735</td>
<td>2.7295 1.49 0.2443</td>
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</table>
The average of the summed mean conflict scores (dyad score) for CPCMU and Namboard (4.083) was the highest of all organizational pairs in the network, whereas, their conflict resolution dyad score was the lowest (2.267). These two scores provide evidence of serious unresolved problems between the two organizations.

A summary of the data reveal that although the number of organizational linkages experiencing conflict is relatively few, the level of conflict in these linkages is quite high, and the conflict is not being adequately resolved.

Resource adequacy Although resource adequacy produced trivial, nonsignificant negative correlation coefficients with IOR Effectiveness, its relationship with several independent variables has important implications for designing a coordinated service delivery system for the agricultural support network.

The mean scores for the network in each of the five resource categories indicate it was perceived there are "less than enough" of all resources. The mean scores for the network include: (1) administrative/staff support, 2.430; (2) qualified personnel, 2.098; (3) facilities, 1.998; (4) equipment, 1.921; and (5) money 1.896.

Resource adequacy, however, was significantly (p < .01) greater at the national level than the provincial level. Resource adequacy was also significantly different between organizations at the network level. In general, parastatal and private organizations perceive a higher level of resource adequacy, whereas, Government organizations,
as a group, tend to perceive a lower level of resource adequacy. Additional data from the study indicate these perceptions are true in real terms.

It is important to note that resource adequacy was negatively associated with IOR Effectiveness at the network, national and district/ward levels. Whetten (1977:82) explains that organizations operating in resource scarce environments face considerable uncertainty and vulnerability and are extremely cautious about entering into any new ventures that might cause a drain on their already scarce resources. The data are consistent with Whetten's argument. In addition to having resource adequacy scores that are significantly below the mean for the network and the district-ward level, the District Councils, Ward Development Committees, and ICA participate in IOR less frequently than other organizations in the network. The Ministry of Decentralization is the one exception; although their resource adequacy score is the lowest in the network, their frequency of interaction is significantly above the mean. The existence of mandates is the primary reason for their increased interaction.

The data also suggest that organizations with resource constraints are likely to conserve their resources by participating in joint programs. Joint implementation produced moderate, statistically significant correlations with resource adequacy for the network and national levels.
Resource dependence Dependence on other organizations for information (DEPINFO) produced weak, statistically significant correlation coefficients with IOR Effectiveness at the network and provincial levels. Resource dependence (DEPRES) was statistically significant at the national level.

The mean scores at each administrative level were not significantly different for either variable. However, Table 4 reveals organizations were significantly different for resource dependence at the network, national and district-ward levels. Information dependence was significantly different between organizations at the network and national levels.

The organization that stands out is ZCF/FS. It received the highest DEPRES mean score of all named organizations (1.000), suggesting it is an important resource provider for its IOR partners, whereas, its DEPINFO mean score was the lowest in the network (.333). All other organizations received considerably lower DEPRES scores, ranging from .131 to .500, and relatively higher scores for DEPINFO, ranging from .893 to 1.000.

Approximately ninety-five percent (95.5) of the organizational linkages revealed dependency on other organizations for information, 54.6 percent for staff support, 32.9 percent for equipment, and 26.9 percent for money. These figures suggest, that except for information, there is not a substantial amount of interorganizational resource exchange within the network. There are several possible explanations.
First, much of the resource transfer is of a vertical nature. That is, within the same organization, resources are transferred from the national level to the provincial and district levels. Transactions between administrative levels within an organization were not included in this study. The data are limited to transactions between different organizations, regardless of administrative level. Adequate information, on the other hand, is a resource that cannot be monopolized within a single organization. The administrative arrangement in the agricultural support network creates dependencies between organizations making it a necessity to share information.

Second, the agricultural support network in Central Province is operating in an environment where resources are scarce, which limits the number of transactions possible.

**Joint programs** The results of zero-order correlation reveal that both joint planning and joint implementation are associated with effective IOR. Both variables produced moderate, statistically significant (p < .01) associations for the network and all administrative levels.

The mean differences between administrative levels for JTPLAN and JTIMP are not statistically different. The results of one-way analysis of variance (Table 4) reveal the mean organizational scores for JTPLAN were significantly different for the network, and JTIMP was significantly different at the national level.
These differences can be explained by examining the administrative arrangement of the agricultural policy sector, where planning functions are separate from implementing functions. The mean joint implementation scores for NCDP (.375), Planning Division (MAWD) (.000) and Ministry of Decentralization (.000) reveals they are not implementing organizations. In contrast, their mean joint planning scores were .625, .600 and .750 respectively. These scores suggest however, that although planning is their primary function, they do not plan jointly with all organizations they interact with.

Joint activities, particularly implementation, are more likely to occur between organizations that are resource dependent, as evidenced by moderate, significant correlation between joint implementation and resource dependence at the district/ward level. Mutual dependence creates a situation particularly suitable for joint activities.

The data also reveal joint activities are significantly, although moderately, associated with conflict resolution. It is argued here that the variable relationship is two-way. That is, joint activities aid conflict resolution, and organizations that adequately resolve their conflicts are more likely to be partners in joint activities.

Potential IOC problems The potential IOC problems included in the study were organizational autonomy (AUTO1) and domain consensus (DOMAIN). Their relationship with IOR Effectiveness and selected contextual conditions will be discussed below.
Domain consensus

The relationship between IOR

Effectiveness and domain consensus produced a relatively weak, but significant (p < .01) correlation for the network and all administrative levels.

The mean scores were relatively high for each administrative level and not significantly different. The results of one-way analysis of variance, in Table 4, reveal the organizational mean scores were not significantly different for the network or any administrative level.

The data also reveal that domain consensus is negatively associated with conflict, suggesting that conflict between organizations in the network may be due to a lack of domain consensus. The data suggest this is partially the case with Namboard and CPCMU. Although Namboard's reported domain consensus with CPCMU was quite high, 3.500, CPCMU's reported score with Namboard was 2.600. CPCMU's overseer, DMC, reported the lowest overall domain consensus score with Namboard, 1.333.

However, rather than disagreement regarding needs of small-scale producers, or services required, it is argued here that claims to similar domains is primarily responsible for the conflict. Each claims the same or similar spheres of activity, resulting in overlap, duplication and conflict. The significant (p < .01) association between domain consensus and conflict resolution (.380) suggests resolving domain claims would also reduce conflict.
Organizational autonomy Although AUTO1 resulted in trivial, nonsignificant, and often negative associations with IOR Effectiveness, it merits brief review.

The mean autonomy scores for the network and administrative levels, displayed in Table 4, reflect the corporate strategy of administrative arrangement in the agricultural policy sector. The mean scores were all quite low and not significantly different. However, the organizational mean scores for AUTO1 were significantly different for the network.

The corporate strategy is particularly evident in the organizational mean scores for AUTO1. NCDP (1.333), the Ministry of Decentralization (1.667), and the Provincial Planning Unit in Central Province (1.389), the primary planning organizations for the agricultural sector, displayed the lowest AUTO1 scores in the network. The AUTO1 scores reported by the managers/directors for ZCF/FS (4.778), the Planning Division and ICA (3.556), and IRDP/SMC (3.056) were substantially higher than any of the other scores. It is plausible that the Planning Division, although a Government department, enjoys more autonomy as a result of the substantial influence of international donors within the department.

The mean scores also reveal a contrast between the district councils included in the study, Serenje and Kabwe Rural. Serenje District Council/Secretariat's mean AUTO1 score was 2.956, whereas, Kabwe Rural's was only 1.815. The difference lies primarily in their
resource adequacy. The District Executive Secretary (DES) for Kabwe Rural stated that "lack of financial resources is presently the major constraint to achieving autonomy through decentralization. District Councils are intended to be autonomous, but presently we must rely on Central Government for most of our resources. Salaries are still being paid by Central Government because current revenue raising activities are not sufficient" (personal communication, August 19, 1986). Unlike Kabwe Rural, Serenje District Council has all its capital expenditures financed by the British aid funded IRDP/SMC. In addition to reducing its financial constraints, the affiliation with IRDP/SMC also increases its decision making autonomy. This information also explains, in part, the negative relationship between autonomy and IOR Effectiveness at the district level. District Councils have been given autonomy prior to establishing the strong bases of support necessary to be financially independent.

The data also suggest that some organizations are more decentralized than others. Comparing the AUTOl scores at the national, provincial and district-ward levels reveals that Lintco, AFC, and Department of Agriculture display higher scores at the district-ward level than at the national level, whereas the scores for CPCMU and Namboard are highest at their headquarters, suggesting they have retained top-down administrative structures.
Designing Interorganizational Service Delivery Systems

In this section, Whetten's contingency model for designing interorganizational service delivery systems is presented. In addition to the variables reviewed above, two additional IOC problems and one contextual condition are reviewed in the context of the agricultural support network.

Whetten's contingency model for designing interorganizational service delivery systems is based on the premise that different environmental contexts can support varying degrees of interorganizational coordination. Coordination can vary from an informal exchange of information between organizations to the highly structured co-sponsorship of joint programs. Whetten (1977:77) argues that "the key to successful IOC is to match the characteristics of each unique context with the appropriate level of integration."

According to Whetten (1977:79), the first step in constructing a contingency model of IOC is to identify the major obstacles to achieving coordination, then to outline the contextual conditions within which coordination occurs and indicate which of the obstacles to coordination are likely to be present in each context.

The study of IOR Effectiveness in the agricultural support network in Central Province revealed conflict and lack of domain consensus as obstacles to effective IOR. Whetten (1977) suggests two additional IOC problems to be considered when designing service delivery systems, conflicting requirements for integration and extensive internal integration. The origin of initiative for coordination has also been
suggested as an additional contextual condition to be considered. Each of these concepts will be reviewed as they apply to the agricultural policy sector in the Zambian political economy.

Conflicting requirements for integration

Conflicting requirements for integration in systems in which an organization has multiple memberships will hinder collaboration with either system. One of the most common conflicts is between requirements for participating in local, horizontal coordination activities and vertical, categorical programs (Whetten 1977:80). Organizations are not only required to coordinate with other organizations at the level of service delivery but they must also justify their existence to superiors at the provincial and national levels as well as national planners, legislative bodies and perhaps international donors. Figure 1 revealed that most organizations in the network are involved in both vertical and horizontal linkages with other organizations in addition to vertical linkages within their organizations or government departments. The agricultural extension service will be used to illustrate the implications of an organization participating in both horizontal and vertical systems. At the local level extension is responsible for delivering extension information to small-scale producers as well as assisting other organizations, such as AFC, to deliver services. In an effort to justify their existence to superiors and funding agencies on the basis of the number of farmers contacted there may be a tendency to contact the most accessible, and
perhaps successful, farmers while ignoring those requiring more time and effort. Limited human and financial resources also increase the likelihood that farmers experiencing the greatest need are the least likely to receive it.

The situation in Zambia is further complicated by the fact that there exists two chains of command: the administrative and the political, each with its own policy priorities.

Extensive internal integration

Many of the characteristics of a highly integrated system appear desirable for the agricultural support network. However, there are situations where highly integrated systems are not desirable. Examples will be provided for both cases.

The realization of decentralization in Zambia can adversely affect organizations that have become accustomed to operating in a highly integrated system and are accustomed to receiving program directives as well as funding from above. They find it difficult to adapt when autonomy is shifted because they have not established strong bases of local support. Adaptability is necessary in complex, heterogeneous environments. The district council/secretariats best exemplify the problems associated with the decentralization of administrative autonomy before the organizations are prepared for it.

Namboard, on the other hand, provides the best example of an organization stifled by too much internal integration and government control. It is an inefficient organization (Paul 1986), but it has
also received undue criticism for actions that resulted from following
government policy - not their own. A high ranking government official
remarked that "it is sometimes necessary for Namboard to go against
directives from the Minister of Agriculture if they are to survive as
an organization" (personal communication; Planning Division, MAWD,
Lusaka, Zambia, 1986). The point is, if they are to be a parastatal
organization, i.e., a profit making organization, they should be
allowed autonomy from government and political control to do so. If
they are not allowed the autonomy necessary to be a profit making
organization, then they should merge with the other marketing
organizations, where their resources can be used to improve marketing
efficiency.

A strategy first tried under Zambia's liberalized marketing system
in 1986 raises another point worthy of comment. Under the liberalized
marketing system private traders were allowed to enter the marketing
process. International donors working in Zambia, and economists in
general, have argued from an economic standpoint that competition in
the marketing of crops would eliminate many of the present
inefficiencies. Warren (1967) argues from an IOR perspective that, in
some cases, an emphasis on increased coordination between existing
programs tends to direct attention away from the possibility that the
needs of the small-scale producer might be dealt with better by
initiating new programs utilizing different philosophies and
technologies. That is, rather than attempting to eliminate the
duplication and overlap of services through high integration, competition should be encouraged. The basic argument being that competition creates efficiency if the organization is to survive. Efficiency could be achieved, in part, through the pulling together of organizations with complementary needs and resources to work in a better coordinated manner in order to be more competitive. Thus, the initial goal, improved coordination is achieved, although through a different means.

Origins of initiatives for coordination

Whetten suggests IOC can be initiated at two points. It can be initiated either by the participating organizations and entered into voluntarily, or alternatively, by a higher level of authority in the vertical system to which the participants belong (Whetten 1977:84). The first type is usually in response to a mutually felt need - such as resource scarcity. The result of this type of IOC is usually less threatening to the autonomy of the participants. There are, however, IOC problems associated with it. It is particularly vulnerable to disagreements between participants over domain consensus. Because there is no third party to mediate differences in philosophies and procedures, a lack of domain consensus can make it very difficult to establish a collaborative program acceptable to all parties (Whetten 1977).

In the second case, problems caused by lack of domain consensus can be reduced by the head(s) of the vertical systems of the
participating organizations. This is best done during the design phase of coordination programs. An additional outcome of an IOC program initiated by the heads of vertical systems is that it is likely to be more formally structured than programs initiated by local organizations (Whetten 1977).

There are few examples in the Central Province agricultural support network of either point of initiation. Thus, it is suggested that the point of initiation in the agricultural support network is most often at neither of the two points suggested by Whetten, but at a third point. As discussed earlier, it is not the administrative heads of the vertical systems that initiate coordination, but rather coordination is determined by national policy makers, who often work in isolation from the organizational leaders.

Although Zambia's corporate strategy of administrative arrangement is not likely to be replaced, coordination between organizations can be improved with modifications to the existing system. Benson (1975) suggests four possible strategies to change networks: cooperative, disruptive, manipulative and authoritarian. The authoritarian strategy is most suitable and the one most likely to be acceptable in the Zambian political economy. In the authoritarian strategy, relations between organizations are specified by an authoritative body. Precise specification of relations includes the regulation of contracts, resource sharing and other details (Benson 1975:244). This authoritative body, however, cannot consist of members of the Central
Committee and the Cabinet as it currently does. What is required is the formation of an "inter-ministerial committee" composed of the Ministers and Permanent Secretaries of the ministries involved in the network. Most important, it must include the directors and/or top-level decision makers from the organizations involved. The power of the committee cannot be in the hands of a single individual representing a powerful interest group, or a coalition of several individuals or groups representing special interests, but equitably distributed among the members. This group would then negotiate the details and compromises of the agricultural support network.

Matching the Level of Integration with Contextual Conditions

The primary emphasis of the contingency model is to aid planners in accurately diagnosing the context of the agricultural support network for IOC. The conclusion arrived at thus far is that a contextual condition can only tolerate, or support, a certain level of coordination.

Table 5 provides a summary of the IOC problems and contextual conditions discussed throughout the paper and serves as a guide to be used by planners for matching the level of integration possible with given contextual conditions.

Contexts 3 and 7 are used to explain the table because they highlight the most critical issues in the agricultural support network in Central Province: the effect which Locus of Initiative for
Table 5. Level of integration appropriate for different contextual conditions

<table>
<thead>
<tr>
<th>Context</th>
<th>Compatibility of Organizations</th>
<th>Control of Resources</th>
<th>Locus of Initiative</th>
<th>IOC Problems</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lack of Domain Consensus</td>
</tr>
<tr>
<td>1</td>
<td>Compatible</td>
<td>Abundant</td>
<td>Hierarchy</td>
<td>0(^a)</td>
</tr>
<tr>
<td>2</td>
<td>Compatible</td>
<td>Abundant</td>
<td>Local</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>Compatible</td>
<td>Scarce</td>
<td>Hierarchy</td>
<td>0(0)</td>
</tr>
<tr>
<td>4</td>
<td>Compatible</td>
<td>Scarce</td>
<td>Local</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Incompatible</td>
<td>Abundant</td>
<td>Hierarchy</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>Incompatible</td>
<td>Abundant</td>
<td>Local</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>Incompatible</td>
<td>Scarce</td>
<td>Hierarchy</td>
<td>1(0)</td>
</tr>
<tr>
<td>8</td>
<td>Incompatible</td>
<td>Scarce</td>
<td>Local</td>
<td>3</td>
</tr>
</tbody>
</table>

\(^a\)The numbers represent a scale of intensity which has the following values: 0 = no problem; 1 = low intensity problem; 2 = medium intensity problem; 3 = high intensity problem.
IOC Problems

<table>
<thead>
<tr>
<th>C Horizontal &amp; Vertical Conflicts</th>
<th>D Reduction in Adaptation Potential</th>
<th>Sum of A, B, C (ISI)</th>
<th>Degree of Integration contextual conditions will support</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
<td>1</td>
<td>High</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>3</td>
<td>High</td>
</tr>
<tr>
<td>0</td>
<td>2</td>
<td>2(0)</td>
<td>High</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>3</td>
<td>Med-High</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>4(0)</td>
<td>Medium</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>5(1)</td>
<td>High</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>5(1)</td>
<td>Medium</td>
</tr>
<tr>
<td>2</td>
<td>0</td>
<td>7</td>
<td>Low</td>
</tr>
</tbody>
</table>
coordination has on the relationship between Incompatibility of organizations and lack of Domain Consensus. Context 7 characterizes the present relationship between Namboard and the provincial cooperative unions: incompatible organizations, scarce resources, hierarchical origin of initiative for coordination, lack of domain consensus, threat to autonomy, and conflicting requirements for integration, whereas, context 3 represents the desired, and attainable, situation.

Both contexts include a hierarchical locus of initiative. This is preferred under the existing contextual conditions. In addition, it is important to note that both contexts 3 and 7 include two values presented for some of the IOC problems and for the Integration Support Index (ISI). For example, in context 7, domain consensus contains 1 and (0), threat to autonomy, 3 and (0), and ISI, 5 and (1). Whetten (1977:88) proposes that the two values represent (1) hierarchical authority only and (2) hierarchical authority plus supplementary resource support of IOC. The rationale being that reduced scarcity of resources would alleviate domain conflict and threat to autonomy. It is argued here, that in addition to increased resource support for IOC, also required is the formation of an inter-ministerial coordinating committee. When planning is done by such a committee, the division of labor can be articulated, and domain conflict between organizations can be reduced by solutions built into the design of the program. The inter-ministerial coordinating committee would also be the proper forum to resolve existing policy problems and create appropriate new ones.
By contrast, if incompatible organizations attempt to initiate their own IOC programs, as in context 8, the planning process itself will tend to increase domain conflict and disagreements over coordination procedures (Whetten 1977:88).

In conclusion, it is proposed that the key to effective IOR is the formation of an inter-ministerial coordinating committee. The formation of the committee would have the effect of elevating the most problematic IOR from context 7 to context 3. That is, compatibility and domain consensus between organizations would be enhanced and an environment supportive of increased coordination would be created.

Conclusion

This paper has reviewed the potential benefits of improved interorganizational coordination in the agricultural support networks within the context of the political economy of the agricultural policy sector, and proposed a contingency model to facilitate designing interorganizational service delivery systems.

It was demonstrated empirically that the perceived effectiveness of IOR between the organizations in the agricultural support network is not significantly different for the various organizations in the network. However, there are major differences in the frequency of conflict and degree of domain consensus between organizations. It was noted that the least effective and most problematic relations exist between Nam board and the cooperative organizations, DMC and CPCMU.
Zero-order Pearson correlation revealed that conflict and lack of domain consensus are obstacles to effective IOR, whereas conflict resolution and joint programs are facilitators of effective IOR.

The proposed contingency model suggests that IOC program designs should be evaluated on the basis of compatibility between the level of program integration and contextual conditions considering: (1) compatibility of organizations, (2) control of resources, and (3) locus of initiative. The model attempts to provide designers with general guidelines for determining the level of integration that a particular context will support. Since most IOC in the current Zambian political economy is hierarchically initiated, it was proposed that an inter-ministerial committee be formed to design IOC programs. Such a committee could more effectively manipulate the other contextual variables which could in turn minimize IOC problems. The ability to resolve conflict must become a major priority of organizational leaders and policy makers. A clear division of labor and distinct organizational domains established by an inter-ministerial committee could substantially reduce the existing conflict which has resulted from the lack of clear agricultural policy.
Aiken and Hage Revisited: A cross-cultural examination of modified centralization, formalization and task routineness scales

Robert E. Meyer

From the Department of Sociology and Anthropology, Iowa State University, Ames, IA 50011

Supported in part by the Graduate Technology and Social Change Program, Iowa State University, and research grants from the World Food Institute, Iowa State University, and Sigma Xi, The Scientific Research Society. The field work for the paper was conducted during 1986 while the author was a Research Affiliate with the Rural Development Studies Bureau, University of Zambia.
SECTION II. AIKEN AND HAGE REVISITED: A CROSS-CULTURAL EXAMINATION OF MODIFIED CENTRALIZATION, FORMALIZATION AND TASK ROUTINENESS SCALES

Introduction

Cross-cultural empirical research has received less attention in organization theory than in other areas of social science (Glaser 1971; Heydebrand 1973). Hickson et al. (1974:60) offer two possible explanations for the paucity of research. One may be that most, if not all, prominent writers on organizations ignore possible societal differences. Despite the lack of data, they assume that organizational forms and management principles hold anywhere regardless of the cultural environment. Lammers (1976:37) suggests the customary way of dealing with cultural factors is to cross them out.

The second explanation suggests that until relatively recently there may have been an absence of acceptable conceptual frameworks on which to base standardized analysis. Maurice (1979) provides evidence that during the 1970s cross-cultural investigations increased, many of which were largely inspired by the methodology and approach defined by researchers at the University of Aston under the direction of Pugh et al. (1963). British and American research teams carried out cross-cultural studies on samples of organizations in England, Canada and the United States (Inkson et al. 1970; Hickson et al. 1970; McMillan et al. 1973). More recently, the same kind of methodology has been applied to organizations in Japan (Dore 1973; Azumi 1974), West Germany
(Child and Kieser 1972) and Sweden (Horvath et al. 1976). Although the
Aston studies have been criticized on several grounds, including their
concepts of centralization and formalization (Child 1972; Mansfield
1973), technology (Aldrich 1972) and dependence (Mindlin and Aldrich
1975), their importance to the field is unquestionable (Mindlin and
Aldrich 1975).

Although the number of empirical cross-cultural studies has been
increasing in recent years there remains a substantial void in the
literature. As the list of countries studied above suggests, there
appears to be an "Anglo-Saxon bias" (Lammers 1976:37) in comparative
organizational studies which tends to favor primarily Western,
industrialized nations.

If organization theory is to advance to the ideal state of social
science proposed by Azumi (1974), where universal concepts and
propositions are formulated which can be applied cross-culturally, it
is necessary to expand cross-cultural research to include both non-
Western and developing countries on a larger scale.

A second, equally important, requirement for formulating universal
concepts and propositions is the use of standardized measures. Roberts
(1970) stresses that problems of instrumentation are magnified when
studies are across national boundaries. Doob (1968:81) points out that
"too often instruments . . . are designed more or less de novo, and
therefore, comparisons between studies are difficult and sometimes
impossible" (in Roberts 1970). Because numerous conceptual definitions
and measurement scales appear in the literature, when different conclusions are drawn, one is faced with the problem of determining whether the differences are due to differences in phenomena or differences in methods of measurement. The problem is not immediately resolvable, but a logical place to start is by criticizing and redefining existing scales and testing them in differing environments.

In keeping with the spirit of developing universal measures, the purpose of this paper is to assess the cross-cultural applicability of Aiken and Hage's modified (by Mulford et al. 1984) scales of centralization, formalization, and task routineness. Few theoretical and empirical contributions to the understanding of organizational structural properties have been utilized more than Aiken and Hage's (Dewar et al. 1980; Mulford et al. 1984). However, recent critiques (Dewar et al. 1980; Mulford et al. 1984) have prompted slight revisions in an effort to improve the reliability of the scales. The revised scales have thus far obtained good results in the United States (Mulford et al. 1984), in India (Gajbhiye 1986), and, in the present study, in Zambia.

The cross-cultural applicability of the scales will be assessed by answering the following questions: 1) to what extent are the measures of centralization, formalization and task routineness appropriate for use in Zambia, and 2) what, if any, are the similarities and differences among the relationships between the measures when used cross-culturally.
The answer to the first question will be determined by examining the reliability and validity of the subconstructs which make up the scales. These results will be compared to studies by Aiken and Hage conducted in 1964, 1967, and 1970, and Dewar et al. (1980) and Mulford et al. (1984).

Following a review of 526 cross-cultural investigations relevant to organizations, Roberts (1970:345) observed that few investigations have used a convergent-discriminant validity approach, although "the necessity for converging on constructs of interest and differentiating those from other constructs should be apparent." Assuming the conceptual groundwork for any future study is relatively sound, multiple indicators of both independent and dependent variables are in order (Roberts 1970:345). Carmines and Zeller (1979:16) note that although empirical measures that are reliable are essential to achieving scientific acceptance, measures must also be valid for the purpose for which they are being used. Reliability is basically an empirical issue, focusing on the performance of empirical measures. Validity, in contrast, is usually more of a theoretically oriented issue because it inevitably raises the question, 'valid for what purpose.' Cambell (1961:345) adds: "If there are multiple indicators which vary in their irrelevant attributes, and if these all agree as to the direction of the difference of the theoretically intended aspects, then the number of tenable rival explanations becomes generally reduced and the conformation of theory more nearly certain."
The answer to the second question will be answered by reviewing the relationships between the measures to determine if they support hypothesized relationships determined in earlier studies. The relevance of stable relationships across cultures is emphasized by Hickson et al. (1979:30) who state "that although in cross-cultural research differences between countries (in level of scores) may arouse curiosity, fundamentally it is the relationships between variables that is first priority for study." Przeworski and Teune (1970:45) concur that "systems differ not when the frequency of particular characteristics differ, but when the patterns of the relationships among variables differ."

Hypotheses

The cumulative works of Aiken and Hage have generated the following general propositions:

1. The higher the degree of centralization, the higher the degree of formalization (Aiken and Hage 1967).

2. The more routine the work in an organization, the greater the degree of centralization of organizational power (Hage and Aiken 1969).

3. The more routine the work in an organization, the greater the degree of formalization (Hage and Aiken 1969).

On the assumption that the six subconstructs which make up the centralization, formalization and task routineness scales form a system of interrelated variables, the rules of syllogism permit the following corollaries to be tested in this study:

1. The less the hierarchy of authority, the greater the participation in decision making.
2. The greater the participation in decision making, the lower the job codification.

3. The greater the participation in decision making, the lower the rule observation.

4. The greater the participation in decision making, the lower the job specificity.

5. The greater the hierarchy of authority, the greater the job codification.

6. The greater the hierarchy of authority, the greater the rule observation.

7. The greater the hierarchy of authority, the greater the job specificity.

8. The more routine the work, the less the participation in decision making.

9. The more routine the work, the greater the hierarchy of authority.

10. The more routine the work, the greater the job codification.

11. The more routine the work, the greater the rule observation.

12. The more routine the work, the greater the job specificity.

The Zambian political economy

Before addressing the above questions, it is necessary to describe the environmental context in which the study was conducted. Organizations do not exist in a vacuum, they interact continually with their environments. Zey-Ferrell (1979:38) points out that organization's continual relationship with the external environment has consequences for internal process, structure, and performance. Thus, environments of organizations are critical to the functioning of the organization and to our understanding of them.
Hage (1978) points out that it doesn't take much imagination to realize that organizational environments differ in capitalist and non-capitalist economies, raising the question as to whether or not the predominant theoretical models in American organizational sociology are adequate to describe organizational-environmental relations cross-culturally.

Aiken and Bacharach (1978) in their study of local governments in Belgium imply the two dominant American models, natural selection and resource dependence, may not be appropriate cross-culturally. In addition, they point out that recent European perspectives on organization-environment relations are noticeably absent from literature reviews on the subject. The French sociologist, Karpik (1978) provides a "historical-specific" perspective of organizational analysis and organization-environment relations that is substantially different from most American literature on the subject in that many of those efforts appear to attempt to develop concepts that are general enough to be applicable to most organizations under most circumstances (Aiken and Bacharach 1978). Among the attributes of Karpik's work that distinguish it from other perspectives and have particular relevance for this study include the emphasis placed on viewing organizations as political entities and the use of a historical approach in terms of the specificity and structure of the institutional system of which they are a part.
Although the focus of this paper, organizational structure in the agricultural support network, tends to remove the organizations from their environment in the sense that no environmental concepts are operationalized and no organization-environment relationships tested, it is proposed that these structures can be best understood within the context of their environment using the historical-specific approach.

**Administration in Zambia**

In his analysis of decentralized administration in Zambia, Lungu (1985) concluded there was little evidence of any significant influence of pre-colonial communocratic administration on the present bureaucracy. The colonial administration, which lasted from the 1890s until 1963, however, was found to have had a significant impact on both the structure of administration and the attitudes and behaviors of administrators. Regarding the latter, Lungu (1985:61) states: "examples of this influence could be traced to the elitist and anti-rural attitudes of bureaucratic officials, strong adherence to formalistic rules and office rituals, and a tendency to avoid responsibility at lower levels and pass it on to higher levels of bureaucracy." The retention of English as the official language of the administration in a country where illiteracy is relatively high provides an example of the elitist orientation (Lungu 1985).

Following independence in 1964, attempts were made to reform the administrative structure in 1968-69 and again in 1980 with passage of the Local Administration Act. However, the colonial-like
administrative structure remains largely in tact. On the contrary, rather than change the structure the colonial prefectural role of Provincial Commissioner was re-introduced in the form of a Provincial Minister in the early reforms and in 1980 replaced by a Provincial Permanent Secretary. At district level the colonial role of District Commissioner was re-introduced in the form of a District Governor.

The creation of a one-party state in 1972, state capitalism and the predominance placed on political goals are all characteristics that seem to affect organization and management in the present system. The system of administrative arrangement is most accurately described as corporatism. The President heads two parallel administrative structures: the Central Committee, representing the United National Independence Party, which determines major policy direction, and the Cabinet, representing the Government, which is responsible for implementing policy decisions. All organizations, government, parastatal, and public alike, are viewed as agents of change to be used by the "Party and its Government" to fulfill social and political goals, and as such, enjoy little autonomy from State domination (Meyer 1989).

Although the nature of governmental control varies depending on the legal status of the organization, the influence of the State is considerable in all cases. The organizations in this study and the type of control over each include government departments subject to civil service regulations, statutory organizations which are subject to
legal statutes that vest power in the State, and public companies which are subject to control through their Governing Board of Directors, appointed by the Government as the sole or majority shareholder.

Simwinga (1980:131) points out that government control in Zambia has extended beyond major policy determination to the day-to-day activities of public enterprises in an effort to ensure that they serve as development agents. Government has permeated most facets of organizational life and is involved in investment decisions such as what investment projects to undertake and which technology to adopt, personnel practices, including transfers of management and the bringing of salaries and conditions of employment in line with those prevailing in the civil service, and financial decisions, such as the pricing of goods and services.

The Data and Methods of Analysis

The sample

Data for the study were collected from 79 informants representing 16 organizations, all of which are involved in agricultural planning and/or service delivery (i.e., inputs, credit and marketing) to small-scale farmers in Serenje and Kabwe Rural Districts, Central Province, Zambia. The term organization is used in a broad sense and includes Zambian Government and parastatal organizations, Zambian public companies, two district council secretariats, an international donor (Britain's Overseas Development Administration), and an American
private voluntary organization (Institute of Cultural Affairs). These organizations together form the agricultural support network in Central Province, Zambia (Meyer 1989).

Although the network organizations possess a broad range of goals and objectives, it is assumed they all, to a greater or lesser extent, share the collective or system goal of increasing productivity and hence improving the situation of the small-scale farmer through providing support and/or services, be it through planning or the actual delivery of services.

The data were collected between March and December 1986 from top-level administrators, decision makers and boundary spanners in sixteen organizations at the national, provincial and district administrative levels. Many of the organizations have offices at more than one administrative level, thus, the organizations varied in size from three persons at one district level office to over four thousand for a network organization having organizational units at the national, provincial, district and ward levels. The number of interviews per organization varied from two for the smallest organizational unit to 17 for the largest network organization. The unit of analysis is the organization.

Methods

Once the assumption is made that a variable is an organizational property, a decision must be made relative as how best to reflect this information in measurement. Because the major objective of this paper
is to compare the results of this study with those obtained earlier, the method used involves aggregation of the data by organization and taking the mean of all respondents' scores to create organizational mean scores. In their original work, Hage and Aiken utilized a slightly different method whereby means of "social positions," described as intersections of levels and depa a mean score was then computed for each social position in the organization. The organizational mean score for a given variable was determined by computing the average of all social positions in the organization. Hage and Aiken (1967b:77) reported that scores using the social position and mean aggregation procedures were highly correlated. Most coefficients were about .88, although the coefficients for hierarchy was .70 and that for job codification was .68 (Dewar et al. 1980). In this study, scores produced by first aggregating the data by administrative level and then computing the average organizational score produced correlation coefficients of .97 or higher for all indicators.

In order to be consistent with the work of Dewar et al. (1980) and Mulford et al. (1984), reliability coefficients (Cronbach's alpha) were calculated to determine the internal consistency of each subconstruct, median inter-item correlations were calculated to determine convergent validity, and median off-diagonal correlation coefficients were calculated to determine the discriminant validity for each scale.
Pearson Product Moment zero-order and partial correlation were used to determine the magnitude and direction of association between measures.

The constructs

The specific indicators examined in this study are revised scales (Mulford et al. 1984) of those originally developed by Aiken and Hage (1966; 1968; Hage and Aiken 1967a; 1967b; 1969). The Mulford et al. revisions were based on a review and critique of the Aiken and Hage scales by Dewar et al. (1980). The rationale for modification will be discussed below.

The original Aiken and Hage items use inconsistent referents including "I", "we", "a person," "people in general," "the employer," "most people," "everyone," and "the organization." In addition, seven of the items do not specify a referent. The questions could be interpreted to refer to a single person, a work group, a department, or the entire organization. Seidler (1974:818) argues the change in referent, as well as the small number of informants per case, may affect reliability. Changes in referent create role changes for the respondent that may be confusing, especially when it is not clear how much weight to give personal feelings in relation to objective judgment. Since it is common in organizational studies to have a small number of respondents per case, Dewar et al. (1980) suggest the reliability of Aiken and Hage's scales might be improved by less ambiguous phrasing. Thus, to provide consistency and clarity, the Mulford et al. (1984) scales use "staff" as a referent throughout.
Response categories were slightly revised in this study. Four-point Likert-type scales are used throughout. The centralization measures were coded 1, never through 4, always, and the formalization and task routineness scales were coded 1, strongly disagree through 4, strongly agree. Thus, in all instances, higher scores indicate higher degrees of the perceived trait. In addition, spelling was revised to conform to British convention.

Centralization

Centralization refers to "the extent to which power is distributed among social positions" (Hage and Aiken 1967b:77; 1970:38) and consists of two subconstructs. The first subconstruct, participation in decision making, focuses on the degree to which staff members participate in decision making regarding the allocation of resources and determination of policies which affect the whole organization. The subconstruct was determined to be both reliable and valid by Dewar et al. (1980). The Mulford et al. (1984) scale used to measure participation in decision making consists of four items (Table 1) and differs from Aiken and Hage's only in the referent and response categories discussed above.

The second subconstruct, hierarchy of authority, is concerned with the extent to which members are assigned tasks and then permitted the freedom to implement them without interference from superiors. The subconstruct was also found to be reliable and valid (Dewar et al. 1980), thus, the revised scale consists of the original five items with changes in only the referent and response categories (Table 1).
<table>
<thead>
<tr>
<th>Participation in Decision Making</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Aiken and Hage Items</strong></td>
<td><strong>Mulford et al. Items</strong></td>
</tr>
<tr>
<td>1. How frequently do you usually participate in the decisions on the adoption of new programs?</td>
<td>1. How frequently do staff usually participate in decisions on the adoption of new programs?</td>
</tr>
<tr>
<td>2. How frequently do you usually participate in decisions on the adoption of new policies?</td>
<td>2. How frequently do staff usually participate in decisions on the adoption of new policies?</td>
</tr>
<tr>
<td>3. How frequently do you usually participate in decisions to hire new staff?</td>
<td>3. How frequently do staff usually participate in decisions to hire new staff?</td>
</tr>
<tr>
<td>4. How frequently do you usually participate in decisions on the promotions of any of the professional staff?</td>
<td>4. How frequently do staff usually participate in decisions on the promotions of any of the professional staff?</td>
</tr>
</tbody>
</table>

Response set: 5, always through 1, never

4, always through 1, never
<table>
<thead>
<tr>
<th>Hierarchy of Authority</th>
<th>Mulford et al. Items</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Aiken and Hage Items</strong></td>
<td><strong>Mulford et al. Items</strong></td>
</tr>
<tr>
<td>1. There can be little action taken here until a supervisor approves a decision.</td>
<td>1. There can be little action taken here by staff until a supervisor approves a decision.</td>
</tr>
<tr>
<td>2. A person who wants to make his own decisions would be quickly discouraged here.</td>
<td>2. A staff person who wants to make his/her own decisions would be quickly discouraged here.</td>
</tr>
<tr>
<td>3. Even small matters have to be referred to someone higher up for a final answer.</td>
<td>3. Even small matters dealt with by staff have to be referred to someone higher up for a final answer.</td>
</tr>
<tr>
<td>4. I have to ask my boss before I do almost anything.</td>
<td>4. Staff persons have to ask their boss before they do almost anything.</td>
</tr>
<tr>
<td>5. Any decision I make has to have my bosses approval.</td>
<td>5. Any decision a staff person makes has to have his/her supervisor's approval.</td>
</tr>
</tbody>
</table>

Response set: 4, definitely true; 3 more true than false; 2 more false than true; 1 definitely false. 1, strongly disagree through 5, strongly agree.
Formalization is defined as "the use of rules in an organization" (Hage and Aiken 1967b:79). Formalization is composed of three subconstructs: job codification, which refers to "the degree to which job descriptions are specified"; rule observation, which refers to "the degree to which job occupants are supervised in conforming to the standards established in job categories" (Hage and Aiken 1967b:79); and job specificity, which refers to "the degree to which procedures defining jobs are spelled out" (Aiken and Hage 1968).

Dewar et al. suggest that the items in Aiken and Hage's job codification subconstruct are inconsistent with the definition. Only one item, "most people here make their own rules on the job," refers to rules on the job. Thus, Mulford et al. created three new items to measure job codification as conceptualized by Aiken and Hage (Table 2).

Dewar et al. determined that the two-item rule observation scale is reliable, probably because the two items have very similar phrasing, but has poor discriminant validity. The revised scale, therefore, retained the two items and added a third item in an effort to strengthen the relationship between the scale and the construct (Mulford et al. 1984) (Table 2.).

Dewar et al. concluded that items 5 and 6 in the job specificity scale refer more to centralization than to job specificity, therefore, they were replaced with two new items (Table 2). These two items and the four remaining items from the Aiken and Hage scales were used to measure job specificity.
<table>
<thead>
<tr>
<th>Job Codification</th>
<th>Mulford et al. Items</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Aiken and Hage Items</strong></td>
<td><strong>Salary determinations are based upon detailed job descriptions.</strong></td>
</tr>
<tr>
<td>1. I feel I am my own boss in most matters.</td>
<td>1. Staff here are constantly being checked for rule violations.</td>
</tr>
<tr>
<td>2. A person can make his own decisions without checking with anybody else.</td>
<td>2. Staff here feel they are being watched to see that they conform to work standards.</td>
</tr>
<tr>
<td>3. How things are done here is left up to the person doing the work.</td>
<td>3. Staff who follow the rules very closely receive the most favorable performance evaluations.</td>
</tr>
<tr>
<td>4. People here are allowed to do almost as they please.</td>
<td><strong>Response set: 4, definitely true through 1, definitely false.</strong></td>
</tr>
<tr>
<td>5. Most people here make their own rules on the job.</td>
<td><strong>Response set: 1, strongly disagree through 4, strongly agree.</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rule Observation</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The employees here are constantly checked for rule violations.</td>
<td>1. Staff here are constantly being checked for rule violations.</td>
</tr>
<tr>
<td>2. People here feel they are constantly being watched to see that they obey the rules.</td>
<td>2. Staff here feel they are being watched to see that they conform to work standards.</td>
</tr>
</tbody>
</table>

| **Response set: 4, definitely true through 1, definitely false.** | 1, strongly disagree through 4, strongly agree. |
Job Specificity

1. Whatever the situation arises we have procedures to follow in dealing with it.
2. Everyone has a specific job to do.
3. This organisation keeps written records of everyone's job performance.
4. We are to follow strict operating procedures at all times.
5. Going through proper channels is constantly stressed.
6. Whenever we have a problem, we are supposed to go to the same person for an answer.

Response set: 4, definitely true through 1, definitely false.

1. Whatever situation arises, staff have standard procedures in dealing with it.
2. Everyone has a specific job to do.
3. This organisation keeps written records of everyone's job performance.
4. Staff are to follow strict operating procedures at all times.
5. It is important to orient new staff so they fully understand work procedures here.
6. Work procedures for all positions are written and periodically revised as needed.

1, strongly disagree through 4, strongly agree.
Task routineness   Task routineness as used in this study refers to "how much variety there is in work" (Hage and Aiken 1969:368). Routineness of work does not cover all aspects of the concept of technology as defined by Perrow (1967), however, Hage and Aiken (1969:367) argue that the degree of routineness is one dimension of technology that can be applied equally to people-processing, industrial and other kinds of organizations.

The task routineness scale was found to have good reliability and acceptable validity (Dewar et al.) and was used in the study with modifications to only the referent and response categories (Table 3).

Findings

Reliability

The reliability of each indicator was assessed using Cronbach's alpha. Although reliabilities tend to be sample specific (Seidler 1974), task routineness and the subconstructs of centralization and formalization have demonstrated considerable stability from study to study (Table 4). The reliability coefficients obtained by Aiken and Hage in three studies range from .72 to .96 and average .86. The same scales, used by Dewar et al. (1980) in manpower organizations, resulted in lower coefficients, with those for job codification and job specificity below .70. In limited use of the scales cross-culturally, Bacharach and Aiken (1976) obtained the following reliabilities from local government department heads in Belgium: job codification, .66,
<table>
<thead>
<tr>
<th>Aiken and Hage Items</th>
<th>Mulford et al. Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. People here do the same job in the same way every day.</td>
<td>1. Staff here do the same job in the same way every day.</td>
</tr>
<tr>
<td>2. One thing people like around here is the variety of work. (reversed)</td>
<td>2. One thing staff like around here is the variety of work. (reversed)</td>
</tr>
<tr>
<td>3. Most jobs have something new happening every day. (reversed)</td>
<td>3. Most jobs have something new happening every day. (reversed)</td>
</tr>
<tr>
<td>4. There is something different to do every day. (reversed)</td>
<td>4. There is an opportunity for staff to do something different everyday. (reversed)</td>
</tr>
<tr>
<td>Response set: 4, definitely true through 1, definitely false.</td>
<td>1, strongly disagree through 4, strongly agree.</td>
</tr>
</tbody>
</table>
Table 4. Reliability coefficients for centralization, formalization and task routineness

<table>
<thead>
<tr>
<th>Scales</th>
<th>Aiken and Hage\textsuperscript{a}</th>
<th>Dewar et al.</th>
<th>Mulford et al.\textsuperscript{b}</th>
<th>Meyer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation</td>
<td>.95</td>
<td>.92</td>
<td>.93</td>
<td>.81</td>
</tr>
<tr>
<td>Hierarchy</td>
<td>.79</td>
<td>.96</td>
<td>.93</td>
<td>.70</td>
</tr>
<tr>
<td>Job Codification</td>
<td>.72</td>
<td>.76</td>
<td>.85</td>
<td>.67</td>
</tr>
<tr>
<td>Rule Observation</td>
<td>.88\textsuperscript{c}</td>
<td>.93</td>
<td>.92</td>
<td>.73</td>
</tr>
<tr>
<td>Job Specificity</td>
<td>--\textsuperscript{c}</td>
<td>.76</td>
<td>.76</td>
<td>.45</td>
</tr>
<tr>
<td>Task Routineness</td>
<td>--\textsuperscript{c}</td>
<td>.82</td>
<td>.94</td>
<td>.74</td>
</tr>
<tr>
<td>Average:</td>
<td>.84</td>
<td>.86</td>
<td>.89</td>
<td>.68</td>
</tr>
</tbody>
</table>

\textsuperscript{a}Dewar et al. 1980.
\textsuperscript{b}Mulford et al. 1984.
\textsuperscript{c}--- not measured in this wave.
rule observation, .87, and task routineness, .70. In addition to the four items listed in Table 3, task routineness included a fifth item in their study: "would you say your work here is very routine, routine, nonroutine, or very nonroutine" (1976:631).

The revised scales have demonstrated similar stability. In a study of 64 human service organizations in rural communities, Mulford et al. obtained reliability coefficients that range from .74 to .87 and average .79. Cross-cultural applications have produced similar results. Using the individual as the unit of analysis, Gajbhiye (1986), in a study of scientific research organizations in India, obtained coefficients that range from .66 to .92 and average .77. In the present work, the coefficients range from .64 to .94 and average .82. Only the coefficients for rule observation (.64) raises questions of satisfactory reliability (Carmines and Zeller 1979). Deletion of the new item, "staff who follow the rules very closely receive the most favorable performance evaluations," however, increases the reliability coefficient to .91.

**Convergent/discriminant validity**

Although the subconstructs appear to be reliable across all data sets, the more important issue is whether or not the items measure a particular construct or subconstruct and only those constructs.

Median inter-item correlations were computed for each subconstruct to determine to what degree the items converge, and then contrasted with the median off-diagonal correlations to determine whether or not
130

...items discriminate between constructs and subconstructs (Hackman and Oldham 1975). A subconstruct is said to have convergent and discriminant validity if the median inter-item correlation is greater than the median off-diagonal coefficient.

Table 5 reveals that both measures of centralization used in the revised scales produced high degrees of convergent and discriminant validity. This suggests they validly measure the subconstructs for which they were intended, both in rural community organizations in the United States and cross-culturally, in Zambia.

The subconstructs of formalization produced less satisfactory results. The poor convergent and discriminant validity for job codification in the Aiken and Hage scales provided the rationale for the new Mulford et al. scale. The new scale obtained better convergent and discriminant validity in the two previous studies where it was used than the Aiken and Hage scales did in the four studies reviewed here.

There are, however, some interesting differences in the two studies where the revised scales were used. Mulford et al. (1984) found that most items in the job codification and job specificity scales loaded on a common factor. In this study, factor analysis was not used to evaluate the scales due to the small sample size. However, zero-order Pearson Product Moment correlation revealed almost no relationship between the two subconstructs, job codification and job specificity (r = .081), and fourth-order partial correlation revealed...
Table 5. Median inter-item and median off-diagonal correlation coefficients

<table>
<thead>
<tr>
<th></th>
<th>Aiken and Hage&lt;sup&gt;a&lt;/sup&gt;</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1964 N=16</td>
<td>1967 N=16</td>
<td>1970 N=16</td>
</tr>
<tr>
<td>Inter-item</td>
<td>Off-diagonal</td>
<td>Inter-item</td>
<td>Off-diagonal</td>
</tr>
<tr>
<td>Participation</td>
<td>.885</td>
<td>.420</td>
<td>.847</td>
</tr>
<tr>
<td>Hierarchy</td>
<td>.519</td>
<td>.302</td>
<td>.858</td>
</tr>
<tr>
<td>Job Codification</td>
<td>.439</td>
<td>.200</td>
<td>.338</td>
</tr>
<tr>
<td>Rule Observation</td>
<td>.916</td>
<td>.693</td>
<td>.962</td>
</tr>
<tr>
<td>Job Specificity</td>
<td>---&lt;sup&gt;c&lt;/sup&gt;</td>
<td>---&lt;sup&gt;c&lt;/sup&gt;</td>
<td>.392</td>
</tr>
<tr>
<td>Task Routineness</td>
<td>---&lt;sup&gt;c&lt;/sup&gt;</td>
<td>---&lt;sup&gt;c&lt;/sup&gt;</td>
<td>.677</td>
</tr>
</tbody>
</table>

<sup>a</sup>Dewar et al. 1980.

<sup>b</sup>Mulford et al. 1984.

<sup>c</sup>--- not measured in this wave.
<table>
<thead>
<tr>
<th></th>
<th>Dewar et al. \textsuperscript{a}</th>
<th>Mulford et al. \textsuperscript{b}</th>
<th>Meyer</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1980 N=72</td>
<td>1983 N=63</td>
<td>1988 N=16</td>
</tr>
<tr>
<td></td>
<td>Inter-item diagonal</td>
<td>Inter-item diagonal</td>
<td>Inter-item diagonal</td>
</tr>
<tr>
<td></td>
<td>.658 .216</td>
<td>.624 .112</td>
<td>.787 -.292</td>
</tr>
<tr>
<td></td>
<td>.371 .197</td>
<td>.650 .055</td>
<td>.561 .138</td>
</tr>
<tr>
<td></td>
<td>.464 .204</td>
<td>.563 .084</td>
<td>.737 -.050</td>
</tr>
<tr>
<td></td>
<td>.815 .460</td>
<td>.719 .306</td>
<td>.476 .222</td>
</tr>
<tr>
<td></td>
<td>.223 .190</td>
<td>.337 .035</td>
<td>.451 .128</td>
</tr>
<tr>
<td></td>
<td>.428 .218</td>
<td>.589 .112</td>
<td>.792 .168</td>
</tr>
</tbody>
</table>
only a weak negative association ($r_p = -.226$). Job codification was, however, significantly associated with rule observation ($r_p = .613; p < .01$).

Rule observation has produced high inter-item correlations for all past studies suggesting good convergent validity. The relatively high off-diagonal coefficients also recorded, however, suggest poor discriminant validity. The addition of a new item improved the discriminant validity of the scale in the Mulford et al. study, however, it appears to have had an adverse effect in the present study. The primary reason being that the new item resulted in higher correlation with items in the job codification subconstruct than with the items in the subconstruct. In addition, items 1 and 2 were strongly associated with item 4 from the job specificity subconstruct resulting in a strong association between the two subconstructs ($r_p = .631$).

The revised scale for job specificity showed improved discriminant validity over the Aiken and Hage scales in this study. Job specificity produced the highest inter-item correlation (.451) and a lower off-diagonal correlation than the Aiken and Hage scale. The revised scale, however, continues to demonstrate problems of discriminant validity. The items in the scale correlate higher with items in other subconstructs than they do with each other. Item 4, "staff are to follow strict operating procedures at all times," appears to belong in the rule observation subconstruct. Zero-order correlation of the items
produced very strong associations with both items 1 and 2 in the rule observation subconstruct. The coefficients were .774 and .784, respectively.

The results of the inter-item and off-diagonal correlations suggest that the task routineness construct performed better when used in the heterogeneous sample of organizations in Zambia than it has in various homogeneous settings in the United States.

Summary of reliability and validity of subconstructs

Cross-cultural analysis indicates that both measures of centralization using the revised scales are reliable and valid. The formalization subconstructs, however, continue to have problems. The data suggest that the construct might be improved if some of the items in the subconstructs were moved to other subconstructs and others revised or omitted. In the job specificity subconstruct, item 4, "staff are to follow strict operating procedures at all times," appears to fit better in the rule observation subconstruct. In the rule observation subconstruct, the new item added by Mulford et al. appears out of place also. Although it correlates highest with items in the job codification subconstruct, conceptually this doesn't appear to be the appropriate place for it. Since the item did perform adequately in the Mulford et al. study, perhaps further testing is in order before the decision is made to delete it from the scale. The task routineness construct demonstrated excellent reliability and convergent and discriminant validity.
The more important issue here may be that even though the formalization subconstructs demonstrated problems of validity, overall they performed as well cross-culturally as they have in various settings in the United States. The results obtained in Zambia reveal, as have the earlier assessments, that there remains work to be done on the formalization subconstructs if universal measures are to be achieved.

Relationships between measures

Centralization The zero-order correlations (Table 6) reveal that the two measures of centralization, participation in decision making and hierarchy of authority, are strongly and negatively correlated \( r = -0.634 \). The results are consistent with the findings of Hage and Aiken (1967b). Since these two indicators are themselves strongly related, a partial correlation analysis was also made to determine the independent effects of each of these measures of centralization with other organizational properties (Table 7).

The degree of participation in decision making in the agricultural support network resulted in a mean score of 2.203 and varied from 1.75 - 3.78 in a possible range from 1 (low participation) to 4 (high participation) (Table 8). The item mean scores reveal there is more participation in decisions regarding new programs (2.679) and new policies (2.417) than there is in decisions to hire new staff (1.925) or the promotion of staff (1.766). The degree of hierarchy of authority resulted in a mean score of 2.330 and varied from 1.48 - 3.10
Table 6. Pearson zero-order correlation coefficients between measures of centralization, formalization and task routineness

<table>
<thead>
<tr>
<th></th>
<th>Partic</th>
<th>Hierar</th>
<th>Jobcod</th>
<th>Rules</th>
<th>Specif</th>
<th>Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hierarchy</td>
<td>-.634**</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job codification</td>
<td>-.114</td>
<td>.001</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rule observation</td>
<td>.182</td>
<td>.098</td>
<td>.316</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job specificity</td>
<td>-.144</td>
<td>.200</td>
<td>.081</td>
<td>.628**</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>Task routineness</td>
<td>-.542**</td>
<td>.618**</td>
<td>-.351</td>
<td>.186</td>
<td>.331</td>
<td>1.000</td>
</tr>
</tbody>
</table>

* = Significance = .05.

** = Significance = .01.
Table 7. Partial correlation coefficients between measures of centralization, formalization and task routineness

<table>
<thead>
<tr>
<th></th>
<th>Partic</th>
<th>Hierar</th>
<th>Jobcod</th>
<th>Rules</th>
<th>Specif</th>
<th>Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hierarchy</td>
<td>-.371</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job codification</td>
<td>-.583*</td>
<td>.038</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rule observation</td>
<td>.636**</td>
<td>.128</td>
<td>.613*</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job specificity</td>
<td>-.325</td>
<td>-.099</td>
<td>-.226</td>
<td>.631*</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>Task routineness</td>
<td>-.556*</td>
<td>.299</td>
<td>-.673**</td>
<td>.476</td>
<td>-.053</td>
<td>1.000</td>
</tr>
</tbody>
</table>

* = Significance = .05.

** = Significance = .01.
Table 8. Mean and range of scores of centralization, formalization and task routineness measures

<table>
<thead>
<tr>
<th>Scale</th>
<th>Mean</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation in decision making</td>
<td>2.203</td>
<td>1.75 - 3.78</td>
</tr>
<tr>
<td>Hierarchy of authority</td>
<td>2.330</td>
<td>1.48 - 3.10</td>
</tr>
<tr>
<td>Job codification</td>
<td>2.769</td>
<td>1.67 - 3.43</td>
</tr>
<tr>
<td>Rule observation</td>
<td>2.579</td>
<td>1.73 - 3.67</td>
</tr>
<tr>
<td>Job specificity</td>
<td>2.829</td>
<td>2.08 - 3.43</td>
</tr>
<tr>
<td>Task routineness</td>
<td>2.167</td>
<td>1.31 - 2.94</td>
</tr>
</tbody>
</table>
in a possible range from 1 (low hierarchy) to 4 (high hierarchy).

However, when the two non-Zambian organizations were excluded the range for participation in decision making decreased to 1.75 - 2.48 and the range for hierarchy of authority decreased to 1.92 - 3.10, revealing Zambia's corporate administrative structure. In spite of the Local Administration Act of 1980 which decentralized administrative authority to the district councils, the district councils and their planning counterparts at the provincial and national levels obtained the lowest participation scores in the study (1.75 - 1.95) and the highest hierarchy of authority scores (2.60 - 3.10).

A note of caution is in order regarding the comparison of organizational scores. Although all the organizations are operating in Zambia, the British and American respondents in the study carry with them their cultural baggage which will undoubtedly influence their perceptions of the constructs measured in the study. Past research (Leonard 1977; Negandhi 1979) suggests that in general, individuals from non-Western cultures tend to view management as less authoritarian than Westerners would in the same situation.

Lungu (1985:10) argues that to minimize dysfunction, shield off threats, and reduce uncertainty, administrators increasingly resort to centralizing strategies and hierarchies. It is paradoxical that in a country short of qualified human resources, qualified people are still underutilized because an even smaller group of top officials monopolize key decision making roles. In an analysis of agricultural
administration in East Africa, Moris (1972) noted that in addition to the lack of confidence on the part of managers in their closest associates, centralization can be explained in part by the practice of holding managers personally responsible for all developments in an organization. This is also the case in some Zambian organizations.

An alternative view is provided by Warren (personal communication, Department of Sociology and Anthropology, Iowa State University, May 19, 1988). Based on three years experience working in the Planning Division of the Ministry of Agriculture and Water Development and facilitating numerous management development workshops for Zambian administrators, Warren concluded that the decision making style characteristically used in Zambia is one of consensus. Tordoff and Molteno (1974) also noted that even simple issues were often referred to committees instead of being resolved informally.

However, it is proposed here that the managerial behavior underlying the consensus decision making is in reality, decision avoidance rather than consensus. Managers and administrators are reluctant to take the individual initiative to make decisions, when allowed the autonomy to do so, because of the reasons stated above. However, if decisions are made jointly, uncertainty and risk are diminished and reprisals diffused. This is consistent with Thompson (1967) and March and Simon (1958), who have written that administrators will try to avoid high risk decisions whenever possible because the power elite does not want to expose itself to failure unless it is forced to do so.
Formalization  The zero-order correlations presented in Table 6 suggest the three subconstructs of formalization do not represent a single construct. The strength of the relationships vary from almost no association between job codification and job specificity ($r = .081$) to a very strong relationship between rule observation and job specificity ($r = .628$).

The results of partial correlation show somewhat different results (Table 7). When the effects of all other measures are controlled, the association between rule observation and job specificity remains virtually unchanged. However, the relationship between job codification and rule observation increases to a statistically significant $0.613$ ($p < .05$), and the association between job codification and job specificity is reversed in direction ($r = -.226$). These results suggest that what job codification and rule observation share in common is different from what rule observation and job specificity share.

Although no hypotheses were stated regarding the relationships between the three subconstructs, a positive association between the three measures was expected (Pennings 1973). The inconsistent findings lend support to the earlier discussion regarding the poor discriminant validity which suggested that the formalization subconstructs are not yet universal measures.

Within a possible range of 1 to 4, the following ranges were obtained for the three subconstructs: job codification $1.67 - 3.43$, 
rule observation 1.73 - 3.67, and job specificity 2.08 - 3.43 (Table 8). Overall, the British international donor and its affiliated district council appear to be the most formalized, the American private voluntary organization the least formalized and the Zambian organizations tended to vary differently on each of the three measures.

Centralization and Formalization The data in Table 6 present an unclear picture of the relationship between participation in decision making and formalization as measured by the subconstructs of job codification, rule observation and job specificity. Two of the zero-order correlations are negative, one is positive, and all are weak.

A partial correlation analysis was made to determine the relationship between participation in decision making and each of the three subconstructs using the remaining four indicators as controls. The partial correlation analysis reveals when the effects of the other measures are controlled the relationship between participation in decision making and the subconstructs of formalization all increase in magnitude (Table 7). The relationships with job codification and rule observation became statistically significant (p < .05).

Job codification The relationship between participation in decision making and job codification suggests that as decision making becomes more centralized, job codification, as measured by the use of written rules and job descriptions, also increases. This is consistent with the predicted relationship. Hage and Aiken (1967b)
suggest that decision makers do not want to spend their time making routine decisions about work so they codify past decisions into rules specifying what job occupants are supposed to do.

Rule observation The relationship between participation in decision making and rule observation was the opposite of the hypothesized relationship. The data suggest that organizations which are perceived as having the greatest degree of participation in decision making are also perceived as having the greatest degree of surveillance to enforce rule and regulations of the organization (rule observation). The reverse would also be true. Organizations with the least participation in decision making have the lowest degree of rule observation. A close look at the data suggests the latter explanation is the case. These findings are consistent with Pugh et al. (1968) and are explained in part by the professional level and nature of work the organizations perform. The more professional organizations in the network, primarily those involved with national planning activities, received the lowest rule observation scores. The nonroutine nature of their work necessitates a more flexible bureaucracy. These same organizations received the lowest participation in decision making scores as a result of the control exercised in the Zambian corporate administration. The findings support Zey-Ferrell's (1979) contention that formalization and centralization can serve as alternative methods of control.
Job specificity  The relationship between participation in decision making and job specificity resulted in a weak, negative association ($r = -0.114$). The partial correlation coefficient was slightly stronger ($r_p = -0.325$), but not significant. Although the job specificity subconstruct has not appeared in the literature as often as job codification and rule observation, the results obtained cross-culturally appear to be consistent with those obtained by Aiken and Hage.

Hierarchy of authority and measures of formalization  The findings of Blauner (1964) and the comments of Hage and Aiken (1967b) suggest that a stronger case might be made for hierarchy of authority as an indicator of centralization than participation in decision making in predicting other organizational properties. The rationale being that workers are less concerned with control over management policy than they are concerned with control over the work process. This study, however, does not support the argument. Perhaps because the sample consisted primarily of organizational decision makers and not general staff. However, the results of zero-order correlation revealed no significant relationships between hierarchy of authority and any of the three subconstructs of formalization (Table 7). There was no association between hierarchy of authority and job codification ($r = 0.001$) or rule observation ($r = 0.098$) and a weak association with job specificity ($r = 0.200$). The partial correlations reveal little change in the relationships with job codification and rule observation, however, the association with job specificity is reversed in direction.
Summary of findings of centralization and formalization

The results of correlation between the two measures of centralization and the three measures of formalization suggest that participation in decision making seems to be the more important dimension of power than hierarchy of authority. These findings are consistent with Hage and Aiken (1967b). The major difference between the findings of Hage and Aiken and this study is the relationship between participation in decision making and rule observation. However, the poor convergent and discriminant validity resulting from interaction between the formalization subconstructs suggests the relationships with the measures of formalization are somewhat suspect.

Organizational structure and task routineness

Perrow (1967:195) argues that work processes of an organization provide the foundation upon which social structure is built. Thus, it is posited that task routineness is likely to determine, among other things, whether the structure of an organization is formalized or nonformalized and whether it is centralized or decentralized (Hage and Aiken 1969:367).

The data in this study provide additional insight into the relationship between task routineness and organizational structure. The organizations in the agricultural support network represent a wide range of technologies. Their range of scores on task routineness, however, tended to be more nonroutine. That is, the organizational scores ranged from 1.31 to 2.94, with a mean of 2.17 on a scale that
could vary from 1.00 to 4.00. The marketing and finance organizations and district councils tended to be more routine, whereas the planning organizations tended to be more non-routine.

The zero-order correlation coefficients in Table 6 reveal a strong association between task routineness and both measures of centralization, a moderate positive association with job specificity, a moderate negative association with job codification, and a weak association with rule observation. The partial correlation analysis (Table 7), however, reveals somewhat different results. While the association between task routineness and participation increased slightly, the association with hierarchy of authority decreased substantially, suggesting a spurious relationship resulting from the association between the two measures of centralization. The association between task routineness and the subconstructs of formalization also changed. The association between task routineness and job codification increased to the extent it became statistically significant ($r_p = -.673$, $p < .01$). The partial correlation coefficient with rule observation more than doubled ($r_p = .476$). Job specificity, however, reversed in direction and decreased to the level of almost no association with task routineness.

The hypothesis between task routineness and participation in decision making is the only hypothesis that is supported by the data. Several explanations can be provided for the lack of support for the other hypothesized relationships. The primary explanation proposed for
the lack of support for the relationship between task routineness and the subconstructs of formalization runs counter to Perrow's argument that work processes provide the foundation for social structure. It is argued here that in the Zambian political economy control supersedes work processes as a foundation of social structure. The primacy of control is attributable in part to Zambia's colonial heritage. Zambia inherited at independence an administrative system in which the primary function was law and order (Tordoff 1980). The adoption of a one-party state in 1973 has built on the primacy of control, both social and organizational. Organizations play an important social role in Zambia in that they serve as extensions of the State.

The second possible explanation concerns the measures themselves. As mentioned previously, the formalization subconstructs have problems. Their lack of convergent and discriminant validity result in considerable interaction between the subconstructs that has produced inconsistent results.

**Discussion and Conclusions**

Returning to the issues raised at the outset of this paper, can it be concluded whether or not the revised scales of centralization, formalization and task routineness are appropriate for cross-cultural studies and, if so, are the relationships between measures the same in Zambia as they are in the United States?
Overall, the revised scales performed as well cross-culturally as the original scales have in various institutional settings in the United States. The results of reliability and validity assessment suggest that both measures of centralization and the task routineness construct are reliable and valid when used cross-culturally. The new job codification scale appears to be an improvement over Aiken and Hage’s original scale in that it is reliable and the items appear to better fit the conceptual definition. However, the revised scales of rule observation and job specificity continue to demonstrate problems of conceptual clarity. The rule observation scale demonstrated questionable reliability resulting from the addition of a new item. Both rule observation and job specificity had poor convergent and discriminant validity. The highest reliability and validity were obtained when the new item was deleted from rule observation and the item "staff are to follow strict operating procedures at all times" was moved to the rule observation subconstruct. However, further testing in differing environments may be in order prior to changing the items.

The results of correlation analysis emphasizes the importance of the environment in organizational studies. The environmental context provides a plausible explanation for the lack of support for several hypothesized relationships. The relationship between participation in decision making and rule observation is in the opposite direction of that proposed in the study and supported by the findings of Aiken and Hage. However, it is consistent with the findings of the Aston Group.
This alone suggests cultural and environmental variation exists. The relationship between task routineness and job codification is also the opposite of the predicted relationship. It is suggested that contrary to earlier findings, in the Zambian political economy, task routineness is not the predictor of formalization, as Perrow (1979) suggests. The degree of formalization is to a large extent beyond the control of organizational decision makers and is predetermined irrespective of task routineness.
Since the number of items in the scales varies from two to six, inter-item and off-diagonal coefficients were standardized on a six-item scale so that scales with few items were not underestimated. The formula used for this adjustment is:

\[ r_{kk} = \frac{(k)(r_{xx})}{1 + (k - 1)(r_{xx})} \]

where \( r_{kk} \) is the corrected coefficient for a scale of \( k \) items, \( r_{xx} \) is the unadjusted median coefficient for the scale, and \( k \) is the standard number of items in the scale divided by its actual number of items (Ferguson 1966:369).
Analysis of interorganizational effectiveness in the Zambian agricultural policy sector: a political economy model

Robert E. Meyer

From the Department of Sociology and Anthropology, Iowa State University, Ames, IA 50011

Supported in part by the Graduate Technology and Social Change Program, Iowa State University, and research grants from the World Food Institute, Iowa State University, and Sigma Xi, The Scientific Research Society. The field work for the paper was conducted during 1986 while the author was a Research Affiliate with the Rural Development Studies Bureau, University of Zambia.
SECTION III. ANALYSIS OF INTERORGANIZATIONAL EFFECTIVENESS IN THE ZAMBIAN AGRICULTURAL POLICY SECTOR: A POLITICAL ECONOMY MODEL

Introduction

The field of interorganizational relations has received considerable attention in recent years. Paulson (1974:319) suggests, however, that advancement in understanding the field has been limited by inadequate theoretical perspectives and the absence of multivariate analysis. Most expressions of theories of interorganizational relations have been inventories of determinants or results. Although Galaskiewicz (1985) argues there is no one theory of IOR, the majority of past empirical works have used either exchange theory or resource dependence theory if any theoretical orientation was specified at all. Both exchange theory and resource dependence theory assume that IOR evolves as a rational response of organizational administrators who establish linkages with other organizations because they believe it will enhance organizational performance. That is, decisions to establish IOR are based on rational decisions of administrators of the organizations involved. The rational model of decision making contains two key assumptions: (1) that the administrator has considerable freedom to choose between alternatives and (2) that choices are made on the basis of what are generally considered to be rational/economic considerations (Whetten and Leung 1979:328).
This analysis of IOR differs from many traditional studies in that conditions in the Zambian agricultural policy sector preclude the above assumptions. Policy decisions by the State determine to a great extent both the number of alternatives available and the interorganizational linkages. Thus, it recognizes a third basis of IOR, which is distinguished from the above two. Originally coined and then studied by Hall et al. (1977), it is referred to as the mandated basis of IOR. Under this basis, organizations are assembled into a network by a mandate in order to realize individual and system goals.

Theoretical orientation

Benson (1982:145) argues that the principal failure of traditional IOR theory is its de-contextualized character. To eliminate the limitations of these traditional approaches, Benson (1982) proposes to locate the interorganizational relationship within the larger societal context and its institutional arrangements. This means to direct interorganizational analysis toward the study of the policy sector, which is the arena where public policies are decided and implemented. According to Benson (1982), the interorganizational policy sector is multileveled, with a deep structure of rules and interests determining a surface level of substantive policy and administrative arrangements. The policy sector, so conceived, must be located within the structures, contradictions, and crises of the larger society.

Thus Benson (1982) pointed out that in the study of interorganizational relations we must take into account the macro—
structural and historical factors that specify the context in which an organization exists and accomplishes its tasks. Under the macrostructural perspective, the analysis is more concerned with how the interorganizational bases of power and domination, explain the emergence, maintenance, and transformation of interorganizational patterns. This sort of analysis cannot be accomplished by reducing such patterns to principles of exchange or resource dependence only, although such principles can have an important role in the theory (Benson 1982).

Benson recommends that interorganizational relations should be analyzed within the policy sector, taking into account the following factors: (1) administrative arrangements, (2) policy paradigms, (3) interorganizational resource dependencies, (4) interest-power structures, and (5) rules of structure formation.

Administrative arrangements are the patterns of differentiation and control over activities in the policy sector. Policy paradigms refer to the content or policy orientation followed in the sector. Interorganizational resource dependencies consist of relationships of resource dependence between organizations in the policy sector. The interest-power structures include those groups whose interests are built into the sector, either negatively or positively; these interests can be represented by demand, support, administrative, provider, and coordinating groups. The rules of structure formation are rules setting boundaries upon an organization's operation; these rules
restrict the range of alternatives available to the sector with regard to its policy paradigm and administrative structure.

According to the political economy perspective, interorganizational relationships are not only shaped by those macrostructural factors but they are also in a process of constant change, developing, facing crises and contradictions, and transforming their own environment. It is within this complexity of situations where the interorganizational relationship must be considered to explain its actual nature and process.

Relationship between concepts Benson (1982:151) states that administrative arrangements, policy paradigms, and interorganizational resource dependencies are tied to each other. He argues that interorganizational resource dependencies are functionally related to policy paradigms and administrative arrangements. Organizations become dependent upon each other for crucial resources because their domains intersect. That is, their policy paradigms are connected in some way, such as the provision of complementary services. Changes in existing administrative arrangements or in policy paradigms would produce a different set of interorganizational resource dependencies.

It is also argued (Benson 1982:154) that administrative arrangements and policy paradigms must be understood in relation to the underlying power structure. The underlying interests and power of various groups are said to be embedded in the administrative apparatus and policy commitments of the sector to the extent that they tend to
preserve an hegemonic model consisting of policy paradigms, administrative arrangements and interorganizational resource dependencies (Benson 1982:154).

The works of Benson, however, do not include explicit theoretical propositions, and to the author's knowledge no one has previously developed hypotheses for empirical testing or developed a causal model of Benson's perspective. Although no theoretical propositions have been previously specified, the relationships among major concepts shown in Figure 1 seem implicit in Benson's (1982) writings.

The causal model developed and tested in this research, however, differs from Figure 1 in several key respects. Benson's description regarding the relationships among concepts seems to suggest the possibility of symmetrical causation. This analysis, however, is limited to the development and testing of an asymmetrical (recursive) model and, thus, excludes the possibility of symmetrical relationships or feedback processes of the system. Blalock (1964) notes that this approach is a restrictive and simplifying one, but the analysis is an initial attempt at causal model building.

A second difference is both theoretical and empirical. The interest-power structures and the rules of structure formation in the sector, posited by Benson (1982) to be the major determinants of administrative arrangements and policy paradigms, were not measured in the study. Thus, they are treated as exogenous to the system, and as such, are not included in the causal model. Their importance is,
Figure 1. Conceptual model of the political economy perspective
however, included in the explanatory analysis of the remaining variable relationships. In addition, because the intent of the study was to use a systems analysis of the effectiveness of interorganizational relationships, a transaction process category was added to the conceptual framework. The transaction process category is primarily concerned with the quality of existing resource transactions.

The initial objective becomes one of determining the appropriate measures for each of the major concepts. The conceptual model presented in Figure 2 shows the relationships among the concepts to be tested in the study and the indicators used to measure each of the concepts.

The Study Environment

In his analysis of decentralized administration in Zambia, Lungu (1985) concluded there was little evidence of any significant influence of pre-colonial communocratic administration on the present bureaucracy. The colonial administration, which lasted from the 1890s until 1963, however, was found to have had a significant impact on both the structure and of administration and the attitudes and behaviors of administrators. Regarding the latter, Lungu (1985:61) states: "examples of this influence could be traced to the elitist and anti-rural attitudes of bureaucratic officials, strong adherence to formalistic rules and office rituals, and a tendency to avoid responsibility at lower levels and pass it on to higher levels of bureaucracy."
Figure 2. Conceptual model of interorganizational effectiveness.
Following independence in 1964, attempts were made to reform the administrative structure in 1968-69 and again in 1980 with passage of the Local Administration Act. However, the colonial administration remains largely intact. On the contrary, rather than change the structure the colonial-like prefectural role of Provincial Commissioner was re-introduced in the form of a Provincial Minister in the early reforms and in 1980 replaced by a Provincial Permanent Secretary. At district level the colonial role of District Commissioner was re-introduced in the form of a District Governor.

There were, however, changes in the structural arrangement of the ministries following the 1980 reforms. Prior to the passage of the Local Administration Act, Zambia's administrative structure consisted of a number of functional ministries organized in a hierarchical manner with the top of the hierarchy being the staff at national headquarters and the bottom being the field staff at the local level. The primary linkages were vertical between staff at headquarters and those in the field within each ministry. Horizontal linkages between departments were weak. Passage of the Local Administration Act established new structures where the district becomes the focal point of development planning producing a situation where horizontal linkages between organizations and departments within the district are at least as important as vertical linkages within each organization.

The creation of a one-party state in 1972, state capitalism and the predominance placed on political goals are all characteristics that
affect administrative structures and policy paradigms in the present system. The system of administrative arrangement is most accurately described as corporatism. The President heads two parallel administrative structures: the Central Committee, representing the United National Independence Party, which determines major policy direction, and the Cabinet, representing the Government, which is responsible for implementing policy decisions. All organizations, government, parastatal, and public alike, are viewed as agents of change to be used by the "Party and its Government" to fulfill social and political goals, and as such, enjoy little autonomy from State domination (Meyer 1989).

Although the nature of governmental control varies depending on the legal status of the organization, the influence of the State is considerable in all cases. The organizations in this study and the type of control over each include government departments subject to civil service regulations, statutory organizations which are subject to legal statutes that vest power in the State, and public companies which are subject to control through their Governing Board of Directors, appointed by the Government as the sole or majority shareholder.

The Data and Methods of Analysis

Sample of organizations

The units of analysis for this study is the organization and included in the sample are 18 organizations which are involved in
agricultural planning and/or service delivery (i.e., inputs, credit and marketing) to small-scale farmers in Serenje and Kabwe Rural Districts, Central Province, Zambia. Included in the network are Zambian Government and parastatal organizations, public companies, two district council secretariats, an international donor and a private voluntary organization. In addition, local level organizations in Chibale, Serenje District and in Chowa, Kabwe Rural District are also included. These organizations together form the agricultural support network (Meyer 1989). These particular districts were selected for study because of the presence of an international donor supported (Britain's Overseas Development Administration) Integrated Rural Development Program (IRDP) in Serenje District and the involvement of an American Private Voluntary Organization (Institute of Cultural Affairs) in Chowa.

Although the network organizations possess a broad range of goals and objectives, it is assumed they all, to a greater or lesser extent, share the collective or system goal of increasing agricultural productivity and hence improving the situation of the small-scale farmer through providing support and/or services, be it through planning or the delivery of services.

The data were collected between March and December 1986. For each organization an attempt was made to include top-level administrators, decision makers and "boundary spanners" - individuals who interact with other organizations as part of their job. Useable interviews were
obtained from 84 individuals representing 18 organizations. These 84 respondents provided information about 214 linkages between the eighteen organizations comprising the agricultural support network. When multiple respondents from the same organizational unit indicated IOR with the same organizational unit, their mean response score was used in the analysis. This aggregation technique reduced the number of organizational linkages analyzed to 128.

Measurement of variables

Effectiveness of interorganizational relations between organizations in the agricultural support network is posited to be a function of three related, but conceptually distinct, categories of variables. Each category represents a temporally ordered a priori stage in the proposed model. Development of the causal model combines theoretical and empirical considerations in exploring the separate and combined ability of the variables in the categories to account for variation in interorganizational effectiveness. Development of the model will be obtained by introducing in successive stages each of the three variable categories in Figure 2. The primary objective in using this approach is to determine what proportion of the variation in interorganizational effectiveness can be accounted for by each conceptual category.

Contextual variables The contextual variables are presented in an effort to determine the proportion of variation in IOR effectiveness accounted for by factors developed as theoretically existing prior to
IOR. The category includes variables which present opportunities as well as constraints on the nature and form of the interorganizational linkages. The contextual variables consist of two dimensions which are intended to approximate Benson's (1982) concepts of administrative arrangement and policy paradigm.

Administrative arrangement consists of two indicators, RELATE and BOARD. RELATE refers to the nature of the relationship between the respondent's organization and the network organizations named as important. RELATE was measured by asking the respondents whether their relationship with this other organization was: (1) on the basis of a specific need or problem, (2) explicitly verbalized and discussed, (3) written down in detail, or (4) mandatory by law. Many respondents, however, were unaware of the nature of the relationship and guessed at the answer or responded according to when the organizations interact. It was therefore necessary to clean the data using information from available documents and informed respondents to determine the existing relationship.

For all indicators, when multiple respondents from the same organizational unit named the same organizational unit as important, mean scores were calculated for each organizational unit with each named organizational unit.

BOARD refers to a situation in which an officer or director of a named organization is a board or committee member of the respondent's organization. Overlapping boards may serve as control mechanisms by
providing the power to influence organizational decisions or to provide access to resources and institutionalize dependence (Morrissey et al. 1980).

Policy paradigm is measured using two indicators, INFORM and DOMAIN. INFORM is an indicator of the respondent's knowledge of the named organization's policy paradigm. It was measured by asking how well informed the respondent is about the specific goals and services of the organizations named as important. The responses were recorded on a 5-point scale ranging from not at all (1), to very well informed (5).

DOMAIN, in this study, is an indicator of the extent of agreement between organizational policy paradigms. More specifically, it refers to the extent of consensus regarding the needs and problems of small-scale producers served by the agricultural support network in general and the specific services provided and goals of each named organization. DOMAIN is a four-item scale determined by asking whether the respondent and the contact person in each named organization agree on four issues, including the most important needs of small-scale producers, the way services in general should be provided to small-scale producers, the goals of rural development projects and programs operating in their service area, and the specific way rural development services are provided by rural development projects and programs. The four items, scored yes (1) or no (0), were summed to form a composite domain consensus scale for each organization named.
Interorganizational resource dependency variables

The interorganizational resource dependency variables include information interdependence, resource interdependence, and participation in joint programs. The major distinguishing factor between contextual variables and resource dependency variables is that the latter reveal which network organizations are involved in IOR and to what extent. The question to be addressed is what is the combined ability of the contextual variables and resource dependency variables to account for the variation in interorganizational effectiveness.

Information interdependence (INFOEX) and resource interdependence (RESEX) were each measured with two questions. The first, asked "in order to achieve your organizations goals, does it need the following services, resources, or support from this other organization: 1) information, 2) money, 3) staff support, and 4) equipment or office space?" The second question asked if each of the named organizations required these same resources from the respondent's organization to achieve their goals. Both questions were scored yes (1) or no (0).

The results of factor analysis revealed that money, staff support, and equipment or office space loaded on one factor, whereas, information loaded on a second factor. Thus, information interdependence is evaluated separately from the other resources. Scores for information interdependence (INFOEX) were obtained by summing the two questions, resulting in a possible range of scores from 0 thru 2. Mean scores were computed for each organizational unit with each named organizational unit.
A three-item resource interdependence (RESEX) scale score was created by summing the responses to the two questions for each of the remaining three resources, resulting in a possible range of scores from 0 thru 6. Mean scores were computed for each organizational unit with each named organizational unit.

Joint programs (JTPROG) refers to a special type of cooperative behavior which involves decisions by the interacting organizations to formally work together. Joint programs involve purposive action, and usually substantial resource commitment in regard to some issues which are jointly confronted (Morrissey et al. 1980:67) In this study, JTPROG is a scale score including participation with other network organizations in joint planning activities and in joint implementation activities. Each of the items was scored 1 for yes and 0 for no. JTPROG was measured by summing the responses to the two items.

Transaction process variables Transaction process variables are concerned with the dynamics of IOR and focus on the quality and quantity of the resource transactions (Morrissey et al. 1982:78). Two variables are included in the transaction process category: conflict (CONFLICT) and conflict resolution (RESOLVE). There exists a wide variety of definitions with regard to conflict in the organizational literature. In this study, however, conflict is used as an indicator of the frequency of disagreements between organizational personnel in interacting network organizations. CONFLICT was measured on a 5-point scale ranging from almost never (1), to almost always (5).
Conflict resolution refers to how effectively disagreements or disputes between organizations are resolved. The variable was measured on a 5-point scale ranging from very poorly (1), to very well (5).

Outcome variable Interorganizational Effectiveness (EFFECT) is a scale indicating the overall effectiveness of IOR between organizations in the agricultural support network. IOR Effectiveness was measured by asking respondents four questions about the organizations they had indicated as being critical to their organization: (1) how often the organization named fulfills the commitments made to their organization, (2) to what extent the relationship with the named organization is productive, (3) to what extent the time and effort required to maintain the relationship is worthwhile, and (4) to what extent they are satisfied with the relationship. Commitment was measured using a five-point scale ranging from never (1) to almost always (5). Productive, worthwhile and satisfied were measured using a five-point scale ranging from no extent (1) to a very great extent (5).

A two level analysis of effectiveness is considered. The first, at the operational level, is designed to assess whether or not the network organizations are fulfilling their commitment to other network organizations as stipulated by mandate or agreement. The response to the first question was used for this measure. The second, at the attitudinal level, refers to the extent to which organizational decision makers perceive the relationship to be worthwhile, productive,
and satisfying. Responses to the second, third and fourth questions were summed and the mean calculated to form an attitudinal scale. The mean of the two items was calculated to create a measure of interorganizational effectiveness.

Analysis of the causal model

Several methods were used to analyze the causal model. A preliminary analysis of the variables used to measure concepts included in the theoretical model can be done by examining their intercorrelations. Table 1 presents the intercorrelations and hypothesized relationships among the ten variables. Theoretically, the intercorrelations should be minimally related, except when they are linked causally. However, such an interpretation of the data is not without its limitations. The first of which is the failure to consider that a variable might work indirectly to effect another variable. Secondly, the data set used in this research presents a particular set of problems which must be considered. Data were obtained from four different administrative levels in the organization: national, provincial, district, and ward/local. In addition, the data were obtained from two different districts and two different ward/local areas. Thus, a single correlation coefficient representing all four administrative levels within an organization and both geographical/political areas represents in one sense a weighted average of the correlations within each level and within each locality. An earlier analysis of the data (Meyer 1989) revealed that differences do
Table 1. Hypothesized signs of relationships among 10 variables and zero-order correlations

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<td>X8</td>
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</table>

N = 128.

* = .05 significance level.

** = .01 significance level.
exist in the strengths of the relationships between some variables for different administrative levels. To consider these possible differences in building and analyzing the path model, SAS GLM (General Linear Models) was used in subsequent analysis rather than more traditional regression because of its inherent advantages. Of particular relevance for this research is the "ease of specifying categorical effects" (SAS 1985:7). GLM automatically generates dummy variables for class variables, thus taking into account the differences in administrative level and geographical location of the organizations.

Two methods of analysis were used to determine the final path model. The first method involved introducing into the model in successive stages, each of the three conceptual categories of variables. The objective was two-fold. First, the method would determine what proportion of the variation in IOR Effectiveness is accounted for by each temporally ordered a priori conceptual category. Second, the method would determine which variables meet the criteria for statistical significance and should be retained in the model. Variables were retained for further testing if they met the criteria (alpha = .15) in any of the stages of the model.

The basic context within which both methods above were employed is one of theory building, and as such, Paulson (1971) suggests taking a rather lenient position with regard to significance levels and meeting assumptions. Therefore, the alpha level used for testing statistical significance was .15. This position is taken so as to avoid premature
rejection of variables of marginal significance to an overall model and utilize data which favorably provide measurement of the concepts, but unfavorably, were not collected according to random selection procedures.

To evaluate stage one, all four variables were included in a regression model as independent variables with IOR Effectiveness as the dependent variable. Analysis of stage one included the variation accounted for by all four variables in the contextual category. Subsequent analysis included the variation accounted for by the four possible three variable combinations, the six two variable combinations, and for each variable individually.

In the second stage, the contextual variables were retained and the three interorganizational resource dependency variables were added to the model. To gain some insight into possible relationships among the interorganizational resource dependence variables included in stage two and those entered previously, all possible variable combinations were considered to determine which combinations of variables account for the greatest proportion of variation when from one to seven variables are included.

In stage three the contextual variables and the interorganizational resource dependency variables were retained and CONFLICT and RESOLVE were entered individually into the model. The two variables were entered individually to determine the additional r-square accounted for by each variable. After entering both variables
into the model, all possible variable combinations were considered to
determine which combinations of variables account for the greatest
proportion of variance when from one to nine variables are included.

The second method employed more traditional model building
statistical techniques. To specify the relationship between variables
for analysis, an initial set of nine regression equations was
constructed using each variable in turn as a dependent variable with
the variables preceding it in the causal ordering as independent
variables. The general analysis technique is an ordinary least squares
solution of this recursive set of simultaneous equations. The specific
procedure is that of path analysis as outlined by Duncan (1966). The
following set of equations was established for the initial analysis of
the fully recursive model:

\[
X_1 = e_1 \\
X_2 = p_{21}X_1 + e_2 \\
X_3 = p_{32}X_2 + p_{31}X_1 + e_3 \\
X_4 = p_{43}X_3 + p_{42}X_2 + p_{41}X_1 + e_4 \\
X_5 = p_{54}X_4 + p_{53}X_3 + p_{52}X_2 + p_{51}X_1 + e_5 \\
X_6 = p_{65}X_5 + p_{64}X_4 + p_{63}X_3 + p_{62}X_2 + p_{61}X_1 + e_6 \\
X_7 = p_{76}X_6 + p_{75}X_5 + p_{74}X_4 + p_{73}X_3 + p_{72}X_2 + p_{71}X_1 + e_7 \\
X_8 = p_{87}X_7 + p_{86}X_6 + p_{85}X_5 + p_{84}X_4 + p_{83}X_3 + p_{82}X_2 + p_{81}X_1 + e_8 \\
X_9 = p_{98}X_8 + p_{97}X_7 + p_{96}X_6 + p_{95}X_5 + p_{94}X_4 + p_{93}X_3 + p_{92}X_2 + p_{91}X_1 + e_9 \\
X_{10} = p_{10,9}X_9 + p_{10,8}X_8 + p_{10,7}X_7 + p_{10,6}X_6 + p_{10,5}X_5 + p_{10,4}X_4 + p_{10,3}X_3 + p_{10,2}X_2 + p_{10,1}X_1 + e_{10}
\]
In these equations, X is the measured variable in standardized form; \( p \) is the path coefficient or partial regression coefficient of the standardized variable; and \( e \) is the residual or error term. The second purpose of this analysis was to revise the model. Path coefficients in the initial equations not found to vary significantly from zero (\( \alpha = .15 \)) were eliminated and the equations solved again to obtain estimates for the remaining coefficients. Among the assumptions that underlie the application of path analysis in this work include: (1) relations among the variables in the model are linear, additive, and causal, (2) residuals are not correlated with the variables that precede it in the model, thus implying they are not correlated among themselves, (3) there is a one-way casual flow, (4) variables are measured on an interval scale, and (5) variables are measured without error (Pedhazur 1982:582).

Findings

Stages of analysis

In stage one of the model, the contextual variables were analyzed. Together the four contextual variables accounted for 12.18 percent of the variation in IOR Effectiveness (Table 2). Individually they accounted for from 0.31 percent to 10.46 percent of the variation. DOMAIN (X4) accounted for 10.46 percent and INFORM (X3) accounted for 4.58 percent. Together the two variables accounted for over 99 percent of the total variation (12.08%) accounted for by variables in the
Table 2. Squared multiple correlation coefficients for versions of stage 1

<table>
<thead>
<tr>
<th>Version of stage 1</th>
<th>Variables included</th>
<th>Variation ($R^2$) accounted for in IOR Effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>All 4 variables</td>
<td>X1 X2 X3 X4</td>
<td>.1218</td>
</tr>
<tr>
<td>Best 3 variables(^a)</td>
<td>X2 X3 X4</td>
<td>.1217</td>
</tr>
<tr>
<td>Best 2 variables(^a)</td>
<td>X3 X4</td>
<td>.1208</td>
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<td>Best 1 variable(^a)</td>
<td>X4</td>
<td>.1046</td>
</tr>
</tbody>
</table>

\(^a\)By 'best' is meant those variables that account for the greatest amount of variation in IOR Effectiveness.
contextual category. RELATE (X1) and BOARD (X2) accounted for 1.46 percent and 0.31 percent, respectively, and were not statistically significant. These findings suggest that policy paradigms may be more important factors than administrative arrangements in explaining IOR Effectiveness.

Stage two retains the contextual variables and adds to them the three interorganizational resource dependence variables. Together the seven variables account for 24.21 percent of the variation in IOR effectiveness, or an additional 12.03 percent to that accounted for in stage one (Table 3). The amount of variation accounted for by the various versions of stage two does not significantly decrease until stage two is reduced to a single variable. Two variables, DOMAIN (X4) and JTPROG (X7) account for 23.45 percent of the variation. DOMAIN and JTPROG were also the only statistically significant variables. Thus, elimination of the nonsignificant variables results in a decrease of less than one percent in the total variation accounted for by stage two. These data suggest that participation in joint programs may be an important factor in maintaining effective interorganizational relations.

In stage three, the contextual and interorganizational resource dependence variables were retained and the transaction process variables, CONFLICT (X8) and conflict resolution (RESOLVE, X9) were added to the model individually to determine the additional variation accounted for by each of the variables. The addition of CONFLICT (X8)
Table 3. Squared multiple correlation coefficients for versions of stage 2

<table>
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<tr>
<th>Version of stage 2</th>
<th>Variables included</th>
<th>Variation (R²) accounted for in IOR Effectiveness</th>
<th>Additional variation accounted for over comparable stage 1 version</th>
</tr>
</thead>
<tbody>
<tr>
<td>All 7 variables</td>
<td>X₁ X₂ X₃ X₄ X₅ X₆ X₇</td>
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<td>.1203</td>
</tr>
<tr>
<td>Best 6 variables&lt;sup&gt;a&lt;/sup&gt;</td>
<td>X₂ X₃ X₄ X₅ X₆ X₇</td>
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<td>.1201</td>
</tr>
<tr>
<td>Best 5 variables&lt;sup&gt;a&lt;/sup&gt;</td>
<td>X₂ X₃ X₄ X₆ X₇</td>
<td>.2416</td>
<td>.1198</td>
</tr>
<tr>
<td>Best 4 variables&lt;sup&gt;a&lt;/sup&gt;</td>
<td>X₃ X₄ X₆ X₇</td>
<td>.2408</td>
<td>.1190</td>
</tr>
<tr>
<td>Best 3 variables&lt;sup&gt;a&lt;/sup&gt;</td>
<td>X₃ X₄ X₇</td>
<td>.2386</td>
<td>.1169&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Best 2 variables&lt;sup&gt;a&lt;/sup&gt;</td>
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<td>.2345</td>
<td>.1137&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
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<td>X₇</td>
<td>.1898</td>
<td>.0852&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

<sup>a</sup>By 'best' is meant those variables that account for the greatest amount of variation in IOR Effectiveness.

<sup>b</sup>Comparison is with the version of stage 1 having the same number of variables in the model.
into the model increased the total variation to 45.82 percent, or an additional 21.61 percent to that accounted for in stage two. The addition of RESOLVE (X9) to the model increased the total variation accounted for to 56.33 percent, or an additional 10.51 percent (Table 4). The amount of variation accounted for by the various versions of stage three does not significantly decrease until it is reduced to two variables. In this final stage of the model only resource exchange (RESEX, X6), joint programs (X7, JTPROG), CONFLICT (X8) and conflict resolution (RESOLVE, X9) were statistically significant. Elimination of all nonsignificant variables from the model results in a decrease of less than one percent (0.4%) in the total variation accounted for.

Entering the variables into the model in successive stages by conceptual category revealed that transaction process variables accounted for the most variation in IOR effectiveness ($R^2 = .3212$), while interorganizational resource dependence variables ($R^2 = .1203$) and contextual variables ($R^2 = .1218$) accounted for about the same amount of variation.

Path analysis

The primary objective of this analysis was to revise the fully recursive model. Duncan (1966:7) suggests deleting paths in the initial equations not found to vary significantly from zero and negligible in magnitude and solve the equations again. Following this procedure, the revised set of equations for the model are:

\[ X_1 = e_1 \]
\[ X_2 = p_{21}X_1 + e_2 \]
Table 4. Squared multiple correlation coefficients for versions of stage 3

<table>
<thead>
<tr>
<th>Version of stage 2</th>
<th>Variables included</th>
<th>Variation (R²) accounted for in IOR Effectiveness</th>
<th>Additional variation accounted for over comparable stage 2 version</th>
</tr>
</thead>
<tbody>
<tr>
<td>All 9 variables</td>
<td>X1 X2 X3 X4 X5 X6 X7 X8 X9</td>
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<td>.3212</td>
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<td>Best 8 variables&lt;sup&gt;a&lt;/sup&gt;</td>
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</tr>
<tr>
<td>Best 7 variables&lt;sup&gt;a&lt;/sup&gt;</td>
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</tr>
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<td>Best 6 variables&lt;sup&gt;a&lt;/sup&gt;</td>
<td>X2 X4 X6 X7 X8 X9</td>
<td>.5625</td>
<td>.3206&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Best 5 variables&lt;sup&gt;a&lt;/sup&gt;</td>
<td>X4 X6 X7 X8 X9</td>
<td>.5609</td>
<td>.3193&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
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<td>Best 4 variables&lt;sup&gt;a&lt;/sup&gt;</td>
<td>X6 X7 X8 X9</td>
<td>.5593</td>
<td>.3185&lt;sup&gt;b&lt;/sup&gt;</td>
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<td>Best 3 variables&lt;sup&gt;a&lt;/sup&gt;</td>
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<td>.3141&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
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<td>Best 2 variables&lt;sup&gt;a&lt;/sup&gt;</td>
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<tr>
<td>Best 1 variable&lt;sup&gt;a&lt;/sup&gt;</td>
<td>X9</td>
<td>.4562</td>
<td>.2664&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

<sup>a</sup>By 'best' is meant those variables that account for the greatest amount of variation in IOR Effectiveness.

<sup>b</sup>Comparison is with the version of stage 1 having the same number of variables in the model.
\[ X_3 = P_{31}X_1 + e_3 \]
\[ X_4 = P_{43}X_3 + P_{41}X_1 + e_4 \]
\[ X_5 = P_{53}X_3 + P_{51}X_1 + e_5 \]
\[ X_6 = P_{65}X_5 + P_{62}X_2 + e_6 \]
\[ X_7 = P_{75}X_6 + P_{75}X_5 + P_{74}X_4 + P_{73}X_3 + e_7 \]
\[ X_8 = P_{84}X_4 + P_{82}X_2 + e_8 \]
\[ X_9 = P_{98}X_8 + P_{97}X_7 + P_{94}X_4 + P_{93}X_3 + e_9 \]
\[ X_{10} = P_{10,9}X_9 + P_{10,8}X_8 + P_{10,7}X_7 + P_{10,6}X_6 + e_{10} \]

Figure 3 represents the path diagram which corresponds to the revised set of equations. All coefficients are significantly different from zero and have been standardized to permit the values to be compared directly.

Half of the relationships in the fully recursive model were found to differ significantly from zero. The fully recursive model included 44 paths (not including residual paths), whereas, the revised model included 22 paths (Figure 3).

In terms of direct effects on IOR Effectiveness (X_{10}), four of a possible nine paths were found to differ significantly from zero, all in the direction expected. The relative effects of these variables can be seen in the path model in Figure 3. The two transaction process variables, conflict resolution (RESOLVE, X_9) (.4550) and CONFLICT (X_8) (-.2834) produced the largest direct effects on IOR Effectiveness. The remaining direct effects were produced by interorganizational resource dependence variables, JTFROG (X_7) (.2522) and RESEX (X_6) (.0972).
Residual path coefficients shown in circles.

Figure 1. Revised path model of interorganizational effectiveness
When total effects are considered the relative ranking of variables changes somewhat. Alwin and Hauser (1975) have outlined a procedure for decomposing effects into their components that was used to determine the results in Table 5. The method involves the systematic application of ordinary least squares regression to compute successive reduced-form equations. The transaction process variables continue to produce the largest effects, however, the two variables are reversed in order of magnitude. Table 5 reveals CONFLICT (X8) produced the largest total effect (-.5225), followed by RESOLVE (X9) (.4550) and JTPROG (X7) (.3590). DOMAIN (X4) and INFORM (X5), which had no direct effects, produced the fourth and fifth largest total effects, .3148 and .2300, respectively. This suggests that indirect effects should also be considered in a theoretical model. With the exception of JTPROG (X7), the interorganizational resource dependency variables do not appear to be major facilitators or barriers to IOR Effectiveness. The mandated nature of network relations provides a possible explanation as evidenced in the effects of RELATE (X1) and BOARD (X2) on RESEX (X6). However, joint programs, which require the mutual cooperation of the interacting organizations, appear to be an important factor in IOR Effectiveness, both directly and indirectly through RESOLVE (X9).

The contextual variables produced mixed results. The policy paradigms variables demonstrated moderate total and indirect effects on IOR Effectiveness, whereas, the effects of the administrative arrangements variables were somewhat less. Table 5 reveals that DOMAIN
Table 5. Interpretations of effects in a model of interorganizational effectiveness

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Pre-determined Direct Effect</th>
<th>Total Effect</th>
<th>Indirect Effect via Board</th>
<th>Inform</th>
<th>Domain</th>
<th>Infoex</th>
<th>Resex</th>
<th>Jtprog</th>
<th>Conf't</th>
<th>Resolv</th>
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(X4) had a moderate total effect on IOR Effectiveness, over 70 percent of which is an indirect effect mediated through CONFLICT (X8). This finding is of particular theoretical and applied interest and will be discussed in detail below. In addition, DOMAIN (X8) had a strong negative direct effect on CONFLICT (X8) (-.4353). These findings suggest that a great deal of the conflict that is responsible for decreased IOR effectiveness is the result of the lack of domain consensus among the organizations in the agricultural support network. INFORM (XI) has a moderate effect on IOR Effectiveness, nearly 60 percent of which is an indirect effect mediated through RESOLVE (X9). INFORM (X3) also has a relatively large total effect on RESOLVE (X9), over 80 percent of which is direct.

Administrative arrangements appear to have little effect on the effectiveness of interorganizational relations. Closer inspection reveals, however, that RELATE (XI) and BOARD (X2) have a meaningful impact on several of the intervening variables. BOARD (X2) has a moderate positive direct effect on RESEX (X6) and a moderate negative direct effect on CONFLICT (X8). The nature of the organizational relationship (RELATE, XI) demonstrates a moderate direct effect on BOARD (X2), INFORM (X3) and DOMAIN (X4).

Summary and Conclusions

The first implication of this research is that the revised political economy model does explain over half (56%) of the variation
in IOR Effectiveness. A related implication is that IOR Effectiveness appears to be a function of contextual conditions, interorganizational resource dependencies and transaction process variables. The data also support Benson's (1982) argument that interorganizational dependencies are a function of administrative arrangements and policy paradigms.

A second implication of this research is that it provides evidence of the theoretical importance of clearly identifying and separating variables for analysis by conceptual category. The stages model revealed that contextual conditions and interorganizational resource dependencies each accounted for about 12 percent of the variation in IOR effectiveness, whereas, transaction process variables accounted for an additional 32 percent of the variation.

An important theoretical implication of this research is that it brings into question earlier research (Hall et al. 1976; Raelin 1980) regarding the role of domain consensus in mandated interorganizational networks. These earlier studies concluded that domain consensus is not an issue. Raelin (1980:63) argues that domain consensus is relatively high in mandated networks because it is instrumental to the network. He also states that if consensus is not arrived at early, a socialization process exists to bring network members into relative conformity (Raelin 1980). The findings of this research suggest that domain consensus is a major factor in achieving effective interorganizational relations in the agricultural support network in Zambia. It was found that a substantial amount of the conflict between
organizations results from a lack of domain consensus. In an earlier analysis, however, recommendations were made to facilitate the "socialization process" Raelin (1980) refers to through the creation of an inter-ministerial committee (Meyer 1989). An important function of the committee would include establishing clear, negotiated domains.

This analysis was an initial attempt at building a political economy model of interorganizational effectiveness and clearly has its limitations. The model tested represents a partial model of Benson's (1982) political economy perspective and requires further testing which includes measures for the concepts of interest-power structures and for rules of structure formation. Further conceptual development would also occur through identifying additional or substitutable explanatory concepts. Other limitations that may affect the stability of the model include the relatively small sample in relation to the number of variables and the high residual error. These limitations also suggest further testing is necessary.

Further testing should include additional cross-cultural testing as well as testing in industrialized nations to determine whether the findings are culture specific or generalizable to any society.

Finally, the purpose of this analysis has been accomplished in that the political economy perspective has been formally integrated and empirically examined.
The primary goal of this study was to examine differences in perceived effectiveness of interorganizational relations among organizations in the Zambian agricultural support network. A related goal included determining what factors posed the major barriers to effective IOR and what factors acted as facilitators to effective IOR. Determining these factors included an examination of both selected organizational structural characteristics and selected interorganizational linkage characteristics. Several methods were used to determine these factors and will be discussed briefly in the following sections.

**Interorganizational Effectiveness**

The results of one-way analysis of variance revealed there were no significant differences between organizations, at any administrative level, in interorganizational effectiveness when IOR Effectiveness scores were computed as the mean of all organizations indicating IOR with an organization. Differences did exist, however, when dyad scores between each pair of interacting organizations were computed. That is, for example, although Namboard and CPCMU both received mean IOR effectiveness scores with the network that were not significantly lower than the scores of other organizations, the dyad score indicating the effectiveness of the relationship between the two organizations was one of the lowest. The implications of their relationship are of paramount
importance for increased agricultural productivity, as they are the two primary organizations responsible for input supply and maize marketing.

It was also determined that linkages are fewer and weaker at the level of service delivery. Although the Department of Agriculture and Water Development and the Department of Marketing and Cooperatives reach the grassroots level, it is primarily the responsibility of the Ward Development Committees (WDCs) to create development plans and project proposals for village level development. The official policy of the "Party and its Government" states that for development to occur, the Party must first mobilize and motivate the people. After this has occurred, the Government departments then implement planned development projects. The deteriorating economic situation, however, has resulted in increased reliance on self-help grassroots development. As a consequence, the involvement of the WDC in grassroots development is often limited to activities designed to increase Party membership, and development is left up to the people, unless they are fortunate enough to have an international donor or Private Voluntary Organization (PVO) working in their area.

Interorganizational characteristics

The study revealed that the two major barriers to effective interorganizational relations are the lack of domain consensus and conflict. The two barriers are strongly related in that a great deal of the conflict experienced between organizations is the result of overlapping domains. The lack of a clear division of labor between
organizations in the agricultural support network and overlapping domains between the marketing organizations were determined to be the primary determinants of conflict and lack of domain consensus. The absence of clear, well understood government marketing policy is primarily responsible for the overlapping domains and conflict. Government policy outlining the duties and responsibilities of Namboard and the provincial cooperative marketing unions (e.g., CPCMU) has changed prior to each of the past three marketing seasons, often resulting in confusion, resentment and conflict. Ultimately, it is the farmers and the nation as a whole that pay the price for poor policy and ineffective institutions. The lack of sufficient credit or its timely disbursement and the late delivery of seeds and fertilizer result in delayed planting and smaller plantings. Harvests at some rural depots go uncollected and rot during the rainy season. The consequence of these events is a reduced food supply of the nation's staple food, necessitating the importation of more expensive food. All of the above factors are the result of poorly coordinated efforts and unclear domains, both of which can be attributed to a great extent to government policy decisions made at the highest levels.

The study also revealed the primary facilitators to effective IOR include the resolution of conflict and the participation of network organizations in joint planning and joint implementation activities. If the problems above are to be resolved it is imperative to establish clear, negotiated organizational domains for the agricultural support
network. It will be necessary to determine a clear division of labor indicating the necessary resource exchange linkages. This can be accomplished through the formation of an inter-ministerial planning committee composed of the heads of the relevant organizations in addition to the government and political leaders who currently decide policy.

A viable alternative currently being tried in an attempt to resolve the problems experienced between Namboard and the provincial cooperative marketing unions is the merging of the two organizations into a single supraorganization. A merger of the two, often competing organizations, would allow for more efficient use of scarce human and material resources. Lintco, for example, provides all the necessary services for the cotton and tobacco producers in Zambia that Namboard, the provincial cooperative unions, and the credit organizations provide for maize producers. It is, however, much more efficient in doing so. The primary reason, it is argued here, is that Lintco is a relatively autonomous "multi-purpose, full-service" organization that markets cotton and tobacco as well as providing input packages which include extension services, credit, seeds and fertilizer. Its extension personnel are seconded from the Department of Agriculture, but other than that it is relatively autonomous and resource independent. The relatively small size of the cotton and tobacco crops and the fact that both are primarily export crops are obviously advantages in that complexity is reduced. The administrative system utilized by Lintco
also has inherent advantages. Because it offers a full range of services and focuses on minor crops, it enjoys considerable resource independence and clear domains, thus reducing the need for coordination.

An additional facilitator to IOR effectiveness revealed in the study was the participation of organizations in joint planning and joint implementation activities. For many organizations in the agricultural support network the existing division of labor creates certain resource dependencies. These resource dependencies required organizations to interact more frequently, work out domain problems, and promote better understanding in general.

Organizational characteristics

In addition to providing evidence of their cross-cultural reliability and validity, the results of the centralization, formalization, and task routineness scales provided evidence of the centralized nature of most Zambian organizations in the agricultural support network. Although the study revealed that some organizations are more decentralized than others, it is of primary importance to note that it is the organizations that plan for the agricultural sector that demonstrated the least participation in planning and policy decisions. Despite the Local Administration Act of 1980, which decentralized planning responsibility to the district level, there is little evidence that decentralization has occurred in the most critical organizations. What has occurred is the devolution of political authority to the
district level in an effort to increase the power base of the ruling political party by gaining support of the rural constituency.

The results of the organizational structural analysis also revealed that some of the variable relationships do not conform to past studies conducted in Western industrialized nations. The negative association between task routineness and two of the measures of formalization (job codification and job specificity) was the opposite of what was predicted. It was concluded that formalized procedures in organizations are determined irrespective of the routineness of the task performed by the organization. Thus, formalization - as well as centralization - is used as a mechanism for control. It was pointed out that most organizations in Zambia serve as extensions of the State, and as such, control of them by the State is a high priority. It was also demonstrated that to a great extent Zambia still uses the corporate bureaucratic system inherited from colonial rule.

Policy Implications and Recommendations

The research also revealed differences between the two districts studied. The presence of the IRDP in Serenje District is having a substantial positive impact on both the operations of the District Council and in the rural areas where their efforts are focused. Every province in Zambia is involved with a donor-sponsored IRDP. The emphasis of the donors varies, and it is suspected that the impact of the IRDPs at the grassroots level also varies. For example, the
Swedish International Development Agency (SIDA) approaches have focused on priority localities within districts with high concentrations of rural poor and with a potential for sustained improved agricultural productivity. The Village Agricultural Program (VAP) funded by the Norwegian Agency for International Development (NORAD) and the German Agency for Technical Cooperation (GTZ) both focus on the comparatively neglected and disadvantaged small scale producers with a more basic needs approach. The British IRDP, funded by the Overseas Development Administration (ODA) concentrates on areas with a potentially high rate of economic return - with the assumption that this will help build up the local revenue base - before moving to more marginal productive areas.

A particularly interesting observation made by the researcher not reflected in the data warrants elaboration. The original intent of this research included comparing the impact at the grassroots level of a donor supported IRDP with that of a private voluntary organization (PVO). However, as the study progressed it became readily apparent this would not be feasible. The focus and methods of the two organizations were so different, a fair comparison would not be possible. While neither the IRDP nor ICA are involved with implementation of development projects, their planning assistance and leadership development are directed toward different target groups. The IRDP's focus is to strengthen the institutional capacity of the district council to enable it to prepare reasonable and feasible
development plans for the entire district. The IRDP provides substantial funding for development projects, but it is the responsibility of the district council to ensure implementation is carried out by the district level government organizations. ICA, on the other hand, works at the grassroots level with interested village leaders. Their approach is directed toward educating people about the benefits of working together as a community to achieve development, particularly the basic social amenities. Leadership training and educational programs about health, hygiene, nutrition and education are provided. Agricultural development is only a small part of a more comprehensive program. In addition, they provide no material resource assistance, which tends to exclude them from many of the other agricultural support organization's networks of critical organizations. As a result, ICA's network of organizations differs considerably from those of the other organizations studied.

A striking observation made by the researcher involves the two rural areas included in the study environment, Chibale and Chowa. Chibale, a relatively isolated ward located 60 kilometers from Serenje District Headquarters, is under the purview of the IRDP, and as such is relatively well developed. It has a new brick primary school, a health clinic with full-time professional staff, and a hammer mill for processing maize, all of which were IRDP funded. Chowa, on the other hand, which is located only 15 kilometers from the provincial capital, Kabwe, has none of the above.
ICA, however, has left its mark in Chowa. Two months after one of its five day training programs for village leaders, ICA reported that the participants held village workdays on Tuesday and Friday each week and on a self-help basis accomplished the following: built a three room mud-brick pre-school in which regular classes were being held, made 12,000 bricks to build an extra classroom onto the primary school, dug nineteen pit latrines, built bathing shelters at all homes, and held four leaders' meetings and a village meeting. The above accomplishments seem to confirm the impact of ICA's programs. Although the projects were small in comparison to those in Chibale, their cumulative impact provides a step toward development.

In addition to the infrastructural differences above, the differences in individual and collective motivation was immediately apparent and striking. In Chowa, this researcher was continually approached by individuals and small groups who were very enthusiastic and eager to exchange ideas about development and discuss what they had learned from ICA leadership programs. In contrast, the people in Chibale for the most part appeared to have become dependent on IRDP funding and now have a paternalistic attitude. Structures and storage sheds remain unfinished because the people are waiting for IRDP and the District Council to complete them.

The data did reveal some differences between the two district councils that can be attributed to the presence of the IRDP in Serenje District. The most dramatic difference occurred with respect to
perceived resource adequacy. The perceived resource adequacy score was significantly higher for Serenje District Council than for Kabwe Rural District Council. The IRDP also appears to have had an effect on the structural characteristics of the Serenje District Council. The organizational autonomy score for Serenje District Council was higher than those of most other Zambian organizations and considerably higher than its counterpart in Kabwe. The presence of the IRDP was also reflected in its formalization and centralization scores. There was a great deal more participation in decision making and also greater formalization, both characteristics of the IRDP as well.

Outcomes of the Study

The greatest immediate benefit to have come from the study has been the linkages developed between ICA and IRDP. Although the two organizations were not unaware of each other prior to the study, they had never worked together. However, this proposed research prompted the researcher's co-major professor, Dr. D. M. Warren, to invite the director of ICA to participate in a workshop he was conducting at IRDP headquarters at Mpika. Both organizations immediately realized their potential to complement each other in promoting rural development. In a sense, ICA begins its work at the point where IRDP stops - at the subdistrict level.

The policy implications of this linkage suggest not only the necessity for an IRDP in every province, but the complimentary and
coordinated support of many more private voluntary organizations which are better suited to carry development to the grassroots level. There is, however, one major obstacle that must be overcome. It was noted in the study that the political leaders of Kabwe Rural District Council feel ICA's local leadership programs and its ability to motivate the rural people represents a potential threat to the local level Party power base. The result has been a refusal to cooperate with ICA by the political members of the Kabwe Rural District Council. The study also revealed a great deal of conflict between the Ward Councillors and ICA personnel. A close working relationship between ICA and the British-supported IRDP in Central Province may, however, provide the necessary impetus to improve the relationship between ICA and the district council. The past successes of Britain's IRDP and the fact that they are able to provide much needed resources may also facilitate the acceptance of ICA by the district councils.
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ACKNOWLEDGMENTS

It is difficult to know where to begin when someone owes so much to so many. Perhaps the appropriate place to begin is with those who made the study possible. Thus, I am deeply indebted to the following individuals and organizations for making the study a reality: the Iowa State University Graduate Program in Technology and Social Change, Charlotte Roderuck and the World Food Institute, Sigma Xi, The Scientific Research Society, and the Rural Development Studies Bureau, University of Zambia, especially Ilse Mwansa. I would also like to acknowledge the Human Subjects Committee at Iowa State University, who approved the study.

Many people at Iowa State University deserve recognition for their contributions to this study. My graduate committee provided important insights and suggestions both in the study design and in the analysis and presentation of results. Based on his experience working with organizations in the agricultural support network, my co-major advisor, Dr. D. Michael Warren, provided valuable insights regarding the organizational milieu in Zambia. Dr. Warren also possessed the ability to obtain financial support when it appeared none was available. In addition, he and his wife Mary, have been good friends to both me and my wife. My other co-major advisor, Dr. Charles Mulford, provided organizational expertise and was a constant source of encouragement. Dr. Motoko Lee deserves special thanks. She made important methodological contributions to the study, but perhaps more
importantly, when the pressure became too great and panic clouded my thoughts, Dr. Lee always took time to help and was able to use her unique ability to help me focus my efforts and get back on track. The varying interests and expertise of Dr. Edwin Jones, Dr. Peter Korsching and Dr. Michael Whiteford provided the stimulus to take a holistic view of the study.

Several other individuals at Iowa State also deserve recognition for their contributions and assistance. Dr. Dan Hoyt, Dr. Fred Lorenz, Dr. Ken Koelher and Dr. Carl Roberts provided answers for statistical questions and Dr. Mack Shelley and Kathy Shelley provided programming expertise that allowed a complex data set to be accessed and analyzed. Mary Foley deserves a special thanks for her role in managing my academic affairs at Iowa State while I was in Zambia and providing me with current news and essential commodities. Dr. Steve Padgitt is in my debt for providing me with an income since my return to ISU and allowing me the flexibility to complete my dissertation while working as his research assistant on an unrelated project. Lori Merritt and Joan Steffen-Baker were very gracious with their time and facilities and provided valuable assistance in formatting some of the difficult tables that appear in the study.

There are many persons in Zambia who contributed in various ways to facilitate the research and make my stay in Zambia an enjoyable one. Ian Holdsworth and Ian Goldman, representing Britain's IRDP, provided accommodation, transportation, permission to collect data in their
project areas, and an understanding of the organizational and social environment in the study area. John Telford and his colleagues in the Institute of Cultural Affairs provided accommodation and enumerator/interpreters to collect data in their project area, and knowledge of the role of a PVO in rural development. Jackson Sikazwe provided his expertise as an experienced enumerator in Chibale. David Pudsey, SIDA, provided valuable assistance in revising the local level questionnaire to be culturally appropriate for the study area. I am deeply indebted to Samuel Kwesi Amoo who provided me with a home and accepted me as a brother during my stay in Lusaka. Anderson Chibwa was equally gracious in Kabwe. I also wish to thank Fred Meleke and John Kangwanda and their families for welcoming me to their homes while I was in Chibale and Chowa.

Most importantly, I must thank the people of Zambia. I am grateful to all the participants of the study who took time from their busy schedules to assist me with the study. I would like to extend a special thanks to all the rural men and women of Zambia who opened their hearts and their homes to make this "muzungu" feel welcome. It is their spirit and generosity in a situation in which despair and distrust is the expected response that allowed me to develop a deep love and respect for a nation's people.

Lastly, I wish to recognize the love and support of my family. My wife Winnie, remained optimistic and patient when I could not. She has encouraged, motivated, and coerced me to complete this study, both in
Zambia and since her arrival in Ames. My daughter Mia has endured long lonely separations from her father, but thankfully, the special bond we have always enjoyed remains intact. My mother has been a continual source of many kinds of support. There were times when she commented she did not fully understand what I was doing or why anyone would choose to make the sacrifices that often accompany obtaining a Ph.D., however, there has never been a time when she was unwilling to make sacrifices herself so that I could complete my goal. With this in mind, it is with all my love that I dedicate this study to my mother, LaVera H. Meyer.
SURVEY INSTRUMENT

SURVEY OF DEVELOPMENT ORGANISATIONS

Background Information

1. Please indicate your title, institution, location of organisation, and years on the job, of your present professional position.

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<th>Institution and Department</th>
<th>Location</th>
<th>Years Employed</th>
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Present position: _____________________________

Briefly describe your present duties: _____________________________

2. What is your age?

   ___ less than 25
   ___ 25 - 34
   ___ 35 - 44
   ___ 45 - 54
   ___ 55 - 64
   ___ 65 and above

3. What is your sex?

   ___ Male   ___ Female

4. What is your mother tongue? _______________

Section 2. Characteristics of Your Agency/Organisation

1. Number of full-time paid staff (including yourself): _______

2. Number of full-time paid staff one year ago: _______

3. Number of full-time paid staff two years ago: _______

4. Number of full-time paid staff working at the village level: _______
5. Total annual budget for current operating year: _____

6. Total annual budget for current operating year allocated specifically for rural development activities: _____
   a. What percentage change does the above budget represent over last year's budget? (Please indicate + for increase or - for decrease and % figure) _____
   b. What percentage change do you project for next year's budget relative to this year's. _____

7. Number of paid staff, including yourself in each of these educational categories:
   a. Primary school (P 6) _____
   b. Secondary certificate (Form IV) _____
   c. 2-year certificate _____
   d. 3-year certificate _____
   e. Bachelor's degree _____
   f. Master's degree _____
   g. Doctorate _____
   h. Other (specify) _______________________

8. Number of staff, including yourself, in each of the following salary categories:
   _____ a. Less than K2,500 _____ e. K10,001 - K12,500
   _____ b. K2,501 - K5,000 _____ f. K12,501 - K15,000
   _____ c. K5,001 - K7,500 _____ g. K15,001 - K17,500
   _____ d. K7,501 - K10,000 _____ h. K17,501 - K20,000
   _____ i. More than K20,000

9. Number of expatriates on your staff? _____

10. Number of Zambian nationals on your staff? _____
We are interested in the policies and structural arrangements your organisation presently has regarding staffing and management.

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<tr>
<td>2. How frequently do staff usually participate in decisions on the adoption of new policies?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. How frequently do staff usually participate in the decisions to hire new staff?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. How frequently do staff usually participate in the decisions on the promotions of any of the professional staff?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. How frequently do staff exchange information about what is going on in their program areas?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. How frequently do staff interact as part of daily activities?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. How frequently do supervisors get together with the staff in your organisation to provide them with their evaluations and suggestions for improving rural development assistance?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. How frequently do supervisors in your organisation get together with staff to exchange opinions and ideas?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. To what extent can staff depend on their supervisor to provide them with constructive comments and feedback on rural development activities?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(To no extent = 1; To little extent = 2; To some extent = 3; To great extent = 4)
<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Somewhat Disagree</th>
<th>Somewhat Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.</td>
<td>There can be little action taken here by a staff person until a supervisor approves a decision.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>11.</td>
<td>A staff person who wants to make his/her own decision would be quickly discouraged here.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>12.</td>
<td>Even small matters dealt with by staff have to be referred to someone higher up for a final answer.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>13.</td>
<td>Staff persons have to ask their supervisor before they do almost anything.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>14.</td>
<td>Any decision a staff person makes has to have his/her supervisor's approval.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>15.</td>
<td>Salary determinations are based upon detailed job descriptions.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>16.</td>
<td>Most positions in this organisation have written job descriptions.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>17.</td>
<td>Job descriptions are periodically reviewed and revised as needed.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>18.</td>
<td>Staff here are constantly being checked for rule violations.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>19.</td>
<td>Staff here feel they are constantly being watched to see that they conform to work standards.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>20.</td>
<td>Staff who follow the rules very closely receive the most favorable performance evaluation.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>21.</td>
<td>Whatever situation arises staff have standard procedures in dealing with it.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>22.</td>
<td>Everyone has a specific job to do.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
23. This organisation keeps written records of everyone's job performance.  
   Strongly Disagree Somewhat Disagree Somewhat Agree Strongly Agree
   1  2  3  4

24. Staff are to follow strict operating procedures at all times.  
   1  2  3  4

25. It is important to orient new staff so they fully understand work procedures at all times.  
   1  2  3  4

26. Work procedures for all positions are written and periodically revised as needed.  
   1  2  3  4

27. Staff here do the same job in the same way everyday.  
   1  2  3  4

28. One thing staff like around here is the variety of work.  
   1  2  3  4

29. Most jobs have something new happening every day.  
   1  2  3  4

30. There is opportunity for staff to do something different every day.  
   1  2  3  4

31. Staff tend to use the same procedures and techniques in dealing with all clients.  
   1  2  3  4

32. Staff are free to tailor procedures and techniques in dealing with all clients.  
   1  2  3  4

33. Staff rely upon intuitive approaches when working with clients.  
   1  2  3  4

34. Would you describe your job as being:  
   1 = highly routine;  
   2 = somewhat routine;  
   3 = somewhat non-routine or;  
   4 = highly non-routine.  
   (please circle the number on the right that corresponds to your answer)
Section 4. Resource Adequacy

1. We are interested in the adequacy of resources in your organisation. Below is a list of resources important to organisational survival. Please indicate the adequacy of these resources in your organisation. The responses include: Considerably less than enough = 1; Somewhat less than enough = 2; Enough = 3; Somewhat more than enough = 4 and; Considerably more than enough = 5.

Facilities
Equipment
Administrative/Staff Support
Money
Qualified personnel

Section 5. Organisational Goals

1. In terms of the goals of your organisation, as you see them, do you feel they are: 1234
1 = very unclearly defined; 2 = somewhat unclearly defined; 3 = somewhat clearly defined; 4 = very clearly defined.

2. Below is a list of 13 goals related to rural development often used by development practitioners. These goals vary in importance and in the degree to which a given development approach reflects any or all of them. We would appreciate it if you would tell us how important you believe each goal to be and the degree to which your organisation contributes to each goal.

GOALS

<table>
<thead>
<tr>
<th>Importance to YOU As a Goal</th>
<th>Degree Your ORGANISATION Contributes to this Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>Some</td>
</tr>
<tr>
<td>Increased Agricultural Productivity of small-scale producers</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Protect crops and livestock from insects, diseases and other hazards</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>None</td>
<td>Some</td>
</tr>
<tr>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>Decrease production costs of farm products (crops)</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Expand demand by developing new products</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Improve marketing efficiency</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Expand export markets</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Improve health and nutrition</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Improve level of living of rural communities</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Improve rural infrastructure (roads, bridges)</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Improve water supplies</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Increased educational opportunities</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Family planning</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Develop new knowledge or methodology</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

Please list any additional goals that are important to you or your organisation that may have been omitted and circle the appropriate number as above.

Other: (specify)

1 2 3 4 5

__________________________
1 2 3 4 5

__________________________
1 2 3 4 5

__________________________
1 2 3 4 5
Section 6. **Boundary Spanning Activities and Organizational Autonomy**

Please indicate the degree to which each of the following activities is a part or your job. (circle the number corresponding to your answer for each item).

<table>
<thead>
<tr>
<th>Activity</th>
<th>Definitely Not Part of Job</th>
<th>Somewhat Important Part of Job</th>
<th>Very Important Part of Job</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Represent your agency/organisation to outsiders.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2. Review plans with agencies outside your own.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3. Travel at least 30 days per year as a representative of your organisation.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4. Integrate or coordinate interdependent activities of others.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5. Prepare reports for governmental agencies outside your organisation.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6. Request obligations from persons outside your immediate unit.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7. Prepare and give several briefings per month.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8. Write or dictate at least ten letters per week.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9. Act as liaison with other units of your organisation.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10. Meet with village leaders to discuss problems and exchange ideas.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>11. Determining new services.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>12. Dismissal of personnel.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>13. Salary determinations.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>14. Promotion of personnel.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
15. Creation of new departments. 1 2 3 4 5
16. Alteration of work responsibilities. 1 2 3 4 5
17. Determine training methods. 1 2 3 4 5
18. Creation of new jobs. 1 2 3 4 5
19. Spending unbudgeted funds. 1 2 3 4 5

20. To what persons or groups of persons are you directly responsible (i.e., to whom do you report as a higher authority)? For example: members of the organization; Directors at Provincial and/or National level.

____________________________________

____________________________________

____________________________________
RELATIONSHIPS WITH OTHER ORGANISATIONS

1. What is the source of your organisation's funds? Please check each source from which your organisation receives funding and indicate the approximate percentage of your annual budget provided by each source.

   a. ___ National Level Government ___ %
   b. ___ Provincial Level Government ___ %
   c. ___ District Level Government ___ %
   d. ___ Local Level Government ___ %
   e. ___ Private Voluntary Organisations ___ %
   f. ___ International Donors ___ %
   g. ___ Other; Specify _____________________ ___ %

Please think about the 3 or 4 other organisations (at the Ward, District, Provincial or National level) which are the most critical in enabling your organisation to do its work. List below in rank order from most important (A) to least important (D). Circle the level at which each organisation participates (circle as many as apply).

<table>
<thead>
<tr>
<th>NAME OF ORGANISATION</th>
<th>WARD</th>
<th>DISTRICT</th>
<th>PROVINCIAL</th>
<th>NATIONAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. __________________</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>B. __________________</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>C. __________________</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>D. __________________</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

1. How well informed are you about the specific goals and services of this other organisation?

Very well informed = 5; Quite well informed = 4; Somewhat informed = 3; Little informed = 2; Not at all informed = 1.

2. About how often during the past 3 year have you had contact with someone from this organisation?

About once a day = 5; About once a week = 4; About once a month = 3; A few times a year = 2; Once a year = 1; Never = 0
3. Have you ever been asked by a staff member from this organisation to participate in meetings with personnel and staff from this organisation and other organisations to discuss the specific needs of your organisation?  
YES = 1; NO = 0

4. How frequently have you participated?  
About once a day = 5; About once a week = 4; About once a month = 3; A few times a year = 2; Once a year = 1; Never = 0.

5. Within the past 3 years has your organisation worked jointly with this other organisation to plan any specific services or rural development activities?  
YES = 1; NO = 0

6. Within the past 3 years has your organisation worked jointly with this other organisation to implement any specific services or rural development activities?  
YES = 1; NO = 0

7. In order to achieve your organisation's goals, does it need the following services, resources, or support from this other organisation?  

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Information?</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Money?</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Staff support?</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Equipment or office space?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

YES = 1; NO = 0
8. In order for this other organisation to achieve its goals, does it need the following services, resources, or support from your organisation?

<table>
<thead>
<tr>
<th>Services/Support</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Information?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Money?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Staff support?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Equipment or office space?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

YES = 1; NO = 0

9. Do you and the contact person in this other organisation agree on:

1. The most important needs of small-scale producers?

2. The way services in general should be provided to small-scale producers?

3. The goals of rural development projects/programs operating in Central Province?

4. The specific way rural development services are provided by the projects/programs operating in Central Province?

YES = 1; NO = 0; Don't Know = 8

10. Which of the following statements most accurately describes the nature of your relationship with this other organisation?

1. On the basis of a specific need or problem - no formal agreement exists

2. Explicitly verbalised and discussed.

3. Written down in detail.

4. Mandatory by law.

11. Does anyone from this organisation serve on boards, councils, or committees of your organisation?

YES = 1; NO = 0
22/

12. During the past six months, how often were there disagreements between people in your organisation and this other organisation?

Almost always = 5; Often = 4; About half the time = 3; Seldom = 2; Almost never = 1; Don't know = 8

13. When these disagreements or disputes occurred, in which of the following ways were they most often handled?

1. By ignoring the issues
2. By smoothing over the issues.
3. By bringing the issues out in the open and working them out among the parties involved.
4. By having a higher level authority resolve the issues.

14. How well are any differences worked out at this time between your organisation and this other organisation?

Very well = 5; Quite well = 4; Adequately = 3; Poorly = 2; Very poorly = 1; Don't know = 8

15. Where is this organisation's office located in relation to your office?

1. Different province
2. Different district, but same province
3. Different ward or city, but same district
4. Across town
5. Same side of city (3-15 blocks
6. Within 1 or 2 blocks
7. Same office or building

16. About how many kilometres is this organisation's office from your office?
17. How often does this organisation carry out the commitments to your organisation that it initially agreed to?

Almost always = 5; Most of the time = 4; Some of the time = 3; Little of the time = 2; Almost never = 1; No commitments made = 0

COMMENTS:

(A)__________________________

(B)__________________________

(C)__________________________

(D)__________________________

18. To what extent do you feel the relationship between your organisation and this other organisation is productive?

Very great extent = 5; Considerable extent = 4; Some extent = 3; Little extent = 2; No extent = 1

COMMENTS: (How is it productive or why do you feel it is not productive?)

(A)__________________________

(B)__________________________

(C)__________________________

(D)__________________________

19. To what extent is the time and effort spent in developing and maintaining the relationship with this other organisation worthwhile?

Very great extent = 5; Considerable extent = 4; Some extent = 3; Little extent = 2; No extent = 1

COMMENTS: (Why is it worthwhile or why do you feel it is not worthwhile?)

(A)__________________________

(B)__________________________

(C)__________________________

(D)__________________________
20. Overall, to what extent are you satisfied with the relationship between your organisation and this other organisation? (same code as above)

COMMENTS: (Why, or why not - how could the relationship be improved?)

(A) ________________________________

(B) ________________________________

(C) ________________________________

(D) ________________________________

Often two organisations are linked together by informal ties among people who interact with one another away from their jobs.

21. Would you please identify the organisations where you know someone because you grew up together.

_________________ ___________________ ___________________ ___________________

22. Please identify the organisations where you know someone because you attended the same school or college.

_________________ ___________________ ___________________ ___________________

23. Please identify the organisations where you know someone because you have memberships in the same clubs or fraternal organisations (e.g. church, Rotary, Kiwanis, Elks).

_________________ ___________________ ___________________ ___________________

24. Please identify the organisations where you know someone because you previously worked together in another organisation.

_________________ ___________________ ___________________ ___________________

25. Please identify the organisations where you know someone because you have lunch regularly; have a beer or drink after work; or play golf or squash together.

_________________ ___________________ ___________________ ___________________