

ORGANIZATIONAL VARIABLES IN RELATION TO EFFICIENCY:
A COMPARATIVE STUDY OF FOUR WATERSHED ORGANIZATIONS

by

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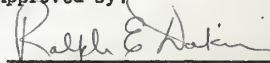
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CHAPTER I

INTRODUCTION: THE PROBLEM, REVIEWED LITERATURE, AN APPROACH TO THE ANALYSIS OF ORGANIZATIONS, AND HYPOTHESES

The Problem

One of the most challenging and perplexing problems faced by the twentieth century sociologist is that of analyzing the effectiveness with which tasks are collectively undertaken. It is hoped that in some way this thesis will contribute to the eventual solution of the problem. It undertakes an analysis of the variable experience of four different groups that undertook social action on a single issue common to all.

Very broadly, situations for action involve the organization and utilization of human resources within variable physical and socio-cultural settings. Comprehensive social action analysis thus involves such variables as (a) individual personalities with varying attitudes, goals, behavioral characteristics etc., (b) associations through which tasks are undertaken with their structuring of offices, modes of operation etc., (c) a physical setting within which the individuals and these organizations exist with a given configuration of physical resources to be utilized, and (d) a societal-cultural setting or milieu with its hierarchy of values, its customs and traditions.¹

¹ See: Talcott Parsons, The Structure of Social Action, (New York: McGraw Hill, 1937), pp. 43-46.

The objective of this study is not a comprehensive analysis of all factors influencing social action. Rather, this study will focus mainly on associational analysis -- to see how much variation in action effectiveness can be explained by organizational variables.²

Specifically, analysis of organizations will be undertaken in terms of certain basic structural and dynamic elements as they relate to unit action effectiveness.

To get at these relations, organizations similar in function and striving to achieve similar goals will be studied comparatively. Obviously, differing types of

²The study reports only some results of one phase of a broader research project on organizational efficiency sponsored by the Kansas Agricultural Experiment Station. The overall project was designed by Professor R. E. Dakin, Department of Economics and Sociology, Kansas State University, to explore several aspects of the relative efficiency with which populations in a midwest state were organized to carry out the task of water conservation and control.

Twenty-one areas of Kansas, which had been organized under the Kansas Watershed Act at the time research was begun (1959), were compared as regards the relative degree of efficiency with which they proceeded. Four of these were then selected for detailed study -- two relatively large areas (each approximately 200,000 acres) and two relatively small areas (25,000 acres or less). One of the large and one of the small areas had been organized with relatively high degrees of efficiency. The other two had been relatively inefficient in organizing.

The project objectives were to determine if and how these areas differed from each other in important social respects and how such differences might relate to organizing efficiency. Comparisons were to be made in terms of the publics to be organized, the area leadership, the task organizations, and various public and quasi-public organizations with which the task organizations would have to work. These were, in each instance, to be studied in terms of the basic socio-economic characteristics of unit populations, their attitudes toward the task issue, and their involvement in the program.

organizations pursuing differing objectives may require differing structural and dynamic arrangements. What may work efficiently for one type of organization may not for another. But with similar organizations pursuing similar goals, what is effective for one should be effective for another. Rossi³ has pointed out this fact which has been eluded in much organizational study.

Reviewed Literature and An Approach To The Analysis Of Organization

Blau and Scott have recently observed that, "The field of formal organization is still at a very early stage of development. There exists as yet very little substantive theory in this field ... less than in other fields of sociology."⁴ They found that much of the work they examined in preparing their book on formal organizations merely attempted to delineate the major dimensions characterizing organizations in general or focused on development of concepts as tools for analysis.

Despite this limitation, a sufficient body of empirical literature exists to permit the student of organizational study to isolate those aspects of organizations which offer the most promising leads in appraising associational performance. An attempt will be made at the present point to

³Peter H. Rossi, "Theory and Method in the Study of Power in the Local Community," a paper presented at the 1960 annual meeting of the American Sociological Association, pp. 10-15.

⁴Peter M. Blau and W. Richard Scott, Formal Organization: A Comparative Approach, (San Francisco: Chandler Publishing Company, 1962), p. 9.

appraise some of this literature for its relevance to this type of analysis.

Several recent studies have analyzed associations in terms of the characteristics of their leaders and leadership effectiveness and member satisfaction.⁵ Other studies have been made of the relation between area leadership and associational effectiveness.⁶ These studies have demonstrated that type of leadership has a definite bearing on the effectiveness with which organizations undertake tasks. However, the leader element does not necessarily totally explain associational effectiveness. The literature also reveals a number of additional aspects of organizations which are associated with predictable participation patterns and, presumably organizational effectiveness.

For example, Dotson,⁷ in studying various types of voluntary associations, found that persons higher on all socio-economic measures were more likely to participate in organizational affairs than were other persons. Scott⁸ found

⁵For example, see D. Katz and R. L. Kahn, "Leadership Practices Among Foreman-Productivity and Morale," in Zander and Cartwright (Eds.), Group Dynamics, (Evanston, Illinois: Row Peterson, 1953).

⁶Ralph E. Dakin, "Variations in Power Structure and Organizing Efficiency: A Comparative Study of Four Areas," Sociological Quarterly, III (July, 1962), pp. 228-250.

⁷Dotson, "A Note on Participation in Voluntary Associations in a Mexican City," American Sociological Review, XVIII (August, 1953), pp. 381-386.

⁸John C. Scott Jr., "Membership and Participation in Voluntary Associations," American Sociological Review, XXII (June, 1957), pp. 315-326.

that males participated more, the higher educated and the higher income respondents were more involved in associated life, and that non-manual occupational class persons were more frequent participators. Wright and Hyman,⁹ utilizing data from a national survey, also found this relationship, with seven percent greater involvement by higher status people, regardless of the variable measured. Similar findings were reported by Reisman,¹⁰ with the higher status respondents participating, attending, and maintaining leader positions significantly more often than lower socio-economic individuals.

These studies, and many others of a similar nature,¹¹ bear out the central observation that status and socio-economic factors are significant in relation to organizational activity.

Few attempts have been made to relate these characteristics to effectiveness of organizational operation. We need to know more precisely than at present how these structural aspects affect or contribute to achieving organizational

⁹Charles Wright and Herbert Hyman, "Voluntary Association Memberships of American Adults," American Sociological Review, XXIII (June, 1959), pp. 284-296.

¹⁰Leonard Reisman, "Class, Leisure and Social Participation," American Sociological Review, XIX (February, 1954), pp. 76-84.

¹¹See also: James N. Young and Selz C. Mayo, "Manifest and Latent Participators in a Rural Action Program," Social Forces, XXXVII-XXXVIII (December, 1959), pp. 140-145; Robert Rowher, "Organized Farmers in Oklahoma," Rural Sociology, XVII (March, 1952), pp. 39-47.

goals. This study will investigate such structural variables as those in the studies cited, but within a comparative framework, in the hope of establishing their functional relationships to organizational effectiveness.

The recent literature is also replete with studies revealing the effects of various communication networks upon associational effectiveness. Fanelli¹² pointed out that extensiveness of communication contacts is a requirement of objective perceptions, thus necessitating the removal of barriers or the opening up of communication channels to affect better and faster task performance. In 1951, Leavitt¹³ reported on the effects of four types of communication systems (circles, chains, Y and wheels) on task efficiency and participant satisfaction. His results suggest that accessibility to others is an important feature of satisfaction gained from the task and thus of group morale. Thus, groups structured so as to maximize the possibilities for inter-communication between and among positions will feature higher morale than those not so structured. On the other hand, Leavitt found that the type of group featuring maximum centrality (group members communication contacts restricted to funneling all

¹²Alexander Fanelli, "Extensiveness of Communication Contacts and Perceptions of the Community," American Sociological Review, XXI (August, 1956), pp. 439-445.

¹³H. J. Leavitt, "Some Effects of Certain Communication Patterns on Group Performance," Journal of Abnormal and Social Psychology, XLVI (January, 1951), pp. 38-50.

communications through one position and receiving adequate answers in return) was more efficient than the other types.

Guetzkow and Simon,¹⁴ in a replication of Loavitt's study, found that groups handicapped by a narrow range of communications were indirectly hindered in their ability to organize for efficient task performance.

Louis Wirth aptly pointed out the need for studying the extensiveness of communication networks, concluding that:

"If men of diverse experiences and interests are to have ideas in common, they must have the ability and opportunity to communicate."¹⁵

This study takes its lead from the prior cited research on the effects of varying communication patterns. Specifically, it attempts to analyze the relation between the perceptions participants have of officer-member intercommunications and group task effectiveness.

The significant fact that attitudes relate directly to participation patterns has been illuminated by the works of many. Rose,¹⁶ for example, found that more favorable attitudes are more likely to be found where participation (i.e.

¹⁴Harold Guetzkow and Herbert Simon, "The Impact of Certain Communication Nets Upon Organization and Performance in Task Oriented Groups," Management Science, I-II (April-July, 1955, pp. 233-234.

¹⁵Louis Wirth, "Consensus and Mass Communication," American Sociological Review, XIII (February, 1948), pp. 1-15.

¹⁶Arnold M. Rose, "Attitudinal Correlates of Social Participation," Social Forces, XXXVII-XXXVIII (March, 1959), pp. 202-206.

involvement) is greater. In another study, Freeman et al.,¹⁷ also confirmed this finding.

Generally, that which has been cited and other similar works implicitly reveal the basic assumption that awareness of organizational activities increases favorable attitudes toward that organization. Increased awareness is likely to be gained by formal or informal participation within an extensive system of communications.

Though these studies have clearly demonstrated the existence of a positive relation between participation and attitudes (with higher level participation associated with more favorable attitudes) they have had little to say about the connection between heightened participation and favorable attitudes on the one hand and effectiveness of task performance on the other. In this study statistical analyses will be made of such a relationship, utilizing comparative data.

The relation of cohesiveness as a by-product of heightened interaction is evidenced in the studies of Rose, the Deutschers and others. Rose,¹⁸ for example, found that groups faced with opposition are forced to interact more and close ranks.

¹⁷Howard Freeman et al., "Correlates of Membership in Voluntary Associations," American Sociological Review, XXII (October, 1957), pp. 528-534.

¹⁸Arnold M. Rose, "Voluntary Association Under Conditions of Competition and Conflict," Social Forces, XXXIII-XXXIV (December, 1955), pp. 159-163.

Thus, because of both opposition and heightened interaction they will have greater cohesiveness than those not faced with this situation. (This supports the old sociological hypothesis that opposition leads to solidarity.)

The Deutschers¹⁹ revealed that groups structured with high degrees of formal and informal activity, persistent activity, and with clearly defined methods and goals were more likely to have greater cohesiveness than those without these attributes.

Vroom²⁰ significantly pointed out that there is a direct relation between cohesion and positive attitudes. Therefore, since attitudes are very relevant to the climates of organizations, efficient organizations should be characterized by the functional consequence of cohesion resulting in part from favorable attitudes. Eisman²¹ also found this to be true in a study relating cohesiveness to interrelations.

All of these earlier cited studies suggest a reassessment of cohesiveness in terms of the structural and dynamic features of organizations. These, it is assumed, affect cohesiveness

¹⁹Verda and Irwin Deutscher, "Cohesion in a Small Group: A Case Study," Social Forces, XXXIII-XXXIV (May, 1955), pp. 336-341.

²⁰Victor H. Vroom, "The Effects of Attitudes on Perceptions of Organizational Goals," Human Relations, XIII (August, 1960), pp. 229-241.

²¹Bernice Eisman, "Some Operational Measures of Cohesiveness and Their Interrelations," Human Relations, XI-XII (February, 1959), pp. 183-187.

and thus operational effectiveness.²² This study will attempt to reveal such relationships within a comparative framework.

The effect of informal participation on operational effectiveness has been succinctly pointed out in a study by Homans.²³ In his research involving clerical bank workers, Homans found that the repetitive nature of the work did not stifle satisfaction, primarily because the informal structure provided more than a counterbalancing effect. That is, those girls who moved about, interacted freely with others and abided with group norms were most satisfied and most efficient in their performances. Those who did not make a social interact effort within the group and whose interests were beyond those of the group were bored (apathetic) with their jobs and tended to be relatively inefficient. Thus, any realistic appraisal of an operating unit must consider informal participation as an important variable in organizational analysis.

In a study of labor turnover in a southern California aircraft plant, Mayo, also concluded that the inefficiency was due to lack of informal social organization.²⁴

²²See for example, Leon Festinger, "Informal Communication," Psychological Review, LVII (September, 1950), pp. 271-282.

²³George C. Homans, "The Cash Posters," American Sociological Review, XIX (December, 1954), pp. 724-733.

²⁴Dolbert C. Miller, and William H. Form, Industrial Sociology, (New York: Harpers, 1951), p. 72.

This study will follow the lead suggested by Homans and Mayo and attempt to reveal the informal participation patterns of the unit members in relation to operating effectiveness. That is, it will attempt to determine whether members of the more efficient units have greater informal participation than do those of less efficient units.

Some recent literature has significantly pointed out that the effectiveness of a particular organization is enhanced to the extent that its members maintain channels of communication with other groups of the organized society. Thus, in a comparative study of two extension councils in Kansas, Aboul-Seoud²⁵ found that members of the slightly more effective council had somewhat greater mean participation levels in other area organizations than did members of the less effective council (4.14 as compared to 3.84). This is not an unexpected relationship. As Foskett²⁶ has pointed out, associations are a major source of power. He observed that, "to the extent some people are more active than others, certain values or interests may prevail and thereby give a particular direction to policy determination."²⁷ In other words, organizations with the greatest access to the

²⁵Khairy Hassm Aboul-Seoud, "Participation in Extension Councils in Two Kansas Counties," Master's Thesis, Kansas State University, Manhattan, Kansas, 1962, (see pp. 51-87).

²⁶See John M. Foskett, cited in Community Structure and Analysis, (New York: Corwell, 1959), pp. 311-330.

²⁷Ibid., p. 315.

associational life of a community or region may be expected, other things being equal, to have an exceptional opportunity to get their views carried. Inter-group bonds are moulded and views are diffused throughout the community as members go outside of their particular organizations. This is pointed out by Steiner²⁸ who also suggests such activity to be a functional extension to a communication network. Olmsted²⁹ and Messinger³⁰ also support this view as a result of similar studies.

This study will explore the relationship asserted by Foskett and very tentatively suggested by Aboul-Seoud's data. It will attempt to ascertain whether the members of more effectively operating units have significantly more numerous ties to the associational life of their communities than do members of less effectively operating units.

In summary, the literature cited provides this study with several focal points for analysis of functioning organizations. A first major point of focus, the theoretical importance of which was developed by Parsons,³¹ is the socio-

²⁸Ivan D. Steiner, "Primary Group Influences on Public Opinion," American Sociological Review, XIX (June, 1954), pp. 260-267.

²⁹Donald W. Olmsted, "Organizational Leadership and Social Structure in a Small City," American Sociological Review, XIX (June, 1954), pp. 273-281.

³⁰Sheldon L. Messinger, "Organizational Transformation: A Case Study of a Declining Social Movement," American Sociological Review, XX (February, 1955), pp. 3-11.

³¹See: Talcott Parsons, The Social System, (Glencoe, Illinois: Free Press, 1951), esp. pp. 137-144.

economic characteristics of interactors. Essentially the theory involves the idea that cognition and cathexis of other human objects by an actor proceeds in terms of various "ascribed" and "performance" qualities which these objects possess.

This study is concerned with the effect of ascribed characteristics. That is, how people perceive these ascribed characteristics will largely determine how they react and interact and thus affect the operational effectiveness of the total unit. Thus, we need to know if the unit structures in terms of age, education, income, etc., differ in a manner which contributes to greater or lesser operational effectiveness. It is generally conceded that such characteristics, as education and the others, are indicators of presumed organizational know-how and experience. Therefore, it is important to know how well equipped the various organizations are with members having these skills.

Much literature leads to a second major point of focus which is adopted by this study, and one which has been too often overlooked in the past. Whereas most early organizational studies have been focused mainly on the formal blueprint of organization, it is now generally conceded that this perspective does not provide a complete picture of an operating organization. The informal structure, which is an important factor influencing the climate within which a unit must operate, must also be considered in assessing the effectiveness which organized units will achieve. One of

the first research terms to discover the decisive importance of this aspect of organizational analysis was the Harvard team headed by Roethlisberger and Dickson.³² In this classic study at Western Electric, it was dramatically found that the informal system functions to maintain public opinions, to provide internal and external social control, to implement and further values, and to enforce conformity to either formal or informal policies.

We will also attempt to study comparatively differences in informal structures which may add to an overall explanation of varying differences in operational effectiveness.

Not to be neglected, this study will also consider the communication networks, attitudes, cohesiveness, and associational ties with other units in the area as other important points of focus suggested by previous literature.

This study, then, will attempt to appraise organizations in terms of selected structural (objective and subjective characteristics of the participants) and dynamic elements (levels of participation and patterns of interaction) which the prior discussion has indicated to be basic points of reference for analysis of social systems behavior.

By statistical techniques the degree of association of those structural and dynamic elements with operational effectiveness will be determined. More specifically, the

³²Fritz J. Roethlisberger and William J. Dickson, Management and the Worker, (Cambridge, Mass.: Harvard University Press, 1940), pp. 615.

objectives are to investigate:

1. The relations that exist between certain objective socio-economic characteristics of associational members and the task effectiveness of their organizations.

2. The relation between selected subjective social-psychological characteristics of associational members and the task effectiveness of their organizations.

3. The relation of dynamic, interactional characteristics of officers and also of members to organizational effectiveness. Specifically, this aspect of the study will focus on effectiveness in relation to:

(a) the extent of formal and informal activities of officers and members,

(b) the amount and range of informal communications between officers and members,

(c) the extent to which officers and members maintain external communication (that is, communication with other groups in the society), and,

(d) the degree of consensus on organizational activities.

Hypotheses

Within the context of the problem under study, the objective desired, and the approach to analysis, the following specific hypotheses have been formulated:

1. In the more efficient units, "membership" will be drawn from the categories known to be associated with higher level organizational participation significantly more

frequently than in the less efficient units.

2. Attendance levels, of officers and members, in the more efficient units, will significantly exceed those of the less efficient units.

3. In the more efficient units there will be higher levels of formal participation by officers and members than in the less efficient units.

4. There will be significantly less turnover of officers in the more efficient units than in the less efficient units.

5. The degree of informal activity on behalf of organization proposals will be significantly greater in the more efficient units than in the less efficient units.

6. Communications between officers and members will be perceived by participants as significantly more open (non-restrictive) and more extensive in the more efficient units in comparison with the less efficient units.

7. Levels of participation and activity in other area organizations, extending communications, will be higher for participants of the more efficient units than for participants of the less efficient units.

8. Participants will have significantly more favorable perceptions of actions taken in the more efficient units than they will have in the less efficient units.

9. The perceptions of the unit organizations will be more favorable in the more efficient units, than in the less efficient units.

10. The more efficient units will be characterized by significantly more favorable attitudes toward watershed organization in general, than will the less efficient units.

CHAPTER II

METHODOLOGY

The Comparative Approach To Organizational Effectiveness

This study focuses on comparative analysis as the key methodological technique. That is, our interest is in comparing pairs of organizations which are of similar type, purpose, size and located in similar locales, but which differ appreciably in measured efficiency. The objective is to determine why some are more efficient than others. It is through the use of the comparative method that this objective has become feasible.

More specifically, the comparative approach forces the student to seek a more realistic solution than would a unilateral attack. In other words, a point of reference is needed to make any assertions of implied differences. Murdock¹ strongly suggests this view and adopted it in his preparation of the Area Survey Files for cross cultural studies. He summed it up very well by saying:

" . . . those who are concerned with the community must grapple with a common human phenomenon, for which local or regional explanations are inefficient. If their interest is genuinely scientific, it (the approach) must have a strong comparative component."²

¹George Murdock, "Feasibility and Implementation of Comparative Community Research," American Sociological Review, XV (December, 1950), pp. 713-720.

²Ibid., p. 713.

An intensive study of one unit does not provide any general answers except in terms of that unit. We must compare units of similar nature, size, etc., to gain valid insights into the inner workings which may or may not contribute to operational effectiveness. This is in direct line with Goldschmidt's statement that, " . . . it is impossible to derive sociological generalizations from an increasingly minute examination of a single system, as this offers no method for distinguishing cultural directives from the sociological imperatives."³

As in all comparative studies, the research design must, somehow, achieve control of as many as possible of other variables which might influence task efficiency. But as Greenwood suggests, exact control of every relevant factor, at the present state of social science is, "a mere dream."⁴

This study must attempt some measure of control of various unit elements so that only relevant independent variables can be held accountable or not for varying differences in unit efficiency. The independent variables in this study are, of course, the structural and dynamic characteristics of the organizational units. The dependent variable is organizing efficiency.

³Walter Goldschmidt, "Values and the Field of Comparative Sociology," American Sociological Review, XVII (June, 1953), pp. 287-293.

⁴Ernest Greenwood, Experimental Sociology: A Study In Method, (New York; King's Crown Press, 1951), p. 78.

One way of proceeding on this problem is to identify a number of units which are being organized and undertaking action on some specific issue. Ideally, each unit should be required to pass through an identical procedure so the process may be strictly comparable from unit to unit. The scholar may then make observations on how much time is consumed in the organizing process and the action phase in each instance and on how much has been concretely achieved by each unit. These may be used as measurements of unit effectiveness.

In this way, units which have been organized with dispatch may be selected for comparison with units which have lagged, or those which have achieved much may be selected for comparison with those which have achieved little. Then, examples of the most and the least effectively organized units, all of which were organized on the basis of a single issue, could be selected for comparison with respect to certain social variables which might be hypothesized to have a significant relation to the relative ease or difficulty of organizing a territory.⁵

This, essentially, is the approach followed in this study.

Index of Efficiency

Of primary importance to this study, an index of efficiency has been designed as a major component of the

⁵Taken by permission of Professor Ralph E. Dakin from: Ralph E. Dakin, "Social Variables and Organizing Efficiency: A Method," to be published in a volume tentatively entitled Proceedings of the Inter-University Seminar on Urbanization.

comparative analysis. The rationale and construction of this index follows.

Dakin had found, by study of the Kansas watershed law, that:

All areas desiring to organize as official districts under the law must proceed through a number of steps to meet the requirements of the law. It was found that, with minor exceptions, the time consumed in effecting these steps was under the control of the people (of the organizing areas). It was, therefore, possible to devise an objective index of local-action effectiveness in terms of time by means of which to rank and compare areas.⁶

This index, the "Index of Organizing Efficiency," (IE_o) considers the mean time to organize a mean population. It is based on the following reasoning:

The time interval from the date of the first public meeting in an area to the date it becomes successfully organized on an issue can be calculated for all areas. The mean of these provides a norm for typical action-effectiveness in terms of time. However, the number of people to be organized must also be taken into consideration. The population in each area to be organized may be estimated with reasonable accuracy, and the mean population calculated. It is then assumed that the mean time to organize a mean population

⁶The rationale and facts were obtained by permission from Ralph E. Dakin, "Project 563, Social Variables and Watershed Efficiency," Confidential Preliminary Report (mimeographed) pp. 7-8. This document is hereafter referred to as "Project 563 . . ."

is normal (or 100 percent) efficiency. This approach may be expressed in the form of an equation as follows:

$$IE_o = 100 = \frac{\bar{p}}{\bar{x}} \times C_o$$

where \overline{IE}_o = the mean organizing efficiency; \bar{p} = mean population; \bar{t} = mean time expended in organizing, and; C_o an organizational constant, necessary to adjust the normal index to 100. Indexes of organizing efficiency for each area on the specific issue are calculated according to the following formula:

$$IE_o = \frac{p}{t_o} \frac{(\text{population of watershed})}{(\text{time lapse 1st meeting to official organization})} \times C_o$$

where C_o is a constant, calculated as follows:

$$C_o = \frac{\bar{t}_o (\text{mean time lapse to organization})}{\bar{p} (\text{mean population})} \times 100$$

IE_o is, then, simply a comparative index in terms of time spent in organizing a given number of people.⁷ On page 23 the relative positions of the four selected areas in terms of this index of efficiency are described.

Further facts will clarify the order of efficiency as indicated in the description of Background Data On Watershed Organizations: Indexes of Organizing Efficiency For The Four Selected Areas, shown on page 23.

Area A:

In this efficient area 14,000 people were organized in five months, much less than the average of 15.6 months for small areas.

⁷Ibid., p. 8-9.

BACKGROUND DATA ON WATERSHED ORGANIZATIONS:
INDEXES OF ORGANIZING EFFICIENCY FOR THE FOUR
SELECTED AREAS**

Area	Type	IE ₀	Mean IE ₀ for type*	IE ₀ rank order for type
A	Small	1636.4	15.4	1/11
B	Large	220.5	146.6	2/10
C	Small	9.8	15.4	7/11
D	Large	29.3	146.6	9/10

*Ten small and ten large watersheds; this calculation excludes the watershed designated as "A" above which has an unusually high IE₀, atypical of small areas.

**It is important to note, at this point, that the IE has also proved to be a continuing measure of organizational efficiency. (See page 24.) Thus, such a proven measuring device justifies contrasting these units at varying points during the life spans of the organizational units.

Area B:

In this efficient area 4,400 people were organized in five months, about half of the 21.1 months averaged in organizing large areas.

Area C:

This less efficient small area was organized in 12 months. It contained 200 people within its boundaries. Although this is a shorter time than average, the population to be organized was only about one-eighth of the average (1,699) for small areas.⁸

⁸Area C may be considered of greater organizing efficiency than D because of its relative rank for the area type. It is noted that C ranked seventh out of the eleven small areas, whereas D ranked ninth out of ten larger areas.

BACKGROUND DATA ON WATERSHED ORGANIZATIONS:
WATERSHED PROTECTION AND FLOOD PREVENTION ACT STATUS
OF APPROVED APPLICATION AND PROJECT DEVELOPMENT*

Watershed Name	A	B	C	D**
Received by State Agency-Date	8/20/58	4/7/58	5/5/58	
Field Examination Completed Date	9/25/58	5/9/58	7/18/58	
(a) Approved by State Agency Date	10/6/58	6/2/58	9/8/58	
(b) State Agency Recommended Priority	14	13	25	
(a) Transmitted to Administrator - Date	10/17/58	6/4/58	9/16/58	
(b) Authorized for Planning	3/9/59	3/9/59		

Progress In Work Plan Development And Project Approval

Status of Planning - Percent Completed	100	98
Plan Adopted By Watershed District	11/22/59	<u>1/</u>
Work plan approved by sponsors	1/28/60	
Authorized for installation	5/5/50	
Construction percent completed		

1/ Resolution of adoption published 12/29/60.

** Data not available, because this unit did not progress further than initial organizations stages.

* Source: United States Department of Agriculture, Soil Conservation Service Bulletin, December 31, 1960.

Area D:

This less efficient large area took 36 months to organize a population of only 4,800 people. It is strikingly the least efficient of the four areas under study.

Area Selection

The four rural-urban complexes were selected from a universe of 21 physical drainage areas which had, to April 1959, been chartered under a state watershed law⁹ granting them legal powers to act in the planning, construction and maintenance of water retention and associated structures and facilities. (Excluded were two pilot watershed areas which were organized under differing requirements and which are thus not comparable.)¹⁰

These areas shall be referred to as Areas "A", "B", "C", and "D". Situated in the eastern half of a Midwestern state, they may be briefly described as follows:¹¹

Area A:

This is a small area with just under 20 square miles of open country. It is basically urban in nature, with

⁹See: "The Kansas Watershed Law", State Soil Conservation Committee, Topeka, Kansas, 1959.

¹⁰Data obtained from R. Dakin, "Project 563 . . .", op. cit., p. 5.

¹¹The descriptions are basically those obtained from R. E. Dakin, "Variations in Power Structure and Organizing Efficiency: A Comparative Study of Four Areas," Sociological Quarterly, III (July, 1962), pp. 228-250.

90 percent of its population residing in a community of over 12,000 within its boundaries.

Area B:

This is a large area of approximately 320 square miles. Also urban in nature, 90 percent of its people live in a county seat town of about 4,000 within its boundaries.

Area C:

This is a small area of just 40 square miles. It is 100 percent rural; with no villages or towns within its boundaries, although it would include a nearby service center of 852 persons, located a few miles away from the physical drainage area.

Area D:

This is a large area of about 280 square miles. Technically, it is 100 percent rural, with no communities qualifying as urban centers. However, it contains rural-nonfarm populations in villages of 150, 300, 350, and 400 and a town of about 2,400, all within or adjacent to its boundaries. These data are summarized on page 27, Background Data On Watershed Organizations: Descriptions Of Four Midwestern Rural-Urban Complexes, 1959.

BACKGROUND DATA ON WATERSHED ORGANIZATIONS:
 DESCRIPTIONS OF FOUR MIDWESTERN RURAL URBAN
 COMPLEXES, 1959***

Item	Large		Small	
	Area B	Area D	Area A	Area C
Approximate size*	205,000	179,000	12,000	25,000
Populations**				
open country	300	1,189	1,500	208
town	4,000	281	14,500	0
Incorporated communities within the physical area	1	2	1	0
Number of incorporated communities adjacent to the physical area, and dominant nearby population centers	0	4	0	1
Total populations***	4,438	8,301	14,212	1,060

*Acreage of physical drainage areas only.

**As estimated by Work Conservationists of the United States Department of Agriculture. Includes only persons living within the boundaries of the official drainage areas as chartered by the state.

***Utilizing the Work Unit Conservationist estimates for the open country populations and County Assessor data, as of 1959, as reported by the Kansas State Board of Agriculture for the incorporated populations. The total populations include not only persons living inside the physical boundaries of the legal drainage area, but those living in incorporated communities within and adjacent to the physical boundaries and in dominant nearby centers.

****Source: R. Dakin, "Project 563 . . .", op. cit., p. 6.

With these data in mind, the areas can now be compared in terms of both size and measured efficiency (IE_0). These data, summarized on page 28, are indicated in: Background Data On Watershed Organizations: Summary Of Analytic Comparison Factors For Four Selected Watershed Areas.

BACKGROUND DATA ON WATERSHED ORGANIZATIONS:
SUMMARY OF ANALYTIC COMPARISON FACTORS FOR FOUR
SELECTED WATERSHED AREAS

Area	Type	Measured Efficiency
A	Small	More efficient
B	Large	More efficient
C	Small	Less Efficient
D	Large	Less efficient

The Sample

Since the universe of board members was quite small and relatively stable,¹² a one hundred percent enumeration was required in order to obtain sufficient numbers of officers for analytic purposes.

The techniques for sampling members followed accepted procedures for probability sampling, making every effort to assure adequacy and representativeness. The population of "actives" was arrived at by (a) asking board members to name attendees of one or more meetings and (b) examining the minutes of all meetings to see who was recorded as present at one or more meetings. Samples of the population of "active" members, so defined, were taken at levels assuring adequacy. Petitioners (peripheral organization members) were determined by going through the petition documents and

¹²See: "The Kansas Watershed Law," op. cit., 1959.

selecting names at the Nth interval. The categories of officers and members (actives and petitioners) were treated separately in the analyses.

On an area basis the sample may be summarized as follows:

<u>Area</u>	<u>Total N</u>	<u>Board Members</u>	<u>Actives</u>	<u>Petitioners</u>
A	75	5	20	50
B	91	15	24	52
C	76	9	22	45
D	74	8	20	46

More detailed information on the universes and samples of "actives" and "petitioners" is indicated on page 31. Alternate selections were necessary for respondents who were unavailable for reasons such as being on vacation, illness, deceased, non-landowners, moved, incompetent, or unable to locate. A high degree of representativeness was achieved when considering the levels desired and the levels obtained.

Analytic Procedure

From interviews with all officers and the samples of petitioners and actives, data relevant to the hypotheses of the study were obtained. The statistical approach in this study followed a twofold procedure of: (1) determining whether the two more efficient areas were homogeneous in reference to the variable being analyzed, then whether the two less efficient areas were homogeneous, and finally (providing such homogeneity was found) determining if the two types of areas were significantly different from each

other in terms of the variable being considered (A + B vs. C + D). Or (where homogeneity did not appear) area size was controlled and comparisons made in these terms (A vs. C; B vs. D).

Socio-economic Characteristics of Participants

Socio-economic variables analyzed in this study have been categorized in the following ways:

1. Age brackets were grouped so as to include young, middle and old (that is, 20-39, 40-59, and 60 and over) to embrace the total range as recorded by all respondents.

2. Educational attainment levels were classified on the basis of elementary (0-8 years), some high school (9-11 years), high school graduates (12 years), and college attendees (13 years or more).

3. In analysis of occupations, this study is concerned with groupings of occupations by status levels. These groupings are (1) professionals, (2) non-farm managers and white collar workers, (3) farm managers, and (4) blue collar workers and lower, in respective order of normally accepted status of occupations.

4. Gross income levels were grouped to make simple comparisons. These groupings are (1) below \$5,000, (2) \$5,000 to \$9,999, (3) \$10,000 to \$24,999, and (4) \$25,000 or more.

5. Residency was re-grouped in this study. "Country" and "town or city" distinguished places of residence within the particular areas.

BACKGROUND DATA ON WATERSHED ORGANIZATIONS:
 SAMPLES OF PETITIONERS AND ACTIVES, PHASE II, PROJECT 563¹³

Watershed	Number of Petitioners	Number of Petitioners Selected For Sample	Percent of Petitioners	Number of Petitioners Interviewed	Percent of Petitioners
A	1855	55	3.0	50	2.7
B	576	58	10.0	52	9.0
C	103	52	50.0	45	43.7
D	300	46	15.0	46	15.0
Total	2,834	211	7.4	193	6.8

Watershed	Number of Actives, Of Record	Number of Actives Selected For Sample	Percent of Actives	Number of Actives Interviewed	Percent of Actives
A	40	20	50.0	20	50.0
B	29	29	100.0	24	82.7
C	29	29	100.0	22	75.9
D	40	20	50.0	20	50.0
Total	138	98	71.0	86	62.3

*Actives of record are those persons residing in the area who (1) were recorded in the minutes of the watershed organizations as present at one or more meetings, or (2) were named as attendees of one or more meetings of the organizations by members of the Board of Directors.

¹³Taken by permission from the files of Project 563, Phase II; Respondents and Samples.

Associational Participation

To assure adequate numbers for valid statistical analysis in each category, attendance levels were combined into the two categories of (1) high level attendance (attended half or more of the meetings), and (2) low level attendance (attended few or none of the meetings).

Formal participation levels were classed as "none" or "some" for various aspects of formal participation by organization members. These aspects were (1) the degree of committee service, (2) the number of committee chairmanships, and (3) the number of offices held. These, of course, were also applicable to organization officers.

An additional measure of the degree of formal participation was applied to get at public formal involvement beyond simple attendance at meetings and formal holding of status positions. This measure involves the degree of participation in innovating activity. The question asked to get at this involvement was, "Have you ever gotten up personally to introduce a new proposal, or resolution, or to make a motion at a meeting of the watershed organization?" Responses were in terms of "never", "just a time or two", "occasionally", or "frequently".

A further measure of participation seemed desirable in order to clarify whether closure to members to participate formally was a realistic appraisal. This measure was the time unit officers spent in office in relation to the organizational life span (i.e., turnover).

The level of informal organizational activity of a private nature was measured in terms of responses of "never", "once", "occasionally" or "frequently" to the following questions:

1. "Have you ever done any 'spade work' for proposals on a private basis?"
2. "Have you ever done any 'spade work' against proposals on a private basis?"

To measure the degree of non-restrictive (open) or restrictive (closed) organizational activity, the following questions were asked:

1. "When new ideas and proposals have been brought up for discussion at the meetings, what people have usually introduced them?" Responses were to "officers", "status members", "average members" or "other".
2. "When ideas and proposals have been discussed at the meetings of the organization, what people have usually done most of the talking?" Responses were to "officers", "status members", "average members" or "others".
3. "When most leaders of the watershed organization talk informally with other people just before or after the meetings it is usually with what people?" Responses were to, "with other status members", or "with the average member".
4. How would you rate the watershed organization when it was getting started as compared to other organizations

with which you are familiar, with respect to provision of information to members?" Responses were "above average", "average", or "below average".

Participation and activity in other area organizations was measured in terms of responses to a Chapin type series of questions having to do with the respondent's memberships in other organizations, and activity in these other organizations.

In order to measure the perceptions officers and members had of watershed actions, the participants were asked to rank the actions taken by their respective units in terms of "excellent", "good", or "poor or fair".

Attitudes

To measure the socio-psychological subjective dimension of attitudes of participants toward their organizational units, each of the respondents was asked to evaluate the following aspects of his official organizational unit:

1. Leadership of the organization.
2. Early organizational achievements.
3. Friendliness and cooperation between leaders and members.
4. Friendliness and cooperation among the members.
5. Attendance and interest of members.
6. Agreement on plans and goals.

To each of the latter the respondent could respond "above average", "average", "below average". These provide a measure of the "climate" within which organizational activities are undertaken.

In much the same manner, participants were asked to record their perceptions of voting patterns within the organizational units. Responses were recorded in terms of "pass with some opposition", or "pass with no opposition".

An attitude scale was especially designed for the leadership phase of this study, utilizing the Thurstone Technique of equal appearing intervals;¹⁴ it was also utilized in the organizational phase on which the present study reports, as a means of securing an accurate measure of the degree to which the organizational participants held positive or negative attitudes towards the issue of organization for water conservation and control.¹⁵

¹⁴R. E. Dakin, "Project 563 . . .", op. cit., pp. 40 ff.

¹⁵Briefly, this method may be described as follows: Fifty-eight college students, each acting alone, sorted 55 statements about watershed organization into eleven piles ranging from those judged most favorable to this issue to those judged most unfavorable. Analysis was then carried out to achieve (a) selection of those among the 55 items which were most consistently placed in a given pile (the least ambiguous statements), and (b) selection of those among the least ambiguous which would most closely approximate equal intervals from .05 to 11.0 when arranged according to their median values.

The result was a battery of 20 relatively unambiguous statements ranging (in approximate equal intervals) from extreme positive to extreme negative as respects watershed organization. The statements, along with their scale values, are presented in the Appendix.

CHAPTER III

ANALYSIS AND RESULTS

According to the procedure outlined, analyses will be made of data relevant to the hypotheses of the earlier chapter. These may provide clues as to those structural and functional characteristics of the four organizations which are related to associational efficiency.

This study is concerned with a beginning period of unit development when all areas were characteristically composed of highly active members, directly involved with completing the initial organizational phase, and relatively inactive or peripheral members, whose primary functions were to lend legal support to organization for watershed district development. It also includes measures of associational characteristics subsequent to organization. As previously indicated, the analyses are based on material provided by interviews with all of the "officers" of the four organizations, and samples of their members. The latter, the membership, is a combination of (1) those classified as "actives" on the basis of having been recorded in the minutes of the organization as present at one or more meetings, or who were named as attendees by a member of the Board of Directors, and (2) the highly peripheral "petition-signers" whose basic function was that of legal support.

Watershed laws provide the rationale for functionally categorizing the organization into "officers" and "members". Throughout the Kansas Watershed Law¹ the importance of this large base body of members, as an integrated part of the organizational structure, is stipulated in many aspects. For example, provision is made whereby any conflicts in incorporation proposals shall be resolved by these "members" who by majority vote decide, " . . . whether the district should be organized and created in accordance with the petition or the petition as amended by the chief engineer."² The mode of incorporation, then, ultimately rests within the desires of this large peripheral body of "members".

Section 24-1211³ of the law provided that notice of reelection of officers be given in a newspaper of general circulation of each county within the watershed district. At the election meeting, all "qualified voters" - i.e. the base body of "members" - are entitled to vote. Thus, once again, the action of this large peripheral body of "members" is decisive.

Watershed projects and improvements, by law, can be opposed by this base body, which is comprised of the property owners of record within the boundaries of the district. Stipulated in sections 24-1213 through 24-1221,⁴ each

¹"The Kansas Watershed Law," State Soil Conservation Committee, Topeka, Kansas.

²Ibid., p. 4.

³Ibid., p. 7.

⁴Ibid., pp. 8-11.

proposal formulated by the board of directors must be examined and studied by the chief engineer. A disapproved or approved plan must then be returned whereupon an approved plan is subjected to public hearing.

Any objector, by formally filing written objections, is legally entitled to present his views before any proposal is finally adopted. The board may not approve proposals until such time has been allotted to any member formally objecting.

Upon approval, Section 24-1215 allows for further formal actions by the base body. Here it is stipulated that, " . . . a copy of said plan shall be made available for public inspection" and states that, "such plan will be adopted as the official general plan of the district unless written petitions protesting the adoption of such general plan, signed by qualified voters of the district in a number in excess of twenty percent of the qualified voters, are filed with the secretary of the board within forty (40) days."⁵

Members, then, by collective action can legally precipitate a special election to approve or disprove the general plans.

Specific projects, reporting procedures, and duties of the officers and chief engineer, project costs, special assessments, etc., are also susceptible to collective action

⁵Ibid., p. 9.

by members in much the same procedure. These base bodies, the "pro-publics", thus constitute a climatizing force directly affecting organizational functioning. They are in a strategic position to promote or deter structural effectiveness. It is therefore necessary to determine the "climate" which these base bodies set for the organization as a whole, and the question may well be asked as to how the various areas energize the latent resources among these large base bodies, referred to as "members" in this study.

Socio-economic Variables and Organizational Efficiency

The first hypothesis stated that in the more efficient units "membership" will be drawn from the categories known to be associated with higher level organizational participation, significantly more frequently than in the less efficient units. The specific variables are: (1) age, (2) education, (3) occupation, (4) income, and (5) place of residence. Findings referring to these factors follow.

Age

Resting within the first hypothesis is the assertion that the "membership" of the more efficient units will feature significantly higher proportions of those in the age level where peak associational participation occurs, than will the "membership" of the less efficient units. Scott⁶

⁶John C. Scott Jr., "Memberships and Participation in Voluntary Associations", American Sociological Review, XXII (June, 1957), pp. 315-326. See also: Philip Taiezt and Olaf E. Larson, "Social Participation and Old Age," Rural Sociology, XXI (September-December, 1956), pp. 229-238.

and others have found that peak formal participation generally occurs sometime within the 40 to 60 year age interval. Thus we would expect a significantly greater proportion of members of the more efficient units to be between 40 and 60 years of age than the less efficient unit members.

Analysis of age data, with unit size controlled, indicates results in partial support of the hypothesis, but at a low level of significance, between the small units. As shown below in Table 1, a greater proportion of the small more efficient unit members, 61 percent, were within the 40-59 age group where generally greater participation (and thus organizational know-how) occur, compared to 54 percent in the less efficient small unit. This difference is, however, not significant at a conservative level. Moreover, the proportions are opposite to those hypothesized in the larger units.

TABLE 1
AGE DISTRIBUTION OF ORGANIZATION MEMBERS

Age Categories	Area			
	A Percent	C Percent	B Percent	D Percent
20-39	10.0	13.0	14.0	10.0
40-59	61.0	54.0	30.0	48.0
60 and over	29.0	33.0	50.0	42.0
Total	100.0	100.0	100.0	100.0
Number of cases	70	* 67	76	* 66

*Not significantly different at .05 level.

Inspection of Table 2, below, which describes the age composition of officers, reveals results somewhat to the contrary to the assertion. That is, a significantly higher proportion of the officers of the less efficient units is drawn from the peak-participation age level of 40-59, than in the more efficient units. However, it may be significant that the more efficient units have had sufficient interest and value to draw those persons presumed to have most organizational experience -- i.e., the oldest category -- and thereby gained the benefits of their greater experience.

TABLE 2
AGE DISTRIBUTION OF ORGANIZATION OFFICERS

Age Categories	Area Rank	
	More efficient Percent	Less efficient Percent
20-39	15.0	11.8
40-59	50.0	64.7
60 and over	35.0	23.5
Total	100.0	100.0
Number of cases	20	17

Education

Implicit within the first hypothesis is the assertion that the more efficient units will have significantly greater proportions of members and officers having higher levels of education than will the less efficient units.

Axelrod⁷ and Rohwer⁸ found significant positive relations between education and organizational participation. Since one of the primary purposes assumed of formal education is the development of social skills necessary for efficient participation, it is to be expected that higher educational levels would prevail in the more efficient watershed units.

Also, when viewing leadership as a relationship within and among groups and organizations,⁹ the development of social skills to effect relations for more efficient group functioning is a necessity for those at a higher organizational level.

Tables 3 and 4, below, present results lending support to the assertion.

As seen in Table 3, significant differences appear between unit members at the .05 level of significance. The null hypothesis of no association is conservatively rejected. Moreover, greater proportions of members of the more efficient units had higher levels of education, than did those of the less efficient units.

⁷Morris Axelrod, "Urban Structure and Social Participation", American Sociological Review, XXI (February, 1956), pp. 13-18.

⁸Robert A. Rohwer, op. cit., pp. 39-47.

⁹L. Katz and R. L. Kahn, op. cit., pp. 612-627.

TABLE 3
EDUCATIONAL LEVELS OF ORGANIZATION MEMBERS

Education, Years	Area Ranking	
	More Efficient Percent	Less Efficient Percent
0-8	32.1	51.1
9-11	17.8	13.5
12	25.3	19.5
13 or more	24.8	15.1
Total	100.0	100.0
Number of cases	146	133
(P less than .05)		

Table 4, shown below, also supports the hypothesis. As indicated, officers of the more efficient watershed units had achieved significantly higher levels of education, than had the officers of the less efficient watershed units.

TABLE 4
EDUCATIONAL LEVELS OF ORGANIZATION OFFICERS

Education, Years	Area Ranking	
	More Efficient Percent	Less Efficient Percent
0-8	10.0	23.5
9-11	30.0	23.5
12	15.0	23.5
13 or more	45.0	29.4
Total	100.0	100.0
Number of cases	20	17

Generally, then, the more efficient units were structurally characterized by higher educational attainment levels of both officers and members

Occupation

A great deal of research has pointed out that the higher occupational status levels participate more than do the lower levels in voluntary associations. Reisman¹⁰ found that about one-half of the higher occupational respondents participated in organizational affairs as opposed to only one-third of the lower occupational levels. Wright and Hyman¹¹ also found this to be the case.

In so far as the greater participation of the higher occupational status levels may be assumed to imply greater organizational experience and know-how, and, in so far as this experience and know-how contributes to organizational efficiency, we would expect that greater proportions of officers and members of the more efficient units would be drawn from the experienced (that is, the higher occupational status) categories.

Lundberg, Schrag, and Larsen¹² have summarized what is generally accepted as the proper rank order of occupational statuses. These are, (1) Professional and semi-professional,

¹⁰Reisman, op. cit., pp. 76-84.

¹¹Wright and Hyman, op. cit., pp. 284-294.

¹²G. A. Lundberg et al., Sociology, (New York: Harpers, 1958), p. 477.

(2) Proprietors, managers and officials, and clerical, (3) Farmers and farm managers, and (4) Blue collar (operatives) and others. This study will order occupations in a similar fashion except that no distinction is made between skilled and unskilled blue collar persons.

The results, shown below in Table 5, are in accordance with the hypothesis. That is, with unit size controlled significant differences appear such that the more efficient units feature significantly greater proportions of the higher occupational levels in their "memberships" than do the less efficient units. Thus, a greater pooling of organizational know-how is indicated in the more efficient units.

TABLE 5
OCCUPATIONAL LEVELS OF ORGANIZATION MEMBERS

Occupational level	Area			
	A	C	B	D
	Percent	Percent	Percent	Percent
Professional	11.6	1.5	5.3	4.5
Non-farm manager and white collar	47.1	11.9	23.7	6.1
Farm manager	11.6	46.3	48.7	84.9
Blue collar and other	29.7	40.3	22.0	4.5
Total	100.0	100.0	100.0	100.0
Number of cases	70	67	76	66
	(P. less than .05)		(P. less than .05)	

Data in Table 6 describe the occupational characteristics of all unit leaders. The results do not support the hypothesis; however, the numbers would seem to be too small to

justify any decisive judgment. Instead, they indicate attempts to provide greater diversity of occupational representation in the more efficient units. It might be pointed out that inclusion of small numbers of such representatives (or even one, e.g. a lawyer,) could open up channels of communications to a larger segment of the population which might not otherwise be reached.

TABLE 6
OCCUPATIONAL LEVELS OF ORGANIZATION OFFICERS

Occupational level	More efficient	Less efficient
	units Percent	units Percent
Professional	5.0	0.0
Non-farm manager and white collar	10.0	11.8
Farm manager	80.0	88.2
Blue collar and others	5.0	0.0
Total	100.0	100.0

Gross Income

Within the first hypothesis there also rests the assertion that significantly greater proportions of the "memberships" of the more efficient units will be drawn from the higher income brackets, than will the "memberships" of the less efficient units. Reisman¹³ and others have found

¹³Reisman, op. cit., pp. 76-84. See also: John M. Fosket, "Social Structure and Social Participation", American Sociological Review., XX (August, 1955), pp. 431-438.

that the higher income levels are also higher level organizational participants.

Table 7, shown below, presents the distribution of members gross incomes. With unit size controlled, it is significant to note the somewhat contradictory results as indicated by comparison of the small units. That is, the less efficient small unit C had greater proportions of members at the two high income levels than the more efficient small unit A. C also had, however, a significantly greater proportion at the lowest income level than did A, possibly counter-balancing the positive effect that may otherwise have been attained. Significant differences were not found between the larger units.

TABLE 7

GROSS INCOME DISTRIBUTION OF ORGANIZATION MEMBERS

Gross Income	Area			
	A Percent	C Percent	B Percent	D Percent
0-4,999	29.0	40.8	34.7	28.6
5,000-9,999	46.8	22.4	31.8	35.7
10,000-24,999	16.1	18.4	20.5	19.6
25,000- or more	8.1	18.4	13.0	16.1
Totals	100.0	100.0	100.0	100.0
Number of cases	62	49	68	56

(P. less than .05)

*

*Not significantly different at .05 level.

Table 8, shown below, shows conflicting evidence as regards income of officers. That is, although a majority of all unit officers had high income levels, when comparing the larger units a significantly higher proportion of the more efficient unit B had higher income than did those of the less efficient unit D. But an opposite result was found for small areas A and C.

TABLE 8

GROSS INCOME DISTRIBUTION OF ORGANIZATION OFFICERS

Gross Income	Area			
	A Percent	B Percent	C Percent	D Percent
10,000 and over	60.0	91.7	100.0	75.0
5,000 - 9,999	40.0	8.3	0.0	12.5
Below 5,000	0.0	0.0	0.0	12.5
Total	100.0	100.0	100.0	100.0

Place of Residence

Implicit within the first hypothesis is the expectation that regardless of general area ecology the more efficient units (i.e. organizations) would draw those people having greater participation and organizational experience. Many studies have succinctly pointed out that urban residents are the people with greatest experience and participation in organizational affairs.¹⁴

¹⁴See for example, Walfred Anderson, "Social Participation of Rural Nonfarm Adults", Cornell University Agricultural Experiment Station Bulletin 928 (Ithaca, New York, 1958).

Significant differences are shown below in Table 9, in support of this hypothesis. That is, with unit size controlled a significantly greater proportion of the more efficient unit members (A and B) were urban residents, than were those of the less efficient (C and D).

TABLE 9

PLACE OF RESIDENCE DISTRIBUTION OF ORGANIZATION MEMBERS

Place of residence	A	C	B	D
	Percent	Percent	Percent	Percent
Country	25.7	58.2	47.3	78.8
Town or city	74.3	41.8	52.6	21.2
Total	100.0	100.0	100.0	100.0
Number of cases	70	67	76	66
	(P less than .05)		(P less than .05)	

In all units, rural residency was highly overrepresented among the officers, with eighty percent of all officers residing in the country. Structurally, then, the urban components were grossly underrepresented within the formal decision-making aspect of the watershed units thus making minimal use of those with most organizational experience at the level where such knowledge is necessary for effective functioning. There were no significant differences between the more and less efficient areas as respects residence of officers.

Attendance Levels In More And Less Efficient Units

The second hypothesis stated that the attendance levels of officers and members in the more efficient units would significantly exceed those of the less efficient units. Analysis of early attendance records of unit members, indicated within Table 10, shows no significant differences in terms of the hypothesis and contrary evidence at rather low statistical probabilities.¹⁵

In structural terms, the data justify the assignment of peripheral positions to unit members during the period included in this study. In direct contrast, unit officers recorded early attendance levels as expected. Both small units reported that all officers attended at very high levels (100 percent attending all or most meetings) while both larger units reported slightly lower levels (86 percent attending all or most meetings). This difference is clearly related to size, not efficiency, with the larger units probably experiencing greater attendance difficulties because of greater distances from the assigned meeting place.

¹⁵It should be noted that the tendency described continued and did not change appreciably over the life spans of the units.

TABLE 10

ATTENDANCE LEVELS OF ORGANIZATION MEMBERS DURING
ORGANIZATIONAL PHASE*

Attendance level	Area			
	A Percent	C Percent	B Percent	D Percent
High (half or more)	7.1	16.4	21.1	30.3
Low (less than half)	92.9	83.6	78.9	69.7
Total	100.0	100.0	100.0	100.0
Number of cases	70	67	76	66
	(P less than .05)		(P less than .25)	

*Time periods: A - 1958; B - 1957; C - 1956; D - 1954.

Formal Participation Factors In More And Less Efficient Unit Organization

We have stated in the third hypothesis that formal participation levels of officers and members would be greater in the more efficient units than in the less efficient units.

Two measures of formal participation have been utilized in this study. These are: (1) committee service, and (2) proposal activity at meetings.

Analysis of the member committee service data does not lend even moderate support to this hypothesis. Table 11 below, reveals the great apathy exhibited by members of all units towards this type of formal organizational participation. However, comparison of the larger units indicates support at a level approaching statistical significance. As seen, the efficient large unit B featured a higher proportion of members who have served on committees than the less efficient large unit D.

TABLE 11

PERCENTAGE OF MEMBERS WHO HAVE SERVED ON COMMITTEES

Committee service	Area			
	A Percent	C Percent	B Percent	D Percent
None	95.8	95.5	89.5	97.0
Some	4.3	4.5	10.5	3.0
Totals	100.0	100.0	100.0	100.0
Number of cases	70	67	76	66
A-C n.s.; B-D, P less than .100				

It would appear that either all unit members were satisfied to have played a peripheral role, or they were restricted by committee closure on the part of their officers. It seems obvious from an inspection of Tables 11 and 12 that the territorially small units made considerably less use of committees than the larger units. It seems plausible that larger units may need such a technique in order to dispense with functional duties naturally arising out of size complexity. With regard to the larger units, the evidence shows that the more efficient unit made more use of committees than the less efficient unit, thus decentralizing the decision-making process and involving more people in it. We would expect this to contribute to its efficiency.

However, closure seems to operate in all units at the higher levels of formal participation. No member in any of the samples had participated as a committee chairman or held office at any time during the life spans of the units.

TABLE 12

PERCENTAGE DISTRIBUTION OF OFFICERS WHO HAVE
SERVED ON COMMITTEES

Committee Service	Area			
	A Percent	B Percent	C Percent	D Percent
None	100.0	20.0	88.9	50.0
Some	0.0	80.0	11.1	50.0
Totals	100.0	100.0	100.0	100.0

Analysis of data dealing with the degree of formal participation in proposal activity confirms the non-responsive nature of all members as previously exemplified by their definite lack of other types of formal participation. In no area were members openly active as innovators of proposals, as shown below in Table 13. The hypothesis must be rejected in so far as this measure of formal participation is concerned. The activity level of members was, in fact, slightly higher in the less efficient than in the more efficient units.

TABLE 13

DEGREE OF PROPOSAL ACTIVITY OF ORGANIZATION MEMBERS

Degree of proposal activity	Areas			
	A Percent	C Percent	B Percent	D Percent
Never	96.0	94.0	95.0	90.0
Some	4.0	6.0	5.0	10.0
Totals	100.0	100.0	100.0	100.0
Number of cases	70	67	76	66

*Not significantly different at .05 level.

Officers seem to have assumed major roles as unit innovators by default. Table 14, shown below, indicates the great proportions of officers who have introduced proposals. Interestingly, higher proportions of the officers in the more efficient units participated at a high level of innovation than did so in the less efficient units. As shown, a much greater proportion of the small efficient unit officers participated "frequently" in proposal introduction than did the officers of the less efficient small unit (60 percent compared to 44 percent). Although in comparing the larger units, differences were smaller, these were in the same direction.

TABLE 14
DEGREE OF PROPOSAL ACTIVITY OF ORGANIZATION OFFICERS

Degree of proposal activity	Area			
	A Percent	B Percent	C Percent	D Percent
Never	0.0	33.3	11.1	12.5
Once	20.0	0.0	11.1	0.0
Occasionally	20.0	26.7	33.3	50.0
Frequently	60.0	40.0	44.5	37.5
Total	100.0	100.0	100.0	100.0

Turnover Of Officers In More And Less Efficient Unit Organizations

The fourth hypothesis stated that there will be significantly less turnover of officers in the more efficient units than in the less efficient units. The data, as shown in

Table 15, do not support this hypothesis. There was relatively little turnover in any of the units as indicated by the high proportions of officers who had been in office during at least 75 percent of the life spans of their organizations. There was some indication that turnover may be somewhat higher in larger units than it was in smaller units irrespective of efficiency.

TABLE 15

PERCENT OF OFFICERS IN OFFICE 75 PERCENT OR MORE
OF THE ORGANIZATIONAL LIFE SPAN

Area	Percent
A	100.0
B	86.7
C	100.0
D	87.5

Structurally, all the units appeared to be considered closed by those already in position to act. Moreover, the officers appeared to be able to maintain this closure irrespective of the level of efficiency with which the organization was operating.

Informal Participation In More And Less Efficient Unit Organizations

The fifth hypothesis stated that the degree of informal activity on behalf of organizational proposals would be significantly greater in the more efficient units than in the less efficient units. A high degree of closure to members

to participate formally in the affairs of the unit has been indicated previously. This points to the need for informal participation in order to maintain morale and to enhance a view which members may wish to be integrated into formal operating policy.

The data do not, however, confirm this hypothesis. With unit size controlled, informal activity by members on behalf of organizational proposals does not differ significantly between the large units or between the smaller units. Although differences at conservative levels of inference do not appear, the levels of positive informal participation of members seem to have been somewhat higher in the more efficient units. Table 16 shows these data.

TABLE 16
DEGREE OF POSITIVE PRIVATE ACTIVITY OF
ORGANIZATION MEMBERS

Degree of activity	Area			
	A Percent	C Percent	B Percent	D Percent
Never	47.1	55.2	39.1	43.4
Once or Occasionally	37.2	23.8	48.6	39.5
Frequently	15.7	21.0	12.3	12.1
Total	100.0	100.0	100.0	100.0
Number of cases	70	67	74	66
		*		*

*Not significantly different at .05 level

Analysis of negative private activity by members indicates a difference approaching significance between the

larger units, offering some support for the corollary of the fifth hypothesis that less negativistic informal activity would appear in the more efficient units than in the less efficient units. Minor differences in the same direction appeared in the small unit comparison. See Table 17.

No area, however, appears to be in any real danger of subterfuge by negativistic informal activity, although such activity indicates attempts to alleviate dissatisfactions.

TABLE 17
DEGREE OF NEGATIVE PRIVATE ACTIVITY OF
ORGANIZATION MEMBERS

Degree of activity	Area			
	A Percent	C Percent	B Percent	D Percent
Never	98.6	95.6	90.8	80.4
Some	1.4	4.4	9.2	19.6
Totals	100.0	100.0	100.0	100.0
Number of cases	69	67	76	66
		*	(P less than .05)	

*Not significantly different at .05 level

As shown in Table 18, all unit officers exhibited patterns of positive informal activity at much higher levels than did the members. Differences do not entirely support the hypothesis of greater positive informal activity in the more efficient units. Large unit comparison provides some support. In larger units, however, more support may need to be solicited to carry out proposals. More frequent positive informal activity could meet this need. Thus, the greater

degree of positive informal activity on the part of the officers of unit B would contribute to its greater efficiency.

Results in small areas are opposite to expectations.

TABLE 18
DEGREE OF POSITIVE PRIVATE ACTIVITY OF
ORGANIZATION OFFICERS

Degree of activity	Area			
	A Percent	B Percent	C Percent	D Percent
Never	20.0	0.0	11.1	12.5
Once	20.0	0.0	0.0	0.0
Occasionally	20.0	46.7	11.1	37.5
Frequently	40.0	53.3	77.8	50.0
Totals	100.0	100.0	100.0	100.0

TABLE 19
DEGREE OF NEGATIVE PRIVATE ACTIVITY OF
ORGANIZATION OFFICERS

Degree of activity	Area			
	A Percent	B Percent	C Percent	D Percent
Never	100.0	86.7	88.9	85.7
Once	0.0	0.0	0.0	0.0
Occasionally	0.0	13.3	0.0	14.3
Frequently	0.0	0.0	11.1	0.0
Totals	100.0	100.0	100.0	100.0

Analysis of the degree of private activity against organizational proposals on the part of unit officers supports

the assertion that there will be less of this type of activity in the more efficient units. Table 19, shown above, supports this assertion as respects the smaller units. The relatively high proportion of officers of the efficient large unit B occasionally participating in this type of activity may be an indication of a working competitive force within this group.

Communications In More And Less Efficient Unit Organizations

We have stated in the sixth hypothesis that communications between officers and members will be perceived by participants as significantly more open (non-restrictive) in the more efficient units in comparison with the less efficient units. Attendance and formal participation analyses, indicating high degrees of apathy and closure, may limit the significance of the perceptions of members.

The perceptions which members and officers have of the participation of various categories within the organizations in the decision-making process and in integrating contacts appear in Tables 20, 21, 22, 23, 24, and 25.

Table 20, shown below, presents data which contradict the hypothesis. As between the small units, C was structurally perceived by members to be more open and democratic. They viewed themselves as much more frequently brought into the innovating process. No significant difference appears between the larger units. However, the finding is in the same direction as for the small units. This is evidence for rejection of the hypothesis.

TABLE 20

PERCENTAGE DISTRIBUTION OF MEMBERS' PERCEPTIONS OF
INTRODUCTION OF PROPOSALS

Introduction of proposals	Area			
	A Percent	C Percent	B Percent	D Percent
Officers	47.6	55.6	70.9	55.8
Status members*	33.3	3.7	0.0	13.9
Average members	19.1	40.7	29.1	30.3
Totals	100.0	100.0	100.0	100.0
Number of cases	21	27	31	43
	(P less than .05)			**

*Status members include: officer's friends, wealthy and top prestige members.

**Not significantly different at .05 level.

Conflicting results are provided by analysis of perceptions of discussion of proposals, indicated in Table 21. However, since formal participation and attendance are at low levels, small numbers of people are in a position to be objective in these perceptions. Comparison of the smaller units does not support the assertion, while analysis of the large units is supportive but not at a conservative level of significance.

TABLE 21

PERCENTAGE DISTRIBUTION OF MEMBERS' PERCEPTIONS OF
PROPOSAL DISCUSSION

Discussion of proposals	Area			
	A Percent	C Percent	B Percent	D Percent
Officers	60.0	44.1	29.6	45.4
Status members*	20.0	0.0	3.7	9.2
Average members	20.0	55.9	66.7	45.4
Totals	100.0	100.0	100.0	100.0
Number of cases	20	34	27	44
	(P less than .05)		(P less than .25)	

*See Table 20 for explanation.

Rejection of the hypothesis is again suggested by contacts with leaders at meetings. Table 22 reveals that even though members of all units perceive the majority of leader contacts as being with the average member (thus structurally gaining an informal extension of communication), the less efficient units appear to have more open channels. Contrary to expectations, then, less efficient unit members would have greater knowledge of organizational activities and perhaps greater attitude homogeneity.¹⁶

¹⁶ Fanelli supports this tentative conclusion when he found that extensiveness of communication contacts is a prerequisite to objective perceptions resulting in greater homogeneity of attitudes. A. Fanelli, op. cit., pp. 439-445.

TABLE 22

PERCENTAGE DISTRIBUTION OF MEMBERS' PERCEPTIONS OF
LEADER CONTACTS AT AREA MEETINGS

Leader contacts	Area			
	A Percent	C Percent	B Percent	D Percent
With other status members	43.7	25.0	25.9	17.5
With the average members	56.3	75.0	74.1	82.5
Totals	100.0	100.0	100.0	100.0
Number of cases	16	28	27	40
		*		*

*Not significantly different at .05 level

It has been previously indicated that all unit officers have had to assume the major innovative role by default. Once again, Table 23 presents data which indicate this to be the case, the majority of proposals being perceived by officers to be introduced by officers themselves. However, in contrast to the results of member perceptions, these data support the hypothesis. That is, officers of the more efficient units perceived more members as brought into innovating activity than did officers of the less efficient units.

TABLE 23

PERCENTAGE DISTRIBUTION OF OFFICERS' PERCEPTIONS OF
INTRODUCTION OF PROPOSALS

Introduction of proposals	Area			
	A Percent	B Percent	C Percent	D Percent
Officers	57.1	52.6	60.0	46.1
Status members*	0.0	10.5	0.0	38.4
Average members	42.9	36.9	40.0	15.5
Totals	100.0	100.0	100.0	100.0

*See Table 20 for explanation

Data presented in Table 24 summarize the perceptions which unit officers have of discussion of proposals at meetings. As hypothesized, officers of the more efficient units perceived more open discussion of proposals with the average member than did officers of the less efficient units.

TABLE 24
PERCENTAGE DISTRIBUTION OF OFFICERS' PERCEPTIONS
OF DISCUSSION OF PROPOSALS

Discussion of proposals	Area			
	A Percent	B Percent	C Percent	D Percent
Officers	50.0	39.0	54.6	42.8
Status members*	0.0	5.5	0.0	28.6
Average members	50.0	55.5	45.4	28.6
Totals	100.0	100.0	100.0	100.0

*See Table 20 for explanation

The perceptions which the officers have of informal contacts with other persons in the organizations are described in Table 25. The results are similar to those indicated in reference to officers' perceptions of proposal discussion. That is, in the large efficient unit there was more informal contact between officers and members than in the less efficient large unit. But in the small units, the result is again indicative of less open channels of communication in the more efficient unit than in the less efficient unit.

TABLE 25

PERCENTAGE DISTRIBUTION OF OFFICERS' PERCEPTIONS
OF LEADER CONTACTS AT MEETINGS

Leader contacts	Area			
	A Percent	B Percent	C Percent	D Percent
With other status members	75.0	33.3	22.2	41.6
With the average member	25.0	66.7	77.8	58.4
Totals	100.0	100.0	100.0	100.0

Lending support to the hypothesis, provision of the information to members, indicated in Tables 26 and 27, was generally perceived to be better in the more efficient units. Table 26, below, indicating members' perceptions of this variable, reveals support at a level approaching significance when comparing the small units and significant confirmation arising out of large unit comparison.

TABLE 26

PERCENTAGE DISTRIBUTION OF MEMBERS' PERCEPTIONS OF
PROVISION OF INFORMATION

Provision of information	Area			
	A Percent	C Percent	B Percent	D Percent
Above average	46.8	36.8	40.6	15.2
Average	44.6	61.4	48.4	56.5
Below average	8.6	1.8	11.0	28.3
Total	100.0	100.0	100.0	100.0
Number of cases	47	57	64	46
(P less than .25) (P less than .05)				

TABLE 27

PERCENTAGE DISTRIBUTION OF OFFICERS' PERCEPTIONS OF
PROVISION OF INFORMATION

Provision of information	Area			
	A Percent	B Percent	C Percent	D Percent
Above average	60.0	64.3	77.8	42.9
Average	40.0	35.7	22.2	42.9
Below average	0.0	0.0	0.0	14.2
Total	100.0	100.0	100.0	100.0

Officers' perceptions of provision of information, shown in Table 27, indicate a significant difference between large areas in the direction of the hypothesis. However, the perceptions of the officers of the small areas with regard to provision of information were opposite to the perceptions of the members and contrary to the hypothesis.

Levels of Participation And Activity In Other Area
Organizations And Unit Organizational Efficiency

Members' Participation and Activity

The seventh hypothesis stated that levels of participation and activity in other area organizations (having the effect of extending communication nets) would be significantly higher for the more efficient unit participants than for the less efficient area participants. Table 28 and 29 provide supporting data.

TABLE 28

PERCENTAGE DISTRIBUTION OF MEMBERSHIPS OF WATERSHED
MEMBERS IN OTHER AREA ORGANIZATIONS

Memberships in other organizations	Area			
	A Percent	C Percent	B Percent	D Percent
4 or more	34.3	16.5	27.6	19.6
1 through 3	55.7	59.7	67.1	65.1
None	10.0	23.8	5.3	15.3
Total	100.0	100.0	100.0	100.0
Number of cases	70	67	76	66
	(P less than .05) (P less than .25)			

Table 28 reveals a significant association between watershed efficiency and memberships in other area organizations. Members of the more efficient watershed units belonged to more area organizations than did those of the less efficient units. The two small areas differ at a conservative level of significance, the two large areas at a level approaching such significance. Though the evidence is inconclusive, it tends to offer support to an assertion that an extension of communication channels contributes to efficiency of the organization. An extension to the communication net of the unit organization is provided by memberships in other area organizations.

The differences between more and less efficient organizations become even more pronounced when utilizing active participation in other area organizations as the measure of extension of the communication net. The members of the more

efficient units, Table 29 reveals, were significantly more active in other area organizations than were the members of the less efficient units. Here is strong support for the hypothesis.

TABLE 29

PERCENTAGE DISTRIBUTION OF ACTIVE MEMBERSHIPS OF
WATERSHED MEMBERS IN OTHER AREA ORGANIZATIONS

No. of active memberships	Area	
	More efficient Percent	Less efficient Percent
None	19.8	33.1
1 through 3	56.1	52.6
4 or more	24.1	14.3
Totals	100.0	100.0
Number of Cases	146	133
	(P less than .05)	

Additional evidence is offered by analysis of the memberships and activity of the officers in other area organizations. Tables 30 and 31, presenting these data, lend strong support to the hypothesis. Table 30 shows that the more efficient area officers belonged to a significantly greater number of other area associations than did officers of less efficient areas. Table 31, reveals strikingly similar results in reference to active memberships. Notable differences appear to confirm the hypothesis that the more efficient area officers will also have higher levels of participation in other area associations than will the less efficient area officers.

TABLE 30

PERCENTAGE DISTRIBUTION OF UNIT OFFICERS' MEMBERSHIPS
IN OTHER AREA ORGANIZATIONS

Number of organizations	Area			
	A Percent	B Percent	C Percent	D Percent
None	0.0	0.0	0.0	0.0
1 through 3	20.0	13.3	55.5	50.0
4 or more	80.0	86.7	44.5	50.0
Total	100.0	100.0	100.0	100.0

TABLE 31

PERCENTAGE DISTRIBUTION OF AREA OFFICERS' ACTIVE
MEMBERSHIPS IN OTHER AREA ORGANIZATIONS

Number of active memberships	Area			
	A Percent	B Percent	C Percent	D Percent
None	0.0	0.0	11.1	0.0
1 through 3	20.0	13.3	55.6	62.5
4 or more	80.0	86.7	33.3	37.5
Total	100.0	100.0	100.0	100.0

Officers' and Members' Perceptions Of Organizational Actions

It was stated in the eighth hypothesis that participants will have significantly more favorable perceptions of actions taken in the more efficient units than they will in the less efficient units. The data presented in Table 32 are in the direction hypothesized. However, the difference between the more and less efficient units is not quite at a conservative level of statistical significance.

TABLE 32

PERCENTAGE DISTRIBUTION OF MEMBERS' PERCEPTION OF
WATERSHED ACTIONS

Watershed actions	Area	
	More efficient percent	Less efficient percent
Excellent	31.8	17.8
Good	52.7	62.4
Poor or fair	14.5	19.8
Total	100.0	100.0
Number of cases	129	101
	(P = less than .10)	

An additional finding, which seems highly suggestive in view of previous analysis, is that there were twice as many "don't know" responses in the less efficient units as in the more efficient units. We may seemingly conclude -- if we take this finding into account -- that a significantly greater proportion of members are willing to commit themselves concerning the quality of action undertaken by their organizations in more efficient units than is the case in less efficient units. Moreover, members (even where they are peripheral participants) are likely to react more favorably when the organization has a relatively high level of achievement, objectively measured by an impartial outside observer.

Furthermore, and providing additional support to the hypothesis, greater proportions of the more efficient area officers perceived watershed actions as excellent. Table 33

presents these data. Thus, the hypothesis is also supported at the officer level.

TABLE 33
PERCENTAGE DISTRIBUTION OF OFFICERS' PERCEPTIONS OF
WATERSHED ACTIONS

Watershed actions	Area			
	A Percent	B Percent	C Percent	D Percent
Excellent	80.0	46.7	55.6	37.5
Good	20.0	53.3	44.4	50.0
Poor or fair	0.0	0.0	0.0	12.5
Total	100.0	100.0	100.0	100.0

Perceptions Of Additional Aspects Of The Unit Organizations
By Officers and Members Relating To Efficiency

The ninth hypothesis stated that participants in more efficient units of organization will have more favorable perceptions of their units than will participants in less efficient units.

In this study, the images the participants had of their organizations from several basic standpoints were examined. There were: (1) leadership of the unit, (2) early organizational achievements, (3) friendliness and cooperation between leaders and members, (4) friendliness and cooperation among members, (5) attendance and interest of members, (6) agreement on plans and goals, and (7) perceptions of voting patterns. It should be noted that substantial proportions of members would not rate their unit organizations on some

of these basic factors. (See Table 34). These people did not refuse interviews nor, as indicated by the varying proportions of non-rating on the items, did they refuse to rate all items. In view of the nature of the items and the low level of participation of members, relatively high proportions of non-response are not surprising.

TABLE 34

PERCENT OF ALL AREA MEMBERS NOT RATING EARLY ORGANIZATIONAL EFFICIENCY VARIABLES

Factor	Area			
	A	B	C	D
	Percent	Percent	Percent	Percent
1. Leadership rating	32.8	21.0	26.8	30.3
2. Early organizational achievements	40.0	28.9	31.3	34.8
3. Leader-member relations	41.4	21.0	20.8	30.3
4. Member-member relations	45.7	19.7	19.4	34.8
5. Attendance and interest	50.0	30.2	29.8	34.8
6. Agreement on plans and goals	47.1	31.5	37.3	37.8

Members' Perceptions

Tables 35 and 36 present data generally supporting the hypothesis.

Table 35 shows, that greater proportions of the more efficient unit members perceived leadership to be "above average" than did less efficient unit members. Differences in the direction hypothesized are highly significant between

large units while small unit differences only approach a conservative level of statistical significance.

TABLE 35
PERCENTAGE DISTRIBUTION OF MEMBERS' PERCEPTIONS OF
LEADERSHIP EFFICIENCY

Leadership rating	Area			
	A	C	B	D
	Percent	Percent	Percent	Percent
Above average	63.8	42.9	52.8	30.4
Average	34.0	55.0	41.4	54.3
Below average	2.2	2.1	5.8	15.3
Total	100.0	100.0	100.0	100.0
Number of cases	47	49	70	46
	(P. less than .25) (P. less than .05)			

Data in Table 36, presenting members' perceptions of early watershed achievements, also generally substantiate the hypothesis. As indicated, highly significant differences appeared between large units and differences approaching statistical significance appeared between the smaller units. Greater proportions of more efficient unit members perceived early unit achievements as "above average", than did less efficient unit members.

TABLE 36

PERCENTAGE DISTRIBUTION OF MEMBERS' PERCEPTIONS OF EARLY
WATERSHED ACHIEVEMENTS

Early organization achievements	Area			
	A Percent	C Percent	B Percent	D Percent
Above average	57.1	36.9	48.2	16.3
Average	38.1	58.6	50.0	39.5
Below average	4.8	4.5	1.8	44.2
Total	100.0	100.0	100.0	100.0
Number of cases	42	46	54	43
	(P less than .25)		(P less than .05)	

Analyses of members' perceptions of voting patterns at unit meetings add somewhat to confirmation of the hypothesis. Data from Table 37, support the hypothesis of more favorable perceptions only as respects the larger units. As indicated, significantly greater proportions of the more efficient large unit members perceived proposals as passing with no opposition, than did those of the less efficient large unit. The distributions are markedly similar for the small units.

TABLE 37

MEMBERS' EARLY PERCEPTIONS OF VOTING PATTERNS FOR
SELECTED WATERSHED AREAS

Voting patterns	Area			
	A Percent	C Percent	B Percent	D Percent
Pass with some opposition	20.0	17.6	38.1	38.5
Pass with no opposition	80.0	82.4	61.9	11.5
Total	100.0	100.0	100.0	100.0
Number of cases	10	17	21	26
	*		(P less than .05)	

*Not significantly different at .05 level

It should be noted that the small numbers reporting perceptions of voting patterns are probably the result of sheer lack of knowledge which is understandable in view of the extremely low levels of member attendance and formal participation.

The data of members' perceptions of leader-member relations, presented in Table 38, once again reveal conflicting results. That is, significant differences between the larger units are in the direction hypothesized, as shown by the much greater proportion of members in the more efficient large unit B rating leader-member relations "above average" than was the case in the less efficient unit D.

Differences between the smaller units were contrary to expectations; however, this difference did not even approach statistical significance.

TABLE 38
PERCENTAGE DISTRIBUTION OF MEMBERS' PERCEPTIONS OF
LEADER-MEMBER RELATIONS

Leader-member relation	Area			
	A Percent	C Percent	B Percent	D Percent
Above average	43.9	47.1	45.0	23.4
Average	51.2	50.9	53.3	59.5
Below average	4.9	2.0	1.7	17.1
Total	100.0	100.0	100.0	100.0
Number of cases	41	53	60	47
	* (P less than .05)			

*Not significantly different at .05 level

Table 39, shown below, presents members' perceptions of relations among themselves. Results similar to members' perceptions of leader-member relations appear here. A significant difference was indicated between the larger units in the direction hypothesized. However, small area comparison revealed results contrary to expectations, although not at a significant level.

TABLE 39
PERCENTAGE DISTRIBUTION OF MEMBERS' PERCEPTIONS OF
MEMBER-MEMBER RELATIONS

Member-member relations	Area			
	A Percent	C Percent	B Percent	D Percent
Above average	36.8	48.1	41.9	20.9
Average	57.9	50.0	54.8	67.4
Below average	5.3	1.9	3.3	11.7
Total	100.0	100.0	100.0	100.0
Number of cases	38	54	62	43
	* (P less than .05)			

*Not significantly different at .05 level

Further perceptions of members follow a similar pattern. As respects members' perceptions of attendance and interest, shown below in Table 40, only the differences between the large units were significant in the direction hypothesized. Comparison of small units indicates, at a low level of statistical significance, results contrary to expectations.

TABLE 40

PERCENTAGE DISTRIBUTION OF MEMBERS' PERCEPTIONS OF
ATTENDANCE AND INTEREST

Attendance and interest	Area			
	A Percent	C Percent	B Percent	D Percent
Above average	42.9	44.6	54.7	23.2
Average	48.6	53.1	37.7	44.2
Below average	8.5	2.3	7.6	32.6
Total	100.0	100.0	100.0	100.0
Number of cases	35	47	53	43
	* (P less than .05)			

*Not significantly different at .05 level

Members' perceptions of agreement on plans and goals, presented in Table 41, again indicate the pattern previously shown. That is, whereas a significantly greater proportion of the more efficient large unit members rated agreement "above average" than did those of the less efficient large unit, analysis of the smaller units indicates a contradiction to the hypothesis, but at a level not even approaching statistical significance.

TABLE 41

PERCENTAGE DISTRIBUTION OF MEMBERS' PERCEPTIONS OF
AGREEMENT OF PLANS AND GOALS

Agreement on plans and goals	Area			
	A Percent	C Percent	B Percent	D Percent
Above average	35.1	35.7	40.3	17.2
Average	62.2	61.9	57.7	46.3
Below average	2.7	2.4	2.0	36.5
Total	100.0	100.0	100.0	100.0
Number of cases	37	42	52	41
	* (P less than .05)			

*Not significantly different at .05 level

Officers' Perceptions

Officers perceptions of leadership efficiency are presented in Table 42. It is significant to note the direct relations between measured unit efficiency and "above average" perceptions of leadership. In other words, as measured unit efficiency increased, the officers of the unit rated leadership performance as above average significantly more often. The hypothesis is, then, supported at this point.

TABLE 42
PERCENTAGE DISTRIBUTION OF OFFICERS' PERCEPTIONS OF
LEADERSHIP EFFICIENCY

Early leadership rating	Area			
	A Percent	B Percent	C Percent	D Percent
Above average	100.0	85.8	66.7	57.1
Average	0.0	14.2	33.3	42.9
Below average	0.0	0.0	0.0	0.0
Total	100.0	100.0	100.0	100.0

Early watershed achievements ratings by officers do not quite follow such a consistent pattern (Table 43). However, with unit size controlled, officers of the more efficient units more frequently rated early achievements "above average" than did officers of the less efficient units. These results are in the direction hypothesized.

TABLE 43

PERCENTAGE DISTRIBUTION OF OFFICERS' PERCEPTIONS OF
EARLY ORGANIZATION ACHIEVEMENTS

Achievement rating	Area			
	A Percent	B Percent	C Percent	D Percent
Above average	100.0	64.3	66.7	0.0
Average	0.0	35.7	33.3	85.8
Below average	0.0	0.0	0.0	14.2
Total	100.0	100.0	100.0	100.0

Further support in the direction of the hypothesis is shown by the data in Table 44 which present officers' perceptions of voting patterns at unit meetings. As indicated, when unit size is controlled greater proportions of the more efficient unit officers see proposals as being passed with no opposition, than did those of the less efficient units.

TABLE 44

PERCENTAGE DISTRIBUTION OF OFFICERS' PERCEPTIONS OF
VOTING PATTERNS

Voting patterns	Area			
	A Percent	B Percent	C Percent	D Percent
Pass with some opposition	0.0	40.0	22.2	75.0
Pass with no opposition	100.0	60.0	77.8	25.0
Total	100.0	100.0	100.0	100.0

Table 45, below, shows officers' perceptions of relations with members. The results are in accordance with the hypothesis. That is, when unit size is controlled, considerably greater proportions of officers of the more efficient units rate leader-member relations as "above average", than do officers of the less efficient units.

TABLE 45
PERCENTAGE DISTRIBUTION OF OFFICERS' PERCEPTIONS OF
LEADER-MEMBER RELATIONS

Leader-member relations	Area			
	A Percent	B Percent	C Percent	D Percent
Above average	100.0	64.3	66.7	57.3
Average	0.0	35.7	33.3	28.5
Below average	0.0	0.0	0.0	14.2
Total	100.0	100.0	100.0	100.0

Moreover, officers' perceptions of relations among the members are also in the direction hypothesized. These results are shown in Table 46. As the data indicate, when unit size is controlled, greater proportions of officers of the more efficient units rated member-member relations higher. However, whereas the difference between small units is at the "above average" level of ratings, between the larger units it is at the "below average" level of rating in the direction hypothesized.

TABLE 46

PERCENTAGE DISTRIBUTION OF OFFICERS' PERCEPTIONS OF
MEMBER-MEMBER RELATIONS

Member-member relations	Area			
	A Percent	B Percent	C Percent	D Percent
Above average	80.0	57.2	55.6	57.3
Average	20.0	35.7	44.4	14.2
Below average	0.0	7.1	0.0	28.5
Total	100.0	100.0	100.0	100.0

Shown below, Table 47 presents data on the officers' perceptions of the members' attendance and interest. The results are in the direction hypothesized only as regards comparison of the small units. No differences appear between the large units.

It is possible that these perceptions are primarily of the interest of members. Prior analysis has already revealed that attendance of members is, in fact, poorer in the more efficient units than it is in the less efficient units.

TABLE 47

PERCENTAGE DISTRIBUTION OF OFFICERS' PERCEPTIONS OF
MEMBERS' ATTENDANCE AND INTEREST

Attendance and interest of members	Area			
	A Percent	B Percent	C Percent	D Percent
Above average	60.0	57.1	44.1	57.1
Average	40.0	42.9	55.6	42.9
Below average	0.0	0.0	0.0	0.0
Total	100.0	100.0	100.0	100.0

Officers' perceptions of agreement on plans and goals are summarized below in Table 48. As indicated, regardless of unit size, as the unit efficiency increased a significantly greater proportion of the officers of that unit rated agreement on plans and goals as "above average". These results strongly support the hypothesis.

TABLE 48
PERCENTAGE DISTRIBUTION OF OFFICERS' PERCEPTIONS OF
AGREEMENT ON PLANS AND GOALS

Agreement on plans and goals	Area			
	A Percent	B Percent	C Percent	D Percent
Above average	80.0	71.4	66.7	42.8
Average	20.0	28.6	33.3	42.8
Below average	0.0	0.0	0.0	14.4
Total	100.0	100.0	100.0	100.0

Attitudes Of Officers and Members Toward Watershed
Organizations

Members' Attitudes

The final hypothesis stated that the more efficient units will be characterized by significantly more favorable attitudes towards watershed organization, than will the less efficient units. As the first test of the hypothesis, the range of scale scores was divided into quartiles. Then the percentages of members having mean attitude scores falling into these quartiles were computed. Results are shown in Table 49. No significant differences appear between the

more efficient and the less efficient areas. At this point, acceptance of the null hypothesis of no association is suggested.

TABLE 49
PERCENTAGE DISTRIBUTION OF MEMBERS' MEAN ATTITUDE SCORES

Mean Attitude Scores	Area	
	More efficient Percent	Less efficient Percent
Q - 1	26.0	27.1
Q - 2	25.3	20.3
Q - 3	24.6	24.8
Q - 4	23.1	27.8
Total	100.0	100.0
Number of cases	146	133
*		
*Not significantly different (P less than .90)		

However, further analyses of attitudinal data, presented in Tables 50, 51 and 52 do provide support for the hypothesis.¹⁷ Table 50 presents results indicating substantial differences in the number of extremely favorable attitude statements recorded. Significantly greater proportions of more efficient unit members checked three or more of the most favorable attitude statements than did those in the less efficient unit members.

¹⁷The twenty attitudinal statements were divided into four groups. These were (1) the "extremely favorable" which are the five questions having the lowest Thurstone scale value, (2) the "favorable" which are the next five lowest on the Thurstone scale value, (3) the "unfavorable" which are the next five questions in the Thurstone scale value, and (4) the "extremely unfavorable" which are the five questions having the highest Thurstone scale value.

TABLE 50

PERCENTAGE DISTRIBUTION OF EXTREMELY FAVORABLE
STATEMENTS CHECKED BY AREA MEMBERS

Number of extremely favorable statements	Area	
	More efficient Percent	Less efficient Percent
None	4.1	10.5
1 or 2	5.5	13.5
3 or more	90.4	76.0
Total	100.0	100.0
Number of cases	146	133

(P less than .05)

Further evidence in the direction of the hypothesis is shown in Table 51. Significantly greater proportions of the more efficient unit members recorded three or more of the 'favorable' attitude statements than did less efficient unit members.

TABLE 51

PERCENTAGE DISTRIBUTION OF 'FAVORABLE' STATEMENTS
CHECKED BY AREA MEMBERS

Number of favorable	Area	
	More efficient Percent	Less efficient Percent
None	7.5	14.3
1 or 2	17.8	28.6
3 or more	74.7	57.1
Total	100.0	100.0
Number of cases	146	133

(P less than .05)

Proportionately, no difference of any significance between units was found at the attitude level of 'unfavorable'. Less than 10 percent in all areas recorded three or more such statements.

Table 52 presents data in partial conflict with the hypothesis. A significantly greater proportion of members of the more efficient small unit A recorded one or more "extremely unfavorable" statements than did these of the less efficient small unit C. Differences between the large areas are in the direction hypothesized, but not at a significant level.

TABLE 52

PERCENTAGE DISTRIBUTION OF 'EXTREMELY UNFAVORABLE'
STATEMENTS CHECKED BY AREA MEMBERS

Number of extremely unfavorable	Area			
	A Percent	C Percent	B Percent	D Percent
None	77.1	91.1	85.6	81.9
1 or more	22.9	8.9	14.4	18.1
Total	100.0	100.0	100.0	100.0
Number of cases	70	67	76	66
	(P less than .05)			*

*Not significantly different at .05 level

In general, the data presented confirm the assertion of more favorable attitudes being expressed by members in the more efficient units than by those of the less efficient units.

Officers' Attitudes

Shown below, Table 52 presents data indicating the attitudes of area officers. In general, more "favorable" attitudes are expressed by the more efficient unit officers than by officers of the less efficient units. All area officers are relatively high as respects "extremely favorable attitude statements". Moreover, greater proportions of efficient unit officers recorded no "unfavorable" statements than did officers of less efficient units. Generally viewed, the hypothesis is supported by these results of attitudes of officers.¹⁸

TABLE 53

OFFICERS' ATTITUDES TOWARD WATERSHED ORGANIZATIONS

AREA	Attitude level			
	Percent checking 3 or more 'extremely' favorable	Percent checking 3 or more 'favorable'	Percent checking No 'unfavorable'	Percent checking No 'extremely' unfavorable
A	100.0	60.0	80.0	80.0
B	86.7	66.7	80.0	80.0
C	88.9	55.5	66.7	88.9
D	100.0	62.5	75.0	100.0

¹⁸ These results indicate the possible inadequacy of a gross attitudinal measure (mean attitude scores).

CHAPTER IV

DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

Discussion

Through the use of the comparative approach, four selected organizational units were analyzed, the results of which indicate varying differences in terms of the focal points suggested in Chapter I.

In respect to the first hypothesis, analyses show some results in the direction hypothesized, but also some results contrary to expectations. The age configurations of members of all units gave a little support to the proposition that more efficient units would characteristically include more participants whose age levels also correspond to higher participation levels, than would less efficient units. In fact, the reverse was found to be true for the officers of all units, and for the members of the larger units. It was noted that the more efficient units seemed to attract more members from the oldest age level. Perhaps they thus gained the benefits of added years of experience. However, greater proportions of members and officers had higher educational levels in the more efficient units than in the less efficient units. These greater proportions of high-level education, which we believe are associated with organizational know-how, would be expected to contribute to the greater efficiency of these units. The same was found to be true of

officers' and members' occupational levels, such that more knowledge and experience was brought into the more efficient units. Once again, then, more efficiency could be expected to be enhanced.

Conflicting results were indicated, in respect to income levels, which did not offer support to the hypothesis. Contrary results appeared in comparing the small units as regards both member and officer data. It is possible that the preponderance of extremes exhibited by the small inefficient unit could very well create organizational problems resulting from a divergence of financial interests.

Significant differences appeared in respect to members' place of residence, in the direction hypothesized. Overrepresentation of officers of a rural background was found to be characteristic of all units. However, a significantly higher proportion of members were town residents in the more efficient units than in the less efficient units. This suggests that the more efficient units are again making greater use of organization experienced people.

Perhaps the most significant result of these analyses of socio-economic variables was the demonstration that members and officers in the more efficient units had decidedly different characteristics than those in the less efficient units. In general, personnel of the more efficient units were older, better educated, townspeople, and represented a wider diversity of occupations.

Rather surprising, is the conclusive rejection of the second hypothesis. Members in all areas were apathetic as far as attendance is concerned. This was so in spite of the functional importance of watershed area development. It may be indicative of a policy of letting well enough alone in the more efficient units; but where dissatisfaction is expressed in measured inefficiency one would expect members of such units to attempt to change the situation. It seems appropriate to comment here on studies of the participation of union members. They are also known to generally be apathetic toward meetings. But, it has been found that attendance at union meetings increases sharply at critical periods such as a call for a strike vote, then drops off just as dramatically as it rose.¹ This crisis role is suggested by the attendance data of members of the watershed units.

Also highly indicative of a major structural component, all areas revealed little use of typical organizational tools to increase the involvement of substantial proportions of the general membership. The result was a high degree of formal participation closure, even at the lowest measured level of participation--committee service. Only large units seemed to make significant use of this purposeful technique, probably because of their size. Much greater involvement of

¹See for example, Joel Seidman, et al., The Worker Views His Union, (Chicago Illinois: University of Chicago Press, 1958), p. 186; Arnold Tannenbaum and Robert Kahn, Participation in Union Locals, (Evanston, Illinois: Row Peterson and Co., 1958), p. 53.

members and decentralization of the decision-making process, contributing to unit efficiency, was seen in the more efficient large unit than in the less efficient large unit.

Closure of formal participation to members of all units was further indicated by a complete lockout of members from committee chairmanships. Furthermore, few members of any unit were openly active as innovators of proposals, thus putting the pressure on leadership to act efficiently and with tact.

In light of this evidence, it is significant to find that greater proportions of officers participated more frequently in innovating activity in the more efficient units. Thus, although innovation has been defaulted to officers in all units, the more efficient units are characterized by a process which does not necessitate decision-making on the basis of only a few suggestions.

It was also asserted that dissatisfaction with organizational operations would result in greater turnover and displacement of officers in the less efficient units. This proved to be an erroneous assumption; the results only exemplified the ability of officers to maintain the formal closure previously suggested. This type of phenomenon may appear as an effort by those in power to control the activities and direction of the organization to their advantage, but no evidence has been indicated to suggest any known advantage to officers. It seems more plausible to assert

that it is indicative of the members' tacit signal for the officers to go ahead, regardless of the unit efficiency.

In view of the closure to members to participate formally in unit affairs, it seems safe to assume that informal participation would be useful for members to take up the slack, if they wished to partake in the decision-making process of the unit and to maintain morale. As was seen, members were slightly more informally active on behalf of unit proposals in the more efficient units and slightly less informally active in a negative way. Members of the two large units appeared to have incorporated negative informal activity as a counteraction device to proposals more than members of the small units. This type of extra-legal activity is much more evident in the less efficient large unit, in spite of the legal techniques at their disposal. It may have been used as a technique by which unsatisfactory conditions were resisted in the less efficient large unit.

Officers of more efficient units exhibited less negativistic activity than did less efficient unit officers. This finding seems to indicate that factionalism exists in the less efficient units. The factions, however, do not seem to confront each other directly so much as they act informally to attempt to discredit or wreck proposals. Or, this could be simply a subtle defensive mechanism by means of which to express dissatisfaction with organizational operations in general, at their own status level. No

significant differences appeared between the degree of officers' positive informal activity.

Somewhat conflicting evidence was found as respects the assertion of more open communications in the more efficient units. Members of the less efficient units perceived a more democratic and open system as far as introducing proposals was concerned. Those of the less efficient small unit also perceived the same thing for discussion of proposals. Officers, however, did not agree with their respective unit members and a more open system was perceived by the officers of the more efficient units.

Furthermore, both officers and members of the less efficient small unit perceived more extensive communication contacts between leaders and members than did those of the more efficient small unit. This result is surprising. The evidence from other studies indicates that greater interaction between those occupying positions of centrality with those occupying peripheral positions should contribute to greater efficiency. But this has not happened.

The confusion stemming from these results was, however, greatly reduced by analyses of the perceptions which the officers and members had of provision of information. Two significant results were indicated. First, the data generally supported the hypothesis. However, it was also found that the officers of all units felt they provided their members with more information than the members themselves felt. Furthermore, these differences of perception were greatest

among the officers and members of the less efficient units, suggesting a filtration process acting to decrease the efficiency with which the communication system could otherwise function. That is, officers of the less efficient units may have provided their members only with information they wished to give them, not necessarily what the members want or what may be needed to increase general efficiency. In essence, this severe filtration process acts as an obstacle to efficient communications and may, therefore, be a detriment to morale.

The seventh hypothesis was completely confirmed. In other words, both the officers and members of the more efficient units extended their watershed unit communication nets by belonging to and being active in more other area organizations than were those of the less efficient units. Since, in all units, member attendance at watershed meetings is poor, contacts between officers and members would be minimal within the context of the watershed unit. For officers and members having high levels of participation in other area organizations, some mutual memberships appear likely and these would provide these officers and members further interaction opportunities which might foster an element of cohesiveness in the watershed organizations. It seems apparent that this added opportunity for interaction would contribute to unit efficiency.

The eighth hypothesis, dealing with perceptions of action effectiveness over the life spans of the units, was also

confirmed. Both members and officers of the more efficient units rated their unit achievements better than those of the less efficient units.

These results are significant in view of the willingness of the members to default their rights of formal participation and allow the officers to manage the organizations. We would expect the members of the less efficient units, who rate their unit achievements considerably lower, to attempt to install leaders with greater efficiency expectations. There is no evidence of such attempts. Turnover rates in the more and less efficient units do not differ significantly. Also, we would expect the officers of the less efficient units, who rated their achievements lower than did efficient unit officers, to try to disperse the decision-making process over a wider range to bring new ideas and techniques into the organization. This seems to have been attempted internally in the less efficient units (as demonstrated by their higher level of leader-member contacts) but not externally (as indicated by their relatively low level of participation in other area organizations).

The ninth hypothesis was strongly supported by analyses of both member and officer perceptions of various aspects which were measured in relation to unit efficiency. As respects perceptions of leadership efficiency and early watershed achievements, both the officers and members of the more efficient units felt their's were considerably better

than in the less efficient units. In all cases the officers' ratings of these two variables were considerably higher than those of their respective memberships, except that considerably smaller proportions of unit D officers rated early achievements above average than did its members.

Voting patterns, leader-member relations, member-member relations, attendance and interest ratings, and agreement on plans and goals were perceived to be better by members of the more efficient large unit as opposed to the less efficient large unit. Differences between the smaller units were insignificant. However, officers of the more efficient units consistently perceived a more favorable climate within which operations had to be carried out than did the officers of the two less efficient units. Thus, the more efficient units operate generally within a climate conducive to more efficient organizational operations.

Cohesiveness certainly does not operate uniquely to effect efficiency, for it is also possible that a higher degree of efficiency itself produces an element of cohesiveness. However, cohesiveness is a value which prior research has indicated can contribute to effective functioning. It is desirable, therefore, to take it into consideration. Further analyses of voting patterns reveal that less opposition to proposals was indicated by members and officers of the more efficient units than by those of the less efficient units. This seems to indicate that, in spite of the somewhat favorable perceptions of interrelations in the less efficient units,

these perceptions are not enough to bring harmony to the unit. Moreover, results similar to those in respect to voting patterns were indicated to be the case in respect to perceptions of agreement on plans and goals in the large units. Small units did not, in this instance, differ appreciably. The evidence thus seems to indicate that where there are differences, cohesiveness is more characteristic of the more efficient units. This would enhance value orientations in the more efficient units, giving solid backing to the tacit approval previously described as been given to the unit officers to go ahead.

It should be noted that the tendency for unit officers to rate these additional aspects higher than did their members may be the result of one of three possible factors, or a combination of two or more. For instance, it is possible that the greater the status of an individual in a group, the more he will tend to overestimate his performance, and the greater the status of the group to which an individual belongs the greater the tendency to overestimate group performance. Or, such differences may be loosely interpreted as being due to more realistic perceptions resulting from greater proximity to the actual functioning of the organization. Or, the perceptions of officers may be unrealistically higher for the purpose of further securing and protecting this level of organizational participation.

Attitudes of both members and officers of the more efficient units differed significantly from those of the less

efficient units, in the direction hypothesized. The results indicated much greater congruence of officer and member opinion as well as greater favorableness in the more efficient units. If similar values are held in respect to a similar issue, concerted efforts to resolve the issue are more likely to occur. The potential resources can be more easily energized in the more efficient units. Moreover, the officers of the more efficient units can act with less apprehension in view of the psychological backing given to them. Certainly, the officers of the less efficient units can count less on such support.

In an overall view, the hypotheses under consideration in this study revealed the more efficient units to be characterized more by components which relate positively to greater levels of organizational efficiency. Higher presumed organizational and social skills levels (active and latent), more favorable interactions, informal activity that is kept on a positive plane, harmony and cohesiveness, and the more extensive communication system, all contribute to higher unit organizational efficiency. Are all relatively lacking in the less efficient areas used in this study.

Conclusions and Recommendations

Based upon the evidence presented within this study the following general conclusions may be drawn:

1. The more efficient units are generally characterized by a composition of members and officers whose socio-economic

characteristics presumably indicate greater levels of social skills and organizational experience. Thus, the inefficient units should attempt to attract more persons who can contribute similar skills and know-how.

2. Low attendance levels do not necessarily suggest reduced organizational efficiency. In this study, members in both the more and less efficient units were found to be apathetic. In view of the greater dissatisfaction found in the less efficient units (negative private activity), these members should take advantage of meetings to alleviate these dissatisfactions with the unit operations.

3. Formal participation levels were found to be very low in all units. The less efficient, in particular, need to invite and encourage greater involvement by decentralizing the decision-making process. A greater use of committees could serve this purpose.

4. It was found that there was little turnover of officers in all units. It would seem particularly important that the dissatisfied members of the less efficient organizations be given access to official authority. A rotation system of officers might accomplish this and, in time, bring into office persons with higher levels of motivation toward achievement.

5. The higher levels of negative informal participation in the less efficient units may be presumed to be detrimental to unit efficiency by creating factionalism. Members and

officers of these units should give attention to alternate mechanisms whereby these differences may be openly discussed and resolved.

Efficiency, at a relatively higher level, is aided by an open and extensive communication net, as was generally indicated to be the case in the more efficient units. The officers of the less efficient units should be made aware of the fact that the members of their units perceive the communication net as far less adequate than they do, and should be encouraged to develop more effective communication techniques.

7. Participants in the less efficient units were found to have significantly less contact with other associations in their areas than did participants in the more efficient units. Officers in particular, but also members, of the less efficient units can create stronger units by extending the watershed communication nets through activity in more area associations, especially if a fair degree of mutual membership and involvement could be achieved.

8. A favorable climate in terms of the purposes and goals of watershed organizations seems necessary to effect greater levels of operational efficiency. Such climates were definitely associated with the more efficient units. A higher level of interrelations and public discussion seems to be required of the less efficient units in this study to create cohesiveness and solidify values.

9. More favorable attitudes toward an organizations' values and purposes have been found to accompany greater

efficiency. The less efficient units need to concentrate on clarifying the positive values of watershed district organizations.

These conclusions also suggests that further research be carried on by sociometric analyses of members' inter-relations and of functional interaction between unit officers. Also a depth analysis of mutual involvement of members and officers in other area organizations, as well as the types of organizations, would be of significant value in revealing influence structures and organizational training, as well as the extent of communications.

APPENDIX

ATTITUDE STATEMENTS

The twenty statements, their scale values, and their coefficients of ambiguity are given below. They are in randomized order presented in the actual schedule.¹

<u>ITEM</u> <u>NO:</u>	<u>Statement</u>	<u>Value</u>	<u>Coefficient</u> <u>of Ambiguity</u>
1.	I think watershed organizationists too often do not take the minority wishes into account.	7.27	2.08
2.	Working through watershed organizations is a good way to achieve sound watershed development.	1.71	1.63
3.	Watershed organizations seem inclined to go too far in taking land out of productive use.	8.06	1.82
4.	I feel sure watershed organizations disrupt harmony and friendly teamwork in the community.	9.13	1.72
5.	I think people are generally given an opportunity to express their opinions in watershed organizations which they might not otherwise have.	2.86	1.71
6.	I don't have much of an opinion one way or another as to what watersheds do or do not contribute by way of teaching people teamwork.	5.50	0.60

¹R. E. Dakin, op. cit., pp. 41-42.

<u>ITEM NO:</u>	<u>Statement</u>	<u>Value</u>	<u>Coefficient of Ambiguity</u>
7.	Watershed organizations are much needed if people are to learn to work together in the interests of conserving America's resources.	1.11	1.32
8.	I think watershed organizations should probably exercise a little more care in limiting the amounts of land they require for conservation purposes.	6.00	2.28
9.	I think watershed organizations are indispensable and vital to proper land treatment.	0.64	0.65
10.	People can't expect justice in watershed organizations.	10.13	1.45
11.	I believe watershed organizations sometimes achieve sound plans for the development of a watershed, but sometimes they go off on the wrong track in planning.	5.33	1.21
12.	Watershed organizations don't help anyone and should be disbanded.	10.43	0.57
13.	Watershed organizations probably take only the land that is necessary for conservation.	4.40	1.96
14.	Watershed organizations usually lead to serious disputes which divide the people of a community into opposing factions and seriously weaken it.	9.24	1.61
15.	In general, people probably can achieve adequate land treatment programs through watershed organizations.	3.61	1.89

<u>ITEM NO:</u>	<u>Statement</u>	<u>Value</u>	<u>Coefficient of Ambiguity</u>
16.	I think watershed organizations too often don't give everyone a chance to have his say.	7.56	1.84
17.	Watershed organizations are probably a good thing but the need is limited.	4.79	1.85
18.	I think watershed organizations generally use about the right amounts of land for conservation purposes.	3.35	1.74
19.	Watershed organizations do a good job of selecting the land they take out of production for conservation purposes.	2.07	1.77
20.	I think watershed organizations generally hinder proper land treatment.	8.44	2.04

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ABSTRACT

OF

ORGANIZATIONAL VARIABLES IN RELATION TO EFFICIENCY:
A COMPARATIVE STUDY OF FOUR WATERSHED ORGANIZATIONS

by

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ABSTRACT

Four watershed district organizations, from a universe of twenty-one organizations which had been measured for relative unit efficiency, were selected for comparative purposes. Two were of above average measured efficiency, two were below average. On the basis of previous research, cited in numerous studies, a number of components asserted to relate to organizational efficiency were delineated for the purposes of this study. These elements, providing the major focal points for this study, were investigated in relation to efficiency.

Ten hypotheses were formulated which embraced the various points of focus to be studied in relation to efficiency. For example, socio-economic variables were analyzed to determine in what crucial respects participants in more efficient units might differ from those in less efficient units.

Formal participation levels were determined primarily through the use of data on attendance, committee service, officer turnover and discussion at meetings. Specific questions were asked to indicate the comparative levels of informal activity, and various measures were utilized to determine the extent and openness of organizational communication nets.

Data describing the perceptions of members and officers in relation to various additional efficiency and interrelations measures were compared to reveal the climates within

which the various units had to operate and to indicate comparative degrees of cohesiveness.

Finally, attitudes were measured on the basis of a twenty question battery utilizing the Thurstone technique of equal appearing intervals.

The findings sometimes supported, sometimes conflicted with, the ten hypotheses. In general, participants in the more efficient units were found to more frequently possess those objective socio-economic characteristics known to be associated with higher levels of organizational participation. In particular, the officers and members of the more efficient areas were older, better educated, townspeople, and represented a wider diversity of occupations. Presumably, they would have more organizational experience and know-how and this would contribute to the efficiency of their units.

The more significant findings, in respect to formal participation measures, were that all units were characterized by closure to members to participate in a formal fashion. No differences were found in attendance levels, and no significant proportions of members participated in committee service as members or as chairmen in any of the units. Thus, tacit approval to operate was apparently given to the unit officers by the members, suggesting a type of participation characteristic of many labor unions.

Informal participation of a positive nature was found to be more characteristic of the more efficient units in this study. In the less efficient units negative informal

activity was utilized more often as a device to counter proposals, inspite of the legal means at their disposal.

Communications were found to cover a more oxtensive range in the more efficient units, thus contributing to greater efficiency. The nets of all units had to contend with filtration of information, but the process was seen to be much more severe in the less efficient units.

A more favorable climate and possibly greater cohesive-ness was found to exist in the more efficient units.

Furthermore, the more favorable and more congruent attitudes found to exist in the more efficient units certainly lent a much more favorable psychological backing to the organization.

Prior research has indicated that certain basic organizational elements are significantly associated with levels of associational participation, morale, and cohesiveness. This research has shown that the same elements are also, in general, associated with the operational efficiency of organizations.