COOPERATIVE RATIONALITY IN CONTEMPORARY AMERICAN AGRICULTURE

Dissertation for the Degree of Ph. D.

MICHIGAN STATE UNIVERSITY

MENWOUYYELLET ASSMARE

1977

3 1293 10383 8110

LIBRARY
Michigan State
University

This is to certify that the

thesis entitled

COOPERATIVE RATIONALITY
IN CONTEMPORARY AMERICAN AGRICULTURE

presented by

MENWOUYYELLET ASSMARE

has been accepted towards fulfillment
of the requirements for

The Ph. D degree in Management

Lawrence W. Foster
Major professor

Date May 6, 1977

O-7639

ABSTRACT

COOPERATIVE RATIONALITY IN CONTEMPORARY
AMERICAN AGRICULTURE

By

Menwouyyellet Assmare

The objective of this dissertation is to prove that the cooperative form of business organization has become incompatible with the performance requirements of the tasks it has to undertake in contemporary American agriculture. The proof would involve a demonstration of: (a) the nature of the tasks that agricultural cooperatives would have to undertake in order to survive in contemporary American agriculture, and (b) the inability of agricultural cooperatives to carry out these taske effectively and efficiently without violating the constraints and contingencies that arise from the cooperative character of agricultural cooperatives.

As American agriculture continues to use an increasingly advanced technology, agricultural cooperatives find it imperative to assume an increasing number of the activities of the family farm as well as to undertake the processing of farm products and the manufacture of farm supplies. However, if these activities are to be carried out effectively and efficiently, it is necessary that the activities of the family farm become subordinated to those of the agricultural cooperatives. And such a subordination becomes more feasible as the growing complexity and capital intensity of the operation of the family farm continues to reduce the role of the farmer to that of a laborer. But such a relationship violates one of the two fundamental attributes of

the cooperative form of business organization: the subordination of the activities of the cooperative to those of its members.

On the other hand, the persistence to observe the other fundamental attribute of the cooperative form of business organization has become the basic source of the financial plight of agricultural cooperatives. The nature of the tasks that agricultural cooperatives have to undertake are such that a large amount of equity capital has to be raised. However, the commitment to observe the unity of patronage and ownership in the member restricts the source of such capital just to the family farmers who patronize agricultural cooperatives. And as the financial plight of family farmers became increasingly acute, agricultural cooperatives could not raise their required equity capital by directly soliciting their members for contributions. The only way they could raise such a capital without violating the unity of patronage and ownership in the member is by pursuing a policy of high princes and low cash patronage refund.

It is a general practice of agricultural cooperatives to raise their prices beyond what the competition permits as well as to restrict as much as possible the amount of cash patronage refund due to their patrons. Such a practice is, however, proving counter-productive. The policy of high prices and low cash patronage refund has made the opportunity cost of patronizing agricultural cooperatives so unbearable that family farmers are increasingly becoming reluctant to patronize agricultural cooperatives. It is thus a matter of time before agricultural cooperatives will have to go to the capital market to raise the equity capital they need. And when that happens, agricultural cooperatives will be indistinguishable from the corporations.

Effective and efficient performance of the tasks that agricultural cooperatives have to undertake in contemporary American agriculture requires that they operate outside the constraints and contingencies that arise from the cooperative character of the organization. However, inasmuch as these constraints and contingencies are the fundamental attributes that differentiate the cooperative from the corporation, the inability of agricultural cooperatives to operate within these constraints and contingencies makes their mode of operations indistinguishable from those of the corporations. And this means that agricultural cooperatives will have to repudiate their cooperative character in order to be equal to the tasks they have to perform in contemporary American agriculture.

COOPERATIVE RATIONALITY IN CONTEMPORARY

AMERICAN AGRICULTURE

By

Menwouyyellet Assmare

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Department of Management

1977

Dedicated to Nancy J. Gruskin whose friendship I cherish.

ACKNOWLEDGMENT

I would like to express my gratitude to Dr. Lawrence Foster, the chairman of my dissertation committee, for his encouragement, support, and advice in my endeavour to write this dissertation.

TABLE OF CONTENTS

CHAPTER Page

INTRODUCTION

The fundamental thesis of this dissertation is that the cooperative form of business organization is increasingly becoming incompatible with the performance requirements of the tasks it has to undertake in contemporary American agriculture. Such incompatibility gets its expression in this dilemma: if agricultural cooperatives are to operate within the constraints and contingencies that arise from their cooperative character, they have to accept the growing sacrifices in effectiveness and efficiency of performance that such a course of action entails; on the other hand, if they are to carry out their activities as effectively and efficiently as the competition demands, then they have to operate outside these constraints and contingencies. The task of this dissertation is, therefore, to show how the limits of the capability of agricultural cooperatives as imposed upon them by their cooperative character have been compromising the effectiveness and efficiency of their performance, and how these cooperatives are finding it increasingly imperative to operate outside such limits so that the activities they have been compelled to undertake can be carried out as effectively and efficiently as the competition demands.

The first problem that must be overcome is the identification of the limits for the capabilities of the cooperative form of business organization. Since capability limits of organizations are found in the constraints to be faced and the contingencies to be met in pursuing the technical rationality of their operations, then the limits of the capability of the cooperative form of business organization are to be found in the constraints and contingencies that arise from the cooperative character of that organization. Thus, the problem of identifying the limits for the capabilities of the cooperative form of business organization is transformed into a problem of identifying the constraints and contingencies that arise from the cooperative character of these organizations. And when technical rationality in the cooperative form of business organization is limited by such constraints and contingencies, the limit to such a potential is referred to as its cooperative rationality, a concept which the first chapter explores.

The cooperative form of business organization can be differentiated from other forms of business organization in two fundamental ways: the subordination of the activities of the cooperative to those of the patrons, and the unity of patronage and ownership in the member. The subsequent chapters of this study are devoted to examining the extent to which these essential attributes of the cooperative form of business organization are being observed in the operation of agricultural cooperatives and at what cost.

The second chapter examines the extent to which the activities that agricultural cooperatives have been compelled to undertake are subordinated to those of the patrons. The nature of the activities that the family farm can perform and those that the agricultural cooperative has to perform in contemporary American agriculture is such that the relationship between the activities of both can be more efficiently coordinated if the activities of the family farm are subordinated to those of the agricultural cooperative. As a result of such subordination, however, cooperative rationality is violated.

Chapters III and IV deal with the problem of observing the unity of patronage and ownership in the family farmer. The first of these two chapters explores the way in which the nature of the new tasks that agricultural cooperatives have been compelled to undertake has been creating a problem of raising equity capital. Agricultural cooperatives are being compelled not only to assume the managerial and financing functions of the family farm but also to undertake the processing of farm products and the manufacture of farm supplies if they are to play any meaningful role in the increasingly integrating American agriculture. And the undertaking of these tasks requires increasingly large amounts of financial outlay.

Contemporary American agricultural cooperatives are thus under an unrelenting pressure to raise larger and larger amounts of equity capital to finance the operation of the new tasks that they have been compelled to undertake. At the same time, the financial plight of family farmers is such that this required equity capital can not be raised from patron-owners. Agricultural cooperatives are thus faced with the prospect of having to raise the equity capital they require from non-patrons, a prospect which is tantamount to an annulment of the unity of patronage and ownership in the member. And inasmuch as this annulment makes the cooperative form of business organization indistinguishable from the corporation, agricultural cooperatives can not raise equity capital from non-patrons and still continue to call themselves agricultural cooperatives. The alternative they have chosen is to raise their equity capital "internally."

The fourth chapter considers the strategies that agricultural cooperatives use to raise equity capital "internally." These strategies include a policy of high prices for the goods and services the cooperatives sell and low cash patronage refund. The consequence of such policies is to increase the cost of patronizing agricultural cooperatives. And this means that the unity of patronage and ownership in the member can be maintained only at an increasingly high cost to the patron. But the growing financial plight of the farmer, particularly the young farmer, is such that he will not be able to bear the burden of such a rising cost of patronizing cooperatives. It is thus just a matter of time before agricultural cooperatives find it imperative to abandon the unity of patronage and ownership in their members and transform themselves into corporations.

CHAPTER I

COOPERATIVE RATIONALITY

Cooperative rationality as used in this dissertation is derived from what James D. Thompson calls organizational rationality. The legitimacy of this derivation is based on the conceptualization of cooperatives as a specific form of organization. Thus, because cooperatives constitute a specific form of organization, the organizational rationality that assumes a distinctive character in the cooperative form of organization can be termed cooperative rationality.

The notion of organizational rationality as used by Thompson refers to what purposive organizations must do to accomplish desired results,[1] thus justifying their survival. In the final analysis, the task of surviving requires that organizations become effective and efficient in their operations. Effectiveness (Thompson uses instrumentality instead)[2] is necessary because the organizations at issue are purposive; and efficiency (Thompson uses economic instead)[3] is necessary because organizations have a limited amount of resources at their disposal.

In order to be able to be effective and efficient in their operations, organizations strive to achieve technical rationality. And inasmuch as organizations are interdependent with their task environments for the acquisition of their inputs and for the disposal of their outputs, their pursuit of technical rationality requires that they face constraints and meet contingencies that arise from these environments. Thus, operational effectiveness and efficiency in organizations cannot be achieved by technical rationality alone, but by a more comprehensive rationality that takes environmental constraints and contingencies into consideration. It is to this comprehensive form of rationality of organizations that Thompson gives the label organizational rationality.[4] According to Thompson, therefore, organizational rationality refers to the environmental constraints to be faced and the contingencies to be met by organizations in their pursuit of technical rationality of their operations.[5]

The specific nature of the constraints to be faced and the contingencies to be met varies from one organization to another. In a cooperative form of organization, there are constraints and contingencies that arise from the cooperative nature of the organization which give organizational rationality a distinctive character that could be specified as cooperative rationality. To appreciate cooperative rationality, however, it is necessary not only to ascertain the specific constraints and contingencies that arise from the cooperative character of the organization, but also to understand how these constraints and contingencies give organizational rationality in a cooperative form of organization its peculiar feature. The first part of the rest of this chapter is thus devoted to establishing the constraints and contingencies that arise from the very concept of cooperatives; and the last part of the chapter demonstrates how these constraints and contingencies give organizational rationality its cooperative character.

The Concept of Cooperatives

Depending upon the purpose the definition is supposed to serve, a rather diverse conceptualization of cooperatives has emerged, a diversity which is so enormous that Anders Orne characterized the concept of cooperatives as a "term which like religion and philosophy defies exact definition. Almost every writer on the subject has a definition of his own."[6] In the area or agricultural cooperatives, even the different Departments of the federal government of the United States have different definitions of cooperatives. The Internal Revenue Service of the Department of the Treasury defines cooperatives in such a way that the administration of the tax laws will be facilitated. On the other hand, the Capper-Volstead Act of 1922 defined cooperatives such that they could be exempted from anti-trust laws. Each definition emphasizes certain aspects of cooperatives and omits others. And none would claim to be exhaustive. However, the sum total of the attributes identified by each definition could give a profile of what constitutes the concept of cooperative.

The Organizational Character of Cooperatives

C. R. Fay conceptualized cooperatives as a specific form of association.[7] So did the Capper-Volstead Act of 1922--the Magna Carta of Agricultural Cooperatives in the United States. In fact, the title of the Act reads: "An act to authorize association of producers of agricultural products."[8] On the other hand, other people conceptualize cooperatives as a form of organization; Joseph Knapp, for example, defined cooperatives this way.[9]

The conceptualization of cooperatives as a form of both association and organization is not difficult to reconcile since, after all, an association is a form of organization, a designation which both Webster and the Random House dictionaries make. And the conceptualization of cooperatives as a form of association suggests that the cooperative is a second derivative of the concept of organization. Thus, whether the cooperative is conceptualized as a form of organization or association, the organization character of cooperatives cannot be disputed.

The Particularity of the Cooperative Form of Organization

The categorization of cooperatives under the general concept of organization does not enable us to come to grips with the essence of cooperatives. Therefore, there is a need to differentiate the cooperative form of organization from other forms of organization. And one basis for such differentiation is to recognize the cooperative as a form of association.

The Subordinations of the Cooperative Form of Organization to its Members

According to Random House Dictionary, the word association "was first used among congregationalists for a society of a number of pastors of neighbouring churches, united for promoting the interests of religion and the harmony of churches but claiming no ecclesiastical authority." What then is critical in the essence of an association is not that it is a union of people but rather the fact that the union has no authority over its constituency. Although the meaning may have undergone some modification, the relative independence that the members of the union enjoy is the central feature of an association. What distinguishes an association from a corporation in the United States is that the latter has a charter while the former does not. Moreover, a speech by Abraham Lincoln makes this non-authoritative character of an association rather unmistakable: "If the United States be not a government proper, but an association of states in the nature of contract merely, can it, as a contract, be peaceably unmade by less than all the parties who made it?" Here, again, the high degree of independance of the members of the union of an association is obvious.

The conceptualization of a cooperative as an association is indeed consistent with its raison d'etre. According to Edwin G. Nourse, recognized as the dean of scholars on cooperatives, the cooperatives were trying

> ...to organize a naturally decentralized type of industry for the large scale operations demanded in a scientific, commercialized, and capitalistic way, while at the same time preserving the personal independence and dynamic element of individual participation and reward which seemed to be threatened under some forms of modern industrialization.[10]

Thus, one of the essential tasks of cooperatives is the preservation and not the decimation of the personal independence of its members. Frank Robotka, for example, conceptualized the cooperative as an organization that enables small units to gain some of the advantages of group action and large scale operation and "at the same time retain a maximum of independence in their individual pursuits."[11]

The law itself recognizes the high degree of independence of the members of the cooperative. The very purpose of the Capper-Volstead Act of 1922 was to exempt the cooperatives from anti-trust laws which would have made associations of independent producers illegal. In discussing the bill, Mr. Volstead pointed out that

> ...the objection made to these organizations (cooperatives) at present is that they violate the Sherman Anti-trust Act, and that is upon the theory that each farmer is a separate business entity. When he combines with his neighbor for the purpose of securing better treatment in the disposal of his crops, he is charged with a conspiracy or combination contrary to the Sherman Anti-trust Act.[12]

What the Capper-Volstead Act did was to make the cooperative a special case in terms of applying the anti-trust laws, and in spite of the fact that the cooperative was perceived to be an association of individual business entities, it was made exempt from a charge of conspiracy.

The Internal Revenue Service also recognizes the special character of the relationship of the cooperative and its members. While the corporation is taxed as an entity, the cooperative is not; it is only the members of the cooperative that are taxed. And this policy of taxation is tantamount to recognizing the cooperative to be an extension of its members. According to the Farmers Cooperative Service of the USDA, "farmers look upon their cooperatives as extensions of their own farming operations--as the marketing and purchasing departments of their own farms."[13] Such a relationship suggests that the cooperative organization is subordinate to the activities of its members. In other words, the organizational personality of the members is subordinate to their individual personality. The reverse is true in other forms of business organizations, a fact cited by Barnard and Simon[14] along with Schien[15] who emphasize the subordination of individual personality to organizational personality. Thus, the subordination of the organizational personality to the individual personality constitutes a significant differentiating characteristic of the cooperative form of business organization.

The Unity of Patronage and Ownership in the Member of the Cooperative Form of Organization

The classification of cooperatives under association does not enable us to pinpoint what cooperatives are *per se*. Hence we have to further differentiate the cooperative form of association from other forms of association. C. R. Fay made such a differentiation by suggesting that a cooperative has joint trading as its purpose,[16] while Margaret Digby pointed out that the purpose of cooperatives is to undertake commercial and financial operations.[17] In the United States cooperatives are conceptualized as a form of business organization. Thus, B. H. Pentecost,[18] along with the Internal Revenue Service,[19] defined agricultural cooperatives in this way. Yet although this business orientation of cooperatives may help us differentiate them from other forms of association, we still have to distinguish between the cooperative form and other forms of business organization.

Joseph Knapp drew such a distinction when he suggested that "the non-cooperative business is set up by an individual or a group to perform a service for some one else, of course, at a profit. The cooperative is, on the other hand, set up by a group of persons or firms to perform services for themselves."[20] In other words, the patrons and the owners of cooperatives are the same people. The unity of patronage and ownership in one person is recognized to be so fundamental a characteristic of cooperatives that it often constitutes part of the elements that define it. Thus, B. H. Pentecost claimed that the cooperative form of agricultural business organization is different from other forms of business organizations in that the former is owned and controlled by member agricultural producers,[21] while the Internal Revenue Service defined a cooperative as "a business organization formed for the purpose of providing goods or services for its patron-owners or marketing their products."[22]

The unity of patronage and ownership in one person makes the cooperative form of business organization distinct from other forms of business organization in that it involves only two distinct groups of people: the patron-owners and the employees. All the other forms of business organization involve three distinct groups of people: the owners, employees, and customers.[23] Accordingly, the unity of patronage and ownership in one person must constitute a fundamentally distinguishing characteristic of the cooperative form of business organization.

Summary

The cooperative is a form of business organization differentiated from other forms of business organization on two counts: the subordination of the organization to the patron-owners and the unity of patronage and ownership in one person. And as it will be shown, even the cooperative principles that are often used to define the concept of cooperatives are derivations from these two fundamental attributes of the cooperative form of business organization.

The Concept of Cooperatives and Cooperative Principles

The concept and principles of cooperatives are so interrelated that they are often used interchangeably. In fact, it is not unusual to see the concept of cooperative defined in terms of cooperative principles. Edwin Nourse dramatized the impact of cooperative principles on the concept of cooperatives in this manner: "the Rochdale Dogma says in essence if you require every member to buy a share of capital stock and limit the amount any member may hold, if you put a low ceiling on interest paid to purchasers and follow market prices, sell for cash and return any residual in proportion to patronage you have a cooperative."[24] Nourse's characterization of cooperative principles as the Rochdale Dogma suggests that they are not intrinsic to the concept of cooperative.

Cooperative Principles

The origin of cooperative principles is the Rochdale Pioneers. In fact, the cooperative principles adopted by the International Cooperative Alliance (ICA) in 1937 were in effect a modification of the Rochdale principles. The same principles were reaffirmed by the ICA in 1966 and still prevail today.[25] They include the following:

1. Open membership
2. Democratic control
3. Limited interest on capital
4. Distribution of surplus to members in proportion of their participation in the transaction of the society
5. Political and religious neutrality
6. Cash trading

7. Education

Inasmuch as the agricultural cooperatives in the United States are, at least indirectly, members of the ICA, they are expected to observe the cooperative principles adopted by the ICA. But adherence to these principles is not complete. Indeed, Bakken found out that most of the cooperatives in the United States select their members, thus violating the principle of open membership.[26] Nor is the principle of cash trading observed, and political and religious neutrality as well as education are not considered to be relevant enough to constitute cooperative principles in American agriculture. Instead, according to the USDA, the three distinctive principles of American cooperatives are democratic control, limited returns on capital, and operation on a cost of doing business basis.[27] And Kelsey B. Gardner confirms that these three cooperative principles have commonly been accepted in the United States,[28] though interesting to note it that there is an increasing pressure to modify them.

The changing nature of cooperative principles is not difficult to understand when one recognizes how these principles came about. Abbot noted that they evolved out of trial and error.[29] In fact, efforts to organize and operate cooperatives before 1844 resulted in failure, but the lessons that could be drawn from these failures culminated in the success of the Equitable Pioneers Cooperative Society. And the rules of organizing and operating a cooperative successfully have come to be known as the Rochdale Principles. Since then, the cooperative of the Rochdale Pioneers has been a model of organizing and operating cooperatives. In the words of Rheinhold Hezler,

> Cooperative principles always were intended to serve as guiding maxims in founding cooperatives and spreading the cooperative idea and in so doing, to influence and eliminate alternative solutions. Over and above this, these principles were and still are meant to influence, guide and keep together an organization which though decentralized in all its parts is based on an identical concept.[30]

The insistence on a strict adherence to cooperative principles has resulted in making these principles and the concept of cooperative virtually indistinguishable. In the United States, as indicated previously, democratic control and service on cost basis have often been used to define the concept of cooperatives. Thus, William Justice defined cooperative as "a business enterprise that is organized, owned and controlled democratically..."[31] And B. H. Pentecost defined agricultural cooperatives as a business organization...which operate... on a cost basis after allowing for the expenses of the operation and maintenance and any other authorized deductions for expansion and necessary reserves."[32]

Yet the difference between the concept of cooperative and cooperative principles is unmistakable. That the concept of cooperatives preceded the cooperative principles is a matter of fact.[33] After all, the cooperative principles came into being after 1844, while the concept of cooperatives was conceived in 1820s by the utopian socialists. Nevertheless, the concept of cooperative has virtually undergone no change, while cooperative principles have been substantially modified, at least in the United States. And, indeed, the fact that cooperative principles resulted from the problem of organizing and operating cooperatives in a specific place and at a specific period of time emphasizes their transient nature.

The Rationale of Cooperative Principles

Although the concept of cooperatives and cooperative principles are different, they are interrelated. Each of the three cooperative principles that are still in vogue in the organization and operation of agricultural cooperatives in the United States could be derived from the two-fold character of the concept of cooperative itself.

The principle of service at cost is derived from the fact that agricultural cooperatives are extensions of the family farm, a conceptualization which suggests that a transaction between the farm and the cooperative would have to be considered as an internal one. And to the extent that an organization cannot make profit from an internal transaction, cost as a basis of such a transaction becomes imperative. Accordingly, inasmuch as the marketing cooperative represents the marketing department and the purchasing cooperative represents the purchasing department of the family farm, the transaction between each of these cooperatives and the family farm would have to be handled on the basis of cost.

While the conceptualization of agricultural cooperatives as an extension of the family farm could make the principle of service at cost imperative, the unity of patronage and ownership in one person makes this principle operational in a cooperative form of business organization. Where patronage and ownership are not united in one person, the generation of profit from a transaction between a business organization and its patrons would be indispensable. After-all, profit is the inducement for the participation of investors in an organization.

Elaborating on the inducement contribution model of Chester Barnard, Herbert Simon identified three different forms of inducements that a business organization would have to offer in order to sustain the participation of the three different groups of people that constitute it: profit for the enterpreneur (owner), wages for employees, and attractive prices for customers.[34] Inasmuch as the cooperative form of business organization is made up of two different groups of people, two different forms of inducements would be sufficient to sustain their participation: attractive prices for patron-owners and wages for employees. Profit cannot be realized as an inducement to sustain the participation of the patron-owners in the cooperative, for profit cannot be generated in a transaction between the cooperative and its patron-owners. Accordingly, the benefits that could accrue to the patron-owners for their participation in the cooperative form of business organization can only be realized in the form of attractive prices.

The savings or net margins (as the difference between revenues and expenses is referred to in cooperatives) do not represent profits. Instead, they represent the excess in price that the cooperative charges its patrons. Such a phenomenon becomes unavoidable when one recognizes the difficulties involved in precisely ascertaining the cost of service at the time the transaction occurs between the cooperative and its members. Even when these net margins emerge, however, they are eventually distributed in the form of patronage refunds as price adjustment.

The fact that all the residuals of the economic benefits that appear in the form of savings or net margins are distrubuted to patrons as price adjustments makes it imperative that the inducement for the ownership interest of the patron-owner become fixed. For unless the return on equity capital is fixed, cooperatives cannot claim that the economic benefits they generate are distributed in the form of attractive prices to their patrons. If the return on equity capital is allowed to vary, then the benefits that would be associated with patronage would have to be relatively fixed. To ensure that the beneficiaries of improved performance of the cooperative are its patrons and not its owners the return on equity capital would have to be fixed so that the return on patronage could vary along with the changes in the level of performance of the cooperative. And, indeed, one of the cooperative principles is limited returns on equity capital.

The principle of limited return on equity capital could not have been operational if there were no unity of patronage and ownership in one person. In fact, it is unlikely that the current legal maximum of 8% return on the equity capital of agricultural cooperatives could have been of sufficient inducement to raise equity capital if the patrons were separated from the owners. In a cooperative, however, the economic benefits that an investor could realize are not limited to the 8% rate of return, but also include the price advantages he could obtain from his transaction with his cooperative. Even if the rate of return could be reduced to 0%, the expectation for price advantages could be of sufficient attraction to induce the patron-owners to contribute equity capital. The motivation for this investment is not the limited rate of return on equity capital *per se*, but rather the overall economic benefits that could accrue to the patron-owners regardless of the form in which these benefits may be realized. It is the totality of the price advantages and the limited rate of return on equity capital that serve as an inducement for the patron-owner to contribute equity capital. And such a combination of inducements could not have been realized without the unity of patronage and ownership in one person.

The principle of democratic control is derived from the fact that agricultural cooperatives should be subordinated to family farms. But the nature of this subordination is such that each farm cannot individually monitor it. Rather, since the subordination of the agricultural cooperative is not to the individual farm but to the collectivity of the family farms, such a subordination can be monitored only collectively. And democratic control serves such a purpose. The one-man one-vote rule is designed to ensure that the agricultural cooperative caters to the needs and interests of the individual family farms rather than the other way around.

If, on the other hand, the basis of control were to be the size of either equity capital contributed or the volume of business generated, then those who have more resources to contribute equity capital or to generate a greater volume of business could control the cooperative, thereby developing a capability to compel the cooperative to serve primarily their own interests at the expense of the rest of the members. Then, since the interest of those who could contribute less equity capital and generate a smaller volume of business would be subordinated to the interests of the rest of the members, there would be a general propensity on the part of the latter to withdraw their membership. Nor would the withdrawal solve the problem once for all; for each withdrawal would create a fresh situation that would precipitate another withdrawal. And as the dynamics of withdrawals would continue to operate, what was once a cooperative would eventually dissolve into a soleproprietorship form of business organization. The one-man one-vote rule is thus designed to ensure that the cooperative remain subordinated to the collective interest of the patron-owners.

The one-man one-vote rule is based on membership. Differences in the contribution of equity capital or the generation of the volume of business among the members cannot be reflected in the one-man one-vote rule. Neither the equity capital contributed nor the volume of business generated has a bearing on how much control a member has. Instead, once membership is obtained, a member automatically has as much say as any other member with respect to the affairs of the cooperative. It is only when the differences in the level of equity capital contributed and the volume of business generated among the members is rather small that ownership and patronage would have no bearing on the extent of control a member could have on the cooperative. Accordingly, the one-man one-vote rule presupposes that the size of equity capital contributed and the volume of business generated by each member is homogeneous. And such homogeneity is, in fact, the basis for the validity of the other two cooperative principles.

Indeed, the family farms that started agricultural cooperatives were relatively homogeneous with respect to the resources they could contribute and the volume of business they could generate. After all, the scale of operation of the family farms was homogeneously small--averaging 160 acreas, a scale whose disadvantages made it imperative for family farms to organize agricultural cooperatives. Accordingly, that the agricultural cooperatives were organized and patronized by homogeneously small size farms cannot be disputed. And such a situation suggests that the equity capital contributed and the volume of business generated by each member would be rather homogeneous.

The principle of service at cost, for example, cannot be expected to be operational unless there is homogeneity among the members with respect to the size of equity capital they contribute and the volume of business they generate. And to the extent that the savings or net margins are to be distributed on the basis of patronage, there is no benefit to be gained by contributing more equity capital than anybody else. As a result, there is a propensity for every member to contribute just the minimum equity capital required which results in homogeneity in the amount of equity capital contributed. But if correspondence is to occur between the benefit a member receives from and the resources he commits to the cooperative, the pattern of the volume of business generated must correspond to the pattern of equity capital contributed among the members.

The necessity for homogeneity in the size of equity capital contributed has already been shown to be the precondition for the operation of the principle of service at cost. And if there is to be correspondence between the pattern of the contribution of equity capital and the generation of the volume of business, then the volume of business generated by each of the members has to be homogeneous. For if incongruity in the pattern of contribution of equity capital and generation of volume of business were permitted, the recipients of the benefits would be different from those who supplied the resources. But benefits will correspond to the resources committed only if there is correspondence in the pattern of contribution of equity capital and the generation of the volume of business. In this case, the pattern assumes homogeneity of size both in the equity capital contributed and the volume of business generated, a precondition for the principle of service at cost to be operational.

It is also the homogeneity of the size of equity capital contributed and the volume of business generated by each member that makes the principle of limited rate of return operational. In fact, such homogeneity renders the level of rate of return on equity capital irrelevant as an incentive for its contribution. Whether the distribution of the savings or net margins is made on the basis of equity capital contributed or the volume of business generated or a combination of both, the size of benefit that a member would ultimately be able to receive should be the same. But if the rate of return on equity capital is increased, the patronage refund must be decreased by the corresponding amount so that total amount of benefits received by each member would remain the same. As a result, the restriction on the magnitude of the rate of return would have no bearing upon the decision of how much equity capital a member should contribute.

Summary

The rationality of cooperative principles can be sustained under a situation wherein the scale of operation of the members is uniformly small. Indeed, where heterogeneity prevailes in the size of equity capital contributed and the volume of business generated, none of the cooperative principles could hold. Inasmuch as changes in the degree of homogeneity of the equity capital contributed and the volume of business generated by the members of a cooperative could invalidate the application of cooperative principles, the transitory character of the cooperative principles becomes obvious. Thus, cooperative principles reflect not the essence but the <u>form</u> that the co-operative might assume when a certain degree of homogeneity of membership with respect to equity capital contribution and volume of business generation prevails. But as the degree of homogeneity of the membership changes, so does the validity of the three cooperative principles that are still in vogue. And the growing obsolescence of many of the principles of the Rochdale pioneers testifies to the transient nature of the cooperative principles; and those that are still in vogue are viable only when a certain degree of homogeneity of membership prevails.

The essence of the concept of cooperative is to be found in the subordination of the organization to and in the unity of patronage and ownership in the member. It is these two attributes and not cooperative principles that fundamentally distinguish the cooperative form from other forms of business organization. Cooperative principles, on the other hand, reflect the form that the cooperative assumes in a particular environment. Thus, it is the need for subordinating the cooperative to the collective will of its members that made the one-man one-vote rule as well as the principle of service at cost imperative. At the same time, it is the unity of ownership and patronage in the member that makes the application of the one-man one-vote rule as well as the principle of service at cost possible. And inasmuch as the limited rate of return is a corollary to the principle of service at cost, it can equally be argued that the principle of limited return on equity capital is made imperative by the need for subordinating the cooperative to the family farm while its application is made possible by the unity of ownership and patronage in the member. Thus, the cooperative principles are consistent with the dual character of the cooperative form of business organization when the environment that is specific to these principles prevails.

Cooperative Rationality

The conceptualization of the cooperative as a specific form of organization suggests that the operation of cooperatives is governed by organizational rationality. At the same time, the unique character of the cooperative form of organization makes organizational rationality in cooperatives unique. And it is this specific form of organizational rationality that is here referred to as cooperative rationality.

If Cooperative rationality is a specific form of organizational rationality, its particularity must have been primarily a result of the essential attributes of the cooperative and the specific form in which these attributes express themselves. Hence, the subordination of the cooperative organization to the activities of its members and the unity of patronage and ownership in the member define the general character of the environmental constraints the cooperative has to face and the contingencies it has to meet; and the cooperative principles make these general constraints and contingencies more concrete.

The Effect of Unity of Patronage and Ownership

The unity of patronage and ownership in one person creates constraints and contingencies that are peculiar only to the cooperative form of organization. This requirement for customers to be owners and for owners to be customers limits the domain of both the market for the disposal of outputs and the source of resources for the acquisition of inputs, respectively.

The market for the output of the cooperative form of business organization is more restricted than the sole proprietorship, partnership, and the corporation forms of business organization. None of the latter requires any qualification before a customer can buy its products. In a cooperative, however, there is such a qualification: the Internal Revenue Service will not recognize agricultural cooperatives as cooperatives if more than 50% of their volume of business is with non-member farmers or if more than 15% of their volume of business is patronized by non-farmers.[35] None of these restrictions exists for any of the other three forms of business organizations.

The problem of the market is aggravated by the fact that the patrons to whom the cooperative caters are of limited purchasing power. After all, the raison d'etre of the cooperative form of organization is to serve people of moderate means. Thus, Bedi noted that "cooperation implies an enterprise of those who are financially weak,"[36] and according to the Committee of Cooperation in India, the "theory of cooperation is...that an isolated and powerless individual can, by association with others...obtain the material advantages available to wealthy or powerful persons."[37] The result is that the potential volume of business in a cooperative is rather limited compared to that for other forms of business organizations.

The market that the patron-owners of the cooperative can muster is not of sufficient magnitude to justify the use of advanced technologies because the output of such technologies is too large for the restricted market of the cooperative to handle. Accordingly, the cooperative has to either limit the kind of technology it uses or find additional outlets for the large outputs of the advanced technologies it can use. It is not surprising, then, that cooperatives in general have a propensity to expand the domain of their markets beyond that which is determined by the unity of patronage and ownership, although the extent of this expansion is limited by law. As a result, the use of even a relatively advanced technology makes the cooperative very much dependent upon its patron-owners. And this dependence, as certified by the increasing call of the cooperative on its patron owners to be loyal, is exacerbated by the attempt of the competing business organizations to win over the cooperative's patrons to their side.

Such a high degree of dependence on the patron-owners means that the patrons of the cooperative have a greater influence in the behaviour of the organization than do their counterparts in the other forms of business organization. Unlike the patrons of these latter organizations, the patrons of the cooperative can successfully insist that the organization adjust to their requirements instead of the other way around. Accordingly, the cooperative's patrons become a source of a more serious contingency than their counterparts in other forms of business organization. And because of this, cooperatives make every effort to win the loyalty of their patrons. In fact, patronage refund is often used as an instrument for increasing and maintaining the loyalty of the patrons.

The unity of patronage and ownership also becomes a constraint in the acquisition of inputs by the cooperative. Unlike the corporation, the cooperative has no access to organized capital markets. Rather, in agricultural cooperatives the source of equity capital is limited to farmers. In fact, the courts have declared that "substantially all the voting stock of an association must be owned by producers who market their products or purchase their supplies through the association."[38] And the Internal Revenue Service has indicated that "the association will be required to show that the ownership of its capital stock has been restricted as far as possible to actual producers who market their products through the association."[39] The requirement that stock holders be limited to agricultural producers thus denies the cooperative the option of raising equity capital from other sources. The problem acquires additional acuteness when we recognize that the producers are not a reliable source of equity capital.

Unlike the owners of soleproprietorship and partnership forms of business organization, the financial standing of the owners of the cooperative is relatively weak. And this weakness, as already pointed out, inheres in the concept of cooperative itself. Digby pointed out that cooperatives enable their members "to carry through commercial and financial operation which none of them would have the knowledge or the funds or the standing to undertake alone,"[40] while according to J. D. Black, "the main object of cooperative is to secure the advantages that accompany an increase in strength through combination of effort."[41] If the financial weakness of the owners is admitted, the cooperative cannot rely on them as a source of equity capital.

Because of the financial problem that the patron-owner himself faces, his investment in the cooperative is often nominal. In fact, the par value of the common stock of the cooperative is often limited to $10.00 and in many cases to $1.00. And inasmuch as ownership of common stock cannot be used to exercise control over the cooperative and to the extent that the maximum rate of return on equity capital is restricted by law to 8%, there is no motivation to own more than one share of common stock. Indeed, in many cases the article of incorporation limits the number of shares of common stock one can hold to one.[42]

The large capital outlays that advanced technology requires cannot be expected to be met by the equity capital that cooperatives can raise. Accordingly, the cooperative has to either limit the kind of technology it uses or find other methods of financing the advanced technologies. Debt financing serves such a purpose. However, debt financing creates new problems for the cooperative.

Because the equity capital of cooperatives is rather low, the magnitude of debt capital that can be raised is correspondingly low, too. After all, the cooperative has to maintain a certain level of debt to equity ratio in order to convince its creditors that their investment is not in jeopardy. Thus, if the cooperative is to raise debt capital beyond the level that the creditors perceive as safe, then either the cost of the debt rises, or the cooperative has to make concessions to the creditors so that they have more control over the cooperative, or both. Since every major decision to be made by the cooperative has to be compatible with the interests of its creditors, the heavy reliance on debt financing presents an increasing constraint and contingency to the decision making process in the cooperative.

Nor does the financial situation permit the employment of talented individuals capable of managing these stifling constraints and contingencies. The financial plight of cooperatives is of such a nature that cooperatives cannot afford to attract competent individuals. Even when the money is available, the board of directors, whose members are themselves patron-owners, find the salary that competent executives ask for too exorbitant. As a result, the board often opts to employ a less expensive and hence often less competent executive.

The Effect of the Subordination of the Organization to the Activities of the Patron-Owners

The subordination of the cooperative organization to the activities of its patron-owners creates contingencies that are not prevalent in other forms of business organizations. Because the cooperative is an extension of its patrons, it has to adjust constantly to their activities. And in spite of the doctrine that the consumer is king, neither the soleproprietorship, nor the partnership, nor the corporation forms of business organizations have to make similar levels of adjustments to their patrons. John Kenneth Galbraith has argued rather persuasively that the consumer is very much subordinated to the interests of the corporation rather than the other way around.[43]

The principle of service at cost is a derivative of the subordination of the cooperative organization to the activities of its patron-owners. If the principle is to be applied strictly, the cooperative will be left with no savings or net margins at the end of each fiscal period. The patronage refund itself is supposed to constitute a restoration of service at cost.[44] At least in theory, therefore, the cooperative is supposed to be financially barren at the beginning of each fiscal year. In practice, however, some of the savings are retained and the cooperative is never rendered financially barren. In fact, it is a standard practice to retain some of the margins for purposes of expansion and necessary reserves.[45] As to how much of the net margins should be retained is a decision made at the discretion of the decision makers.

The decision regarding the amount of net margins to be turned over to the patrons involves a conflict of interest between the cooperative as an entity and its patrons. The latter would like to see as much of the net margins as possible turned over to it, while the former would like to see as much of the net margins as possible retained in the organization. And the financial plight of both the cooperative and the patrons makes the problem particularly acute. The problem is supposed to be resolved, at least in theory, in favour of the interest of the patrons. However, unless the cooperative is adequately financed, its viability in the future will be endangered. Thus, the subordination of the cooperative organization to the activities of its patrons does not eliminate the need for balancing the short-term and long-term interests of the patrons. The short-term interests dictate to turn over the net margins to the patrons, and the long-term interests dictate to retain the net margin in the cooperative.

In its effort to accommodate the long-term interests of the patrons, the cooperative would have to pursue a price policy capable of generating adequate net margins along with a policy of patronage refund that would result in retaining a substantial portion of the net margins. But such policies disenchant the patrons. And when this disenchantment is exploited by the competing forms of business organizations which temporarily offer more attractive prices, the cooperative faces a problem of retaining the loyalty of its existing members. Thus, the policy of generating and retaining net margins is often pervaded with the possibility of losing patrons.

To ensure the loyalty of the patrons from being undermined, cooperatives make them sign marketing contracts. But these contracts create a problem of enforcement since the patrons who sign the contract are the owners of the cooperative, and it is unfeasible and impractical to bring suit against members who fail to live up to their contracts. Thus, an attempt to generate and retain net margins is full of uncertainties. And when the limited domain of the cooperative's patrons is recognized, the effect of these uncertainties becomes increasingly crucial. No wonder, then, that the balancing of the short-term and long-term interests of the cooperative's patrons is a vexing problem.

It is the board of directors that is called upon to balance the short-term and long-term interests of the patrons of the cooperative. However, the genreal composition of the board is such that it lacks the necessary knowledge and insight to arrive at an appropriate balance. The unrelenting emphasis on democratic control does not, unlike the corporation, permit knowledgeable non-patron-owners to become members of the board. And because all the members of the board are elected from the patron-owners, their collective capability to make decisions of this nature is questionable. After all, one of the reasons that compelled producers to undertake cooperatives in the first place is their limited knowledge about handling the growing complication of business.[46]

Frustrated by a "catch 22" dilemma, the board attempts to mitigate the problem by increasing the net margins which often involves the formulation of price policies and expenditure patterns. In the process, the cooperative's board of directors increasingly assumes more managerial functions than its counterpart in the corporation form of business organization. And the problem of the increased managerial role of the board is not limited to the questionable managerial competence of its members but also extends to democratic decision making in business organizations. These decisions are often compromises and are generally made rather belatedly.

Decisions arrived at democratically do not often reflect what is technically correct from the standpoint of the organization. Rather they represent compromises of the individual interests of the decision makers. And the more heterogeneous the interests of the members are, the greater the possibility that the decision arrived at is a compromise. To the extent that the cooperative organization is subordinate to the interests of its members, then, the democratically arrived at solution is likely to reflect a consensus of the interests of its members rather than those of the organization. And the fierce adherence to the one-man one-vote rule ensures that democratic control will not be circumvented.

Another problem associated with democratically arrived at decisions is the time they take: the process of arriving at a concensus is often time consuming. If many of the urgent decisions have to be subjected to the delays that inhere in democratic decision making, coordination is likely to be more difficult in cooperatives than in other forms of business organizations. Indeed, the increasing managerial role of the board makes it more difficult to achieve technical rationality in cooperatives than in other forms of business organizations.

Summary

The two-fold character of the concept of the cooperative as well as the cooperative principles that can be derived from this concept create constraints and contingencies that are specific to this form of business organization. First, as a result of the unity of patronage and ownership in one person, there is a serious constraint and contingency on the acquisition of inputs and on the disposal of outputs. And inasmuch as inputs and outputs have a bearing upon the kind of technologies that the cooperative can choose from, they limit the technological options that cooperatives can utilize. An attempt to expand technological options thus necessitates an increased pressure for debt financing and the loyalty of the patron-owners. Yet not only is it difficult to rely on debt financing and the loyalty of the patron-owners indefinitely, but each of these strategies also creates new constraints and contingencies for the cooperative. Thus, technical rationality in cooperatives is to be achieved under more restrictive constraints and more difficult contingencies than would be the case in the other forms of business organizations, particularly the corporation. And the difficulty of attracting a competent executive to manage these constraints and contingencies only makes the problem worse.

The subordination of the activities of the cooperative to those of the patron-owners is a second constraint peculiar to the cooperative form of business organization. Unlike other forms of business organization, the cooperative has to adjust rather meticulously to the requirements of the activities of its patrons. The principle of service at cost reflects such a relationship between the cooperative and its patrons. In practice, however, services are not rendered at cost--the price that cooperatives charge includes markups that may have to be turned over to the patrons at a latter stage. And the magnitude of the markup and the refund is to be determined by the board of directors of the cooperative, whose decisions, since they are elected democratically, are supposed to be in the interest of the patrons. Since there are short-term and long-term interests of the patron-owners, the decision of the board in the final analysis is one of balance. Whether the board has the competence to undertake such a task is questionable.

If agricultural cooperatives are to operate on the basis of cooperative rationality, they should be expected to achieve technical rationality without violating the fundamental attributes of the concept of the cooperative form of business organization as well as the cooperative principles that can be derived from these attributes. The extent to which agricultural cooperatives can achieve technical rationality that will justify their continued operation in contemporary

American agriculture while at the same time remaining faithful to the concept of cooperatives and cooperative principles is the issue we intend to explore in subsequent chapters. In the next chapter we will examine the extent to which contemporary American agricultural Cooperatives can remain subordinate to their patron-owners.

FOOTNOTES

[1]James D. Thompson. Organizations in Action. New York: McGraw-Hill Book Company, 1967, p. 19.

[2]Ibid., 14.

[3]Ibid.

[4]Ibid., p. 19.

[5]Ibid., p. 24.

[6]Anders Emanuel Orne. Cooperative Ideals and Problems. Manchester, England: The Cooperative Union Ltd., 1937, p. 1.

[7]C. R. Fay. Cooperatives at Home and Abroad. London: P. S. King & Son, 1937, p. 8.

[8]Sec. 1 7 U.S.C. Sec. 291.

[9]Joseph G. Knapp. Farmers in Business. Washington, D. C.: American Institute of Cooperation, 1963, p. 4.

[10]Edwin G. Nourse. "The Economic Principles of Cooperation in Agricultural Cooperation," in Martin A. Abrahamsen and C. L. Scroggs (eds.), Agricultural Cooperation. Minneapolis: University of Minnesota Press, 1957, p. 183.

[11]Frank Robotka. "A Theory of Cooperation in Agricultural Cooperation," in Martin A. Abrahamsen and C. L. Scroggs (eds.), Agricultural Cooperation. Minneapolis: University of Minnesota Press, 1957, p. 106.

[12]U. S. Department of Agriculture. Legal Phases of Farmer Cooperatives, Information 100. Farmer Cooperative Service, U. S. Department of Agriculture, 1976, p. 295.

[13]Ibid., p. 356.

[14]Herbert A. Simon. Administrative Behavior. New York: Macmillan Publishing Co., Inc., 1957, pp. 16-17.

[15]Edgar Schein. Organizational Psychology. Englewood Cliffs, New Jersey: Prentice Hall, 1970, p. 9.

[16]C. R. Fay. Op. cit., p. 38.

[17]Margaret Digby. The World Cooperative Movement. London: Hutchinson University Library, 1963, p. 9.

[18]B. H. Pentecost. "Legal Aspects of Cooperatives Reviewed," American Cooperation, 1973-74, p. 263.

[19]U. S. Department of Agriculture. Op. cit., p. 427.

[20]Joseph Knapp. Op. cit., p. 18.

[21]B. H. Pentecost. Op. cit., p. 263.

[22]U. S. Department of Agriculture. Op. cit., p. 427.

[23]Herbert Simon. Op. cit., p. 16.

[24]Edwin G. Nourse. "From Dogma to Science in Cooperative Thinking," in Martin A. Abrahamsen and C. L. Scroggs (eds.), Agricultural Cooperation. Minneapolis: University of Minnesota Press, 1957, p. 111.

[25]International Cooperative Alliance. "Resolution Adopted by the ICA 23rd Congress," Review of International Cooperation, November 1966, p. 284.

[26]Henry H. Bakken. Basic Concepts, Principles and Practices of Cooperation. Madison, Wisconsin: Mimir Publishers Inc., 1963, p. 40.

[27]Irwin W. Rust. Cooperatives in Agribusiness. Farmer Cooperative Service, U. S. Department of Agriculture, 1968, p. 10.

[28]Kelsey B. Gardner. "Matching Cooperative Principles with Today's Operating Practices." American Cooperation, 1971, p. 160.

[29]Fred Abbot. "Cooperative Efficiency and the Principles," in Cooperative Principles in the Modern World. Cooperative College Papers. Laughborough, England: The Education Department, Cooperative Union Ltd., 1967, p. 9.

[30]Rheinhold Henzler. "Are the Cooperative Principles Still Valid," in Cooperative Principles in the Modern World. Cooperative College Papers. Laughborough, England: The Education Department, Cooperative Union Ltd., 1967, p. 41.

[31]William F. Justice. "Cooperatives are Unique: Keep them that way." News for Farmer Cooperatives, Farmer Cooperative Service, U. S. Department of Agriculture, December, 1975, p. 2.

[32]B. H. Pentecost. Op. cit., p. 264.

[33]C. R. Fay. Op. cit., pp. 9-10.

[34]Herbert Simon. Op. cit., p. 16.

[35]U. S. Department of Agriculture. Op. cit., p. 361.

[36]R. D. Bedi. Theory, History and Practice of Cooperation. Meerut, India: Loyal Book Depot, 1969, p. 4.

[37]K. R. Kulkarni. Theory and Practice of Cooperation in India and Abroad, Vol. 2, Part 1. Bombay: Cooperators' Book Depot, 1959, p. 6.

[38]U. S. Department of Agriculture. Op. cit., p. 400.

[39]Ibid., p. 401.

[40]Margaret Digby. Op. cit., p. 9.

[41]John D. Black. Research in Agricultural Cooperation. New York: Social Science Research Council, 1933, p. 4.

[42]U. S. Department of Agriculture. Cooperatives: Distinctive Business Corporations. Information 66, Farmer Cooperative Service, U. S. Department of Agriculture, 1970, p. 16.

[43]John Kenneth Galbraith. The New Industrial State. Boston: Haughton Mifflin Company, 1967, p. 211.

[44]Edwin G. Nourse. The Legal Status of Agricultural Cooperation. New York: Macmillan Company, 1928, p. 117.

[45]B. H. Pentecost. Op. cit., p. 263.

[46]Louis P. F. Smith. The Evolution of Agricultural Cooperation. Oxford: B. Blackwell, 1961, p. 26.

CHAPTER II

COOPERATIVE RATIONALITY AND THE FAMILY FARM

One of the two fundamental attributes of the cooperative form of business organization is the subordination of its activities to those of its patrons. And if cooperatives are to operate on the basis of cooperative rationality, it is incumbent upon them to observe this relationship. In agricultural cooperatives, then, cooperative rationality requires that the activities of the cooperative become subordinated to those of the family farm, a subordination that inheres in the very concept of agricultural cooperatives which locates their raison d'etre in the preservation of the family farm.[1] Indeed, the choice of the cooperative form of business organization over the corporation is based on the fact that the former is consistent with the concept of the family farm.[2] And the fact that agricultural cooperatives are conceptualized as an extension of the family farm underscores the subordinate relationship of the former to the latter. Nevertheless, important to note here is that the roles that agricultural cooperatives and the family farm have assumed in contemporary American agriculture are such that they can be performed effectively and efficiently only if the activities of the family farm become subordinated to those of agricultural cooperatives.

As American agriculture continues to adopt an increasingly advanced technology, the competence of the family farmer to undertake farm operations is becoming more and more restricted. And inasmuch as agricultural cooperatives are extensions of the family farm, they find it imperative to take over those activities that can not be performed by the family farm. As this transfer of activities from the farm to the cooperative continues, the role of both changes qualitatively: instead of being the center of farm activity, the role of the family farm is virtually reduced to that of a laborer; and instead of being a mere extension of the family farm, the agricultural cooperative increasingly becomes the center of farm activity. Such a change in roles makes it imperative that the activities of the family farm become subordinated to those of the agricultural cooperative.

The task of this chapter is to demonstrate how the changes in the roles of the family farm and the agricultural cooperative have brought about an alteration in the nature of the relationship between the two, thereby resulting in a negation of cooperative rationality. However, to attribute the change in the nature of this realtionship to an alteration in the role of each is not enough; rather the imperatives for the change in roles of both should also be explained. Thus, the first part of the remainder of this chapter is devoted to an examination of how the changes in the roles of the family farm and the agricultural cooperative are brought about.

Because agricultural cooperatives are conceived as an extension of the family farm, any change in their role is induced by a change in the role of the family farm. Thus, it is necessary to first show how the role of the family farm has changed. And the change in the role of the family farm cannot be appreciated unless the role of the farm in contemporary American agriculture can be compared to its role when the cooperative form of business organization was introduced into American agriculture. Preceding such a comparison will be a discussion of the family farm concept itself since, after all, agricultural cooperatives were introduced into American agriculture to preserve the family farm.

The Concept of the Family Farm

The concept of the family farm in the United States is as old as the Republic itself in that its origin can be traced to Jeffersonian democracy, a democracy which was based on ownership of property. In fact, ever since the Republic was created, it has been the consistent policy of the United States to widely diffuse the ownership of land,[3] a policy based on the idea of distributing land of sufficient size, usually 160 acres, to each farmer such that a household using its labor could produce an income that would provide a comfortably living for a family.[4] In conceptualizing the family farm, however, different people have emphasized different aspects.

The family farm is often defined in terms of either labor, or decision making, or ownership of the means of production, or a combination thereof. Thus, Leroy Quance and Luther Tweenten defined the family farm as a unit where the family provides at least half of the labor,[5] while Don Paarlberg included decision making by the farmer as an essential attribute of the concept of the family farm when he defined the family farm as "one on which the majority of the labor and decision making are supplied by the farmer and his family."[6]

For Dale Hathaway, however, the private ownership of the productive resources constitutes an integral part of the concept of the family farm which he conceptualized as "a type of agricultural organization marked by private ownership of the productive resources, with ownership, management and labor functions carried out by a single family."[7]

The conceptualization of the family farm in terms of the supply of labor is not helpful for our analysis. Thus, although the family farmer has historically been providing a substantial portion of the labor required in the operation of his farm, the association of the raison d'etre of agricultural cooperatives with the family farm can not possibly mean the preservation of the family farmer as a laborer. Indeed, even the corporation would permit the family farmer to continue playing the role of a laborer. What role the corporation would not permit the family farmer to play, however, is the one he used to play with respect to the ownership of and decision making in the family farm. Accordingly, the association of the cooperative form of business organization with the preservation of the family farm can only be related to the risk taking and the managerial role of the family farm. And this latter conception is consistent with the historical and legal concept of the family farm.

Emphasizing the role of decision making by the family farm, Don Paarlberg had this to say:

> ...we chose to be a nation of predominantly family sized farms with decision making responsibility in the hands of the man who tilled the land. This issue was written into law through a series of governmental actions: The ordinance of 1787, the Homestead Act, the Reclamation Act, and many others.[8]

According to this concept of the family farm, the benefits that accrue to the farmer are primarily associated with risk taking in decision making. As Marshal Harris noted, the farmer "assumes all of the risks and losses, and reaps all of the gains of the entire farm business."[9] Indeed, such a concpet of the family farm is consistent with its legal definition.

According to the Internal Revenue Service, "a person is a producer if, as owner or tenant, he bears the risks of production, cultivates, operates, or manages a farm for gain or profit--in short if he is engaged in the trade or business of farming."[10] The Justice Department underscores this same point with regards to risk taking on the family farm. For example, a press release by the US Department of Justice noted that

> ...the requirement that the membership of a cooperative must be farmers suggests that members who use contract growers may cause a cooperative to lose its exempt status. Under certain contract growing arrangements the company does not have an investment in land, buildings and equipment and does not have the risk of loss of this investment. Under these circumstances the company may not be considered a "farmer" and would not be entitled to anti-trust exemption.[11]

Nor is the assumption of any risk sufficient to qualify as a farmer. Thus the Internal Revenue Service pointed out that

> ...if a person acquires a growing crop, a sufficient period of time must elapse between the purchase and harvest to evidence the taking of risks and responsibilities of the owner of growing crops as opposed to taking only the risks of market value at time of harvest. Only then is he considered a producer by the Service.[12]

This emphasis on risk taking and decision making as essential attributes of the concept of the family farm sets the farmer apart from the agricultural laborer. The litmus test of the farmer in contradistinction to the laborer is the nature of the income of the farmer and the laborer. While the income of the laborer represents the sale of his labor, the income of the family farmer primarily represents compensation for the risk he assumes in making production and marketing decisions. As the decision making power of the farmer as well as the risk he can assume declines, however, that portion of his income representing compensation for the risk of decision making also declines while the portion representing the sale of his labor rises in significance. And if the trend persists, the farmer will find his primary source of income to be the sale of his labor.

The Changing Role of the Family Farm

Inherent in the concept of the family farm is that the farmer become both its owner and manager. And such a role presupposes that the investment and operational requirements of the farm are within the bounds of the capability of the farmer. In this section we will show how these requirements of contemporary American farms are outgrowing the family farmer's capability. And the attempt to meet these requirements is slowly but surely changing the role of the family farmer to that of a laborer.

The Change in the Investment Function of the Family Farmer

One of the most significant changes that has been taking place in agriculture is the growing significance of capital as a means of production. According to Ball and Heady, capital inputs constituted only 15% of the total inputs in 1910; today, however, capital inputs account for more than 85% of the total inputs of agricultural production.[13] That the significance of capital as a means of production is expected to grow is affirmed by the National Advisory Commission on Food and Fiber which has estimated that by 1980 the total average capital inputs may increase by 94% over that of 1964.[14]

In contemporary American agriculture, the production of any agricultural commodity involves a great deal of investiment. In fact, Don Paarlberg has estimated that "a modern farm big enough to supply an income equivalent to what can be earned in town might involve an investment of a quarter of a million dollars or more."[15] And Knuston concluded that "as new technology is injected into agriculture, the scale of our farm operations has increased to the point where minimum capital requirements today are in the hundreds of thousands of dollars and could easily approach a million dollars within a few years."[16] As long as the pressure for improved technology continues, the capital requirements of farm units will increase. Afere all, the substitution of capital for labor or land or both is inherent in the introduction of new technologies.[17]

The pressure for new technology and thus for more capital continues unabated. Godwin and Jones concluded that

> ...the outpouring of new technology from public and private research and development sources may be expected to continue at an unprecedented rate.... Continuous pressure is thus exerted in the direction of even higher productivity associated with complex, large scale and highly capitalized production units.[18]

The continued heavy captialization of contemporary American farms has been creating a financial problem for the farmer. When the inputs that the farmer had to purchase were not substantial, he could finance these purchases from his savings. As the farmer continued to purchase mechanical, chemical and biological technologies in increasing proportions, however, he found it increasingly difficult to raise the necessary funds internally. Therefore, the capital requirements of the optimum size of the average farm have grown beyond the wealth that an average American--not to mention an average farmer--can presently expect to accumulate over his life time.[19] W. Burt Sundquist noted that the establishment of most commercial farms requires financial resources in amounts unlikely to be acquired through individual savings.[20] And the experience of the young farmers bears out this conclusion. In fact, a survey of young farmers in 1975 by Walter Jacoby and Gene Ingalsbe showed that one of the critical problems that they are facing is the difficulty of obtaining "more credit over a longer period of time and at lower interest rates."[21] According to Olin B. Quin, the financial problem of the farm is such that "the farmer is first concerned about the supply of funds and only secondly is he concerned about price (interest rate)."[22]

Continued financial pressure on the farm units makes it imperative for the farmer to raise either debt capital or equity capital or a combination of both. An attempt to raise equity capital would inevitably lead to the use of a different form of business organization. Instead of being a sole proprietorship form of business organization, the family farm would have to adopt a partnership or a corporation form of business organization. Even then, a partnership would prove to be only a short term solution: the growing capital requirements of farm units will soon render this form of business organization rather inadequate. The long-term solution along this line is obviously a corporate form of business organization, a solution which is being actively entertained by many experts. Thus, John R. Brake concluded that "the trends and experiences of the past suggest a number of implications for capitalizing future farms. Tenure forms are likely to change in the direction of more farm partnership and corporations in an attempt to acquire and hold needed equity capital in agriculture."[23] Ball and Heady concurred[24] with Brake's conclusion.

This change in the form of business organization from sole-proprietorship to corporation qualitatively alters the concept of family farm for once a corporate form of business organization is adopted, the owners and operators need not be the same people. Yet the unity of ownership and management in one person is a decisive attribute in the concept of the family farm. Accordingly, solving financial problems by changing the form of business organization negates the very concept of the family farm. Instead the solution must be sought elsewhere if the integrity of the family farm is to be maintained. Debt financing is the alternative.

Farmers have generally opted for debt financing to resolve the financial problems that the use of an increasingly advanced technology has been creating. As a result, not only has debt financing been growing at a fast rate, but also the demand for credit has grown to such a level that the traditional sources of credit have proved to be inadequate.[25] A survey of young farmers by Jacoby and Ingalsbe showed their dissatisfaction with the existing arrangement. They reported that "somehow, they (the young farmers) hope a lending institution can develop programs that recognize the increased credit needs of younger farmers during the growth period of their farm operation."[25]

But even if new lending institutions could be established, they cannot be expected to be a solution to the financial problem of the farmers because debts cannot be raised indefinitely without a corresponding increase in equity capital. A creditor must percieve that loans are adequately protected by equity capital before he is willing to extend farm loans. Prior to financial institutions being willing to extend credit, they make sure that the debt equity ratio is adequate. And if debt capital continues to rise at a faster rate than equity capital, the debt to equity ratio will grow to such a level that it will no longer be possible to obtain loans without a further increase in equity capital. Inasmuch as the farmer cannot be expected to raise the necessary equity capital, his capacity to borrow will accordingly be limited. Thus, debt financing cannot be expected to be a long run solution to the financial plight of the farmer.

Nor should the farmer hope that financial institutions will come to his aid. Insurance companies, for example, reduced their farm mortgage loans by 50% between 1965 and 1970,[26] a decline which acquires a special significance when one recognizes that farm loans have not been historically significant. A survey of financial institutions showed that a significant percentage perceive farm loans to be very risky.[27] And if financial institutions contemplate making farm loans in spite of the growing risks associated with contemporary farms, either they have to find ways of reducing the risks to an acceptable level or the interest rates have to be raised to such a level as to accomodate the rising cost of risk.

Interest rates can not be raised without any restriction; the usury laws prohibit such a course of action. These laws, which are designed to protect borrowers from exorbitant interest rates, have, according to Roby Sloan, "tended to exclude certain types of loans and classes of borrowers from obtaining credit as market interest rates rose above interest ceilings."[29] Accordingly, the rising risks associated with farm loans cannot be solved by raising the interest rate. If the banks have to extend farm loans in spite of the usury laws, then they may have to reduce the risk factor by helping the farmer to improve the management of his farm.

The growing complexity of agricultural production is increasingly raising the managerial requirements of farms. And since conventional lenders are primarily oriented towards the activities of industrial enterprises, they lack the necessary expertise to evaluate agricultural production. As Godwin and Jones pointed out:

> ...individual operations (of farms) often become so complex that conventional lenders lack the expertise to evaluate loan applications or to adequately service loans after they are made. A consequence of this development is that lenders are increasingly requiring advance assurance of markets and profitable outcome before loans are made. Contracts and forward pricing techniques are being used to provide this assurance.[30]

The Change in the Managerial Function of the Family Farm

The continued introduction of advanced agricultural technology into the family farm has been creating a managerial challenge that it can not meet. Knuston pointed out that the capital requirements and the complexity of production of contemporary American farms have made it imperative that the managerial capability of family farms be upgraded.[31] Then the question becomes whether the family farm has the potential of upgrading its managerial competence.

The technology of farm production has been growing increasingly complex. Ball and Heady have described the general nature of the problem in this manner:

> Increasingly, farm production requires the use of a complex bundle of capital items. These are most profitable if programmed together in economically efficient combinations rather than used separately as individual items. The productivity of an insecticide, plant growth hormone, or other input will be much less if it is used with inappropriate plant populations, fertilizer levels, crop varieties. Hence, there is a need to see that the farmer uses a correct bundle of other inputs along with particular ones being retailed by an industrial farm.[32]

The family farm does not have the capability of ensuring that the correct bundle of agricultural inputs is being used: it does not have the knowledge to carry out such a task. Dale C. Dahl, for example, found out that large dairy producers generally lacked technical as well as market knowledge in buying feed.[33] And Muller reported that farmers lacked the technical capability that is required of operating modern farms.[34]

The knowledge required to run a modern farm is too much for one person to possess. Indeed, according to Dale Anderson, the technical and economic complexity of operating a modern farm is growing so much that it is becoming almost impossible for one man to function as a manager.[35] Knuston has pointed out that agriculture is increasingly becoming an activity of specialists.[36] And in a case study of the Mechanical Tomato Harvester, Wayne Rassmussen concluded that the "success of recent advances in farming has been the result of the combined efforts of the engineers, plant breeders and agronomists."[37]

The pressure for upgrading the managerial competence of the family farm has been made more acute by the rising cost associated with managerial incompetence. Lee Kolmer pointed out that "the capital cost and managerial requirements for using today's technology is such that an error in evaluation can result in the destruction of the farm.[38] And according to Gordon Leith, "a farm investment in crop and livestock production is so high that he (the farmer) cannot afford mistakes."[39]

If the production technology of the family farm is such that the farmer does not have the knowledge to manage it and if the risk of mismanagement is growing increasingly disasterous, then there is an objective necessity for the family farmer to surrender his managerial functions. And the farmer himself has recognized such a necessity. In fact, farmers, particularly the young, have been actively seeking managerial assistance.

In a survey conducted by Jacoby and Ingalsbe, young farmers pointed out that the services they need include tax and financial consulting, advertising products, further processing of products, management training, soil testing and feed testing.[40] E. H. Fallon, a farmer, expressed the needs of the farmer as consisting of: Help in proper selection of inputs to fit the needs of the individual farm; management assistance involving accounting or other computer services, or dynamic marketing systems; testing soil, forage, foliage and water."[41] The number of services required has been proliferating as evidenced in Gordon Leith's wider inventory of services required by the farmer which include: "gun cartridges, disposable syringes and cartridges for animal health products, fertilizer, herbicide mixtures, feed, premix packages, paint spraying, bulk delivery of feed, fertilizer application, waste disposal systems, automated feeding systems, minimum tillage systems, electronic monitoring systems...etc."[42]

As the diversity of the services that farmers need has increased, it has become imperative to change the delivery system for these services. Farmers are no longer interested in bits and pieces of services but rather in a package of services. Thus, a manager of a cooperative reported that "farmers want more than a ton of feed. They want to buy profitable systems.... They don't want bits and pieces of programs."[43] Related to this is the absolute need for crisp, accurate technical advice. Too much is at stake to gamble on anything less than top quality technical advice.[44]

If the role played by the farmer is in the process of being reduced to that of carrying out programs designed by others, then he is being cast into the position of a specialized laborer. When this occurs, the technical decisions that involve the assumption of risk are already being made for him. Under such a situation, the farmer is being rewarded more and more for his labor instead of for the risk he assumes in decision making. Indeed, the managerial functions of the family farmer are being continuously eroded.

Summary

The investment and managerial requirements of the family farm in contemporary American agriculture have grown to such a level that the farmer is no longer able to carry out these functions by himself. Investment requirements of contemporary farms cannot be met by the savings of the farmer. Nor can the family farmer rely on financial institutions for relief from his financial plight. Indeed, the nature of financial problems is such that they cannot be solved without sacrificing the farmer's ownership functions. Nor can the farmer solve his managerial problems without compromising his managerial functions. The nature of the managerial problems is such that the solutions can only be delivered by specialists whom the farmer cannot afford to employ. Thus, he has to surrender his managerial functions to those who have the knowledge to make decisions.

If the family farmer is losing his investment and managerial functions, then the basis of his reward cannot continue to be the profits associated with the risks of investment and decision making functions. Instead, the farmer is being rewarded for a different type of input: his labor.

The Changing Role of the Family Farm and Corporate Agriculture

The managerial and investment functions of the family farm could be undertaken either by corporations whose activities are most directly and acutely affected by the farming sectors, or by agricultural cooperatives whose survival depends upon the welfare of the family farm. Corporations that are engaged in the farm supply and processing business have both the vested interest and capability to undertake the managerial and investment functions surrendered by the family farmer. The farm suppliers need the farmer as an outlet for their products; and the processors need the farmer as a source of their inputs. And to the extent that both of them have access to capital markets and their activities are intimately related with those of the farmer, they have both the technical and financial capability to assume these functions. Indeed, they have been increasingly undertaking them.

The Farm Supply Industry and the Family Farm

The relationship of the farm supply industry and the family farm has been changing. Farm suppliers sell to the family farm not only farm supplies but also an assortment of managerial and technical services. In fact, a representative of one of the major manufacturers of fertilizer proclaimed that "the industry needs to sell a fertilizer program at a profit. This includes soil testing and other services for the customer. What we do not need is selling product against product."[45] And Dale C. Dahl indicated that the basis of the relationship of the farm supply industry and the family farm is not limited to the selling of farm supplies but also includes the sale of a set of technical and management services.[46]

In order to be able to deliver these packages of services, the input industry has increasingly been decentralizing its operations. Arlo Minden has reported that

> ...feed suppliers have decentralized their operations such that they would be able to offer a proliferation of product variations and product related service packages that could satisfy the specific natural demands of farmers... Dealers serve in many instances as consultants to farmers on selection of condition specific chemicals and application procedures.[47]

The continued sale of managerial and technical services by the farm supply industry to the family farm enables the former to influence the buying patterns of the latter. Indeed, Dale C. Dahl pointed out that the technostructure of the farm supply industry is committed to creating a management system that would enable them to influence the buying patterns of the farmer.[48] For one of the problems that a rapidly growing[49] and increasingly concentrated[50] input industry has to deal with is ensuring a reliable outlet for its products. The mass production technology that large farm supply firms are using requires a constant demand for large quantities of output. And an influence on the buying patterns of the farmer will enable the farm suppliers to control the market for their outputs.

The need to control the market has made it imperative for the farm suppliers to help out the farmer in financing his farming activities. Thus, Ted Jones reported that the farm supply industry has become a major source of non-real estate credit.[51] For example, a fertilizer company offered "to pay farmers the prime rate of interest on their money from fall until spring if the farmer would take delivery early and pay for the fertilizers then."[52]

The potential of the farm supply industry to finance the agricultural activities of the family farm is so significant that Ronald Aines is advocating what he calls linked permanent capital. He has argued that it would be advantageous to both the farm suppliers and the processors to make permanent capital available to the farmer under agreements that would enable them to maximize their total business operations, i.e.,

> ...take advantage of their synergistic relationships. For example, working capital in the form of needed supplies or equipment, technical assistance by personal, or an actual loan may be made available to the farmer and in return the farm supplier would be able to charge higher prices for the supplies the farmer purchases and the processor would be able to obtain farm products at lower prices from the farmer.[53]

But as capital continues to be provided by the farm suppliers and the processors, decision making, control and risk taking shift from the family farm to the corporations. Ronald Aines has pointed out that "nonfarm business entities that put their money and other resources into farming want to have some control over how the money is used in order to ensure returns. They are willing to share the risk when they also have the possibility of making a larger return if the venture pays off well."[54]

The mass production technology that the farm suppliers use makes it imperative that they be assured of a stable and large market. And it is the managerial and financial assistance they offer to the family farm that enables them to control the market, but in the process, the family farmer is virtually reduced to the status of an employee of the farm suppliers.

The Processing Industry and the Family Farm

The relationship of the processing industry and the family farm has been changing. Instead of an open market coordination, the emerging relationship requires closer coordination. Ray Goldberg has indicated that mass market, extensive processing and the present day scale of commercial agriculture require close vertical coordination.[55] And Knuston reported that "increasingly, the agribusiness sector is finding it necessary to tie marketing decisions to production decisions. In the agriculture of the future, an open market will exist only at the time production decisions are made. A farmer who has not committed his production in advance will not have a market."[56] Mueller argued that significant changes in the supply condition of the farm products are necessary if the processing industry is to operate profitably. One of these changes was that "producers had to be informed of the product attributes that were most advantageous from a technical processing standpoint. The development of varieties especially adapted to canning and freezing was necessary."[57]

The required closer coordination could be brought about by either a contractural arrangement between the family farm and the processor or by a direct ownership of the family farm by the processor. Where the coordination is brought about by corporate ownership of the farms, the status of the farmer is rather obvious: he becomes an employee of the corporation. It is in the contractual form of coordination referred to as contract farming where the change in the status of the farmer is less apparent.

Don Paarlberg described contract farming as constituting

> ...a contract between a farmer and a processor, to sell a certain amount of broilers or tomatoes or sugar beets at a stated price. The contract is sought by both parties: the processor wants an assured supply and the farmer wants a known market. The contracts are often drawn by the processor and offered unilaterally to the farmer on a take it or leave it basis.[58]

That contract farming has been advantageous for both the processor and the farmer has been well recongized. However, its effect on the status of the farmer is rather significant. Knuston concluded that contract farming "while advantageous from the standpoint of coordination, substantially changes the power position of the producer. His decision parameters are restricted."[59] And Radoje Nikolitch has pointed out that "contract arrangements can be so drawn and implemented that suppliers or processors and distributors of farm products take over so much control of operations that the farmer becomes little more than a laborer who sells his labor and rents his land."[60] The extent of supervision and direction of the farmer under contract farming is perhaps best described by Mueller:

> In most cases...processors may actively control many of the cultural and marketing decisions ordinarily performed by farmers. They may control the time of planting, divide the most appropriate part of the farm to plant, designate the kind and

> amount of seed to use, the amount and analysis of fertilizer to apply, when and how much to irrigate, the type and extent of weed and pest control to use, when to harvest, and the rate of delivery... They give processors control over many farm decisions just as if they were producing the corp in their own land.[61]

The status of the farmer in contract farming has changed so much that questions are being raised as to who is the producer in contract farming. Knuston reported that "controversies have arisen over whether the contract grower or the integrated corporate contractor is the producer under the Capper-Volstead Act."[62] Indeed, the loss of independence of the farmer is well documented.[63] The status of the farmer under contract farming is changing from the owner-manager of the family farm to a piece laborer,[64] and the source of his income is no longer profit but the sale of his labor.

Alarmed by the extent of change that has been taking place in the status of the farmer, Ronald Knuston has warned that "if nothing is done to arrest the forces in motion, commercial agriculture will increasingly become concentrated in more industrialized units. A system will evolve whereby great industrialized corporations will control production and marketing of products."[65] In fact, the question of who is going to control American agriculture has been one of the hottest issues among agricultural economists in recent years. B. L. Flenchbough and R. S. Fenwick concluded that whoever controls the market and capital will control American agriculture.[66] And in 1973 a fourteen man task force composed of university professors and agricultural specialists from the USDA concluded that control will be in the hands of agribusiness corporations unless something is done to arrest the trend.[67]

Agricultural cooperatives are expected to arrest the trend and restore the control of agriculture to the farmer. And Knuston argues that the only way of maintaining family farming in an industrializing agriculture is through the use of agricultural cooperatives.[68] However, such a solution raises another question: whether the agricultural cooperatives have the capability of ensuring control of American agriculture by the family farms and whether the family farm can remain independent of the cooperative system to which it belongs. It will be shown that the problem that the family farm is facing in contemporary American agriculture is such that agricultural cooperatives do not have the capability of meeting them; and even if they could, it would be at a cost of sacrificing the independence of the farmer and thus making the whole scheme of the cooperative system self-defeating.

The Changing Role of Agricultural Cooperatives and Cooperative Rationality

Inasmuch as the role of agricultural cooperatives is a complement to the role of the family farm, the erosion of the managerial and investment functions of the family farm suggests a corresponding increase in the function of agricultural cooperatives. Thus, if agricultural cooperatives are to remain as a complement to the family farm, they have to assume the managerial and investment functions surrendered by the family farm.

Despite the fact that agricultural cooperatives do not have access to the capital market, they have been undertaking the financing of the family farm. It is not unusual for agricultural cooperatives to lease tractors and other farm equipment to the family farmer. Agway Inc. is an instructive example. Robert Child, the treasurer of Agway Inc., summarized the role of the cooperative in question with respect to financing the family farm in this manner:

> We worked with commercial banks and with Production Credit Associations to develop a system which permitted Agway to take notes from the farmers to cover their crop production requirements and to discount these notes with a Commercial Bank or Production Credit Association. We have financed just about everything that a farmer requires, whether he is a vegetable grower or a poultry man or a dairy man except that we have attempted to stay away from the real long term financing.[69]

The role of the agricultural cooperative in managing the family farm is becoming quite akin to that of the processor in contract farming. Knuston has argued that "as vertical coordination in the corporate sector increases in importance, cooperatives will increasingly be required to enter into similar arrangements which permit forward planning, production scheduling, and forward sales by the cooperative."[70] And the nature of technology used by processors is such that food processing cannot be carried out economically without a contractual arrangement that ensures a reliable supply of the desired farm products. Black and Knuston discovered that:

> ...more demands of long term nature are being placed on cooperatives. Proprietory food processors and merchandisers are making investments in plants and equipment in the hundreds of millions of dollars. They want and need to operate them at full capacity. They are particular about variety and product quality. They are interested in regular and long term sources of supply. Cooperatives can compete for these outlets and make such commitments only if they have assurance of supply sources.[71]

The commitments that agricultural cooperatives make to processors cannot be fulfilled unless the farmers are made to sign marketing agreements with their cooperatives. Indeed, agricultural cooperatives are finding it increasingly imperative to sign such formal agreements with their members.[72] And these contracts are not different from those signed by the farmer in contract farming with the corporation.[73] The operation of the Cotton producers Association (CPA) is an instructive example. Comparing the practice of CPA with contract farming, W. Paris concluded that: "CPA's system is different from others only in that it is owned by growers and that the profits flow to them as opposed to systems owned by feed manufacturers, hatchermen or processors, where profits flow to the stockholders and growers become a little more than hired hands."[74]

But small, single purpose agricultural cooperatives do not have the competence to carry out the increasing managerial functions that they are being pressured to assume. Neither the purchasing nor the marketing cooperative can by itself provide the package of services required by the farmers. Hence, it is becoming increasingly imperative for these cooperatives to merge. Gordon Leith noted that the farmers expressed their desire for "one-stop shopping":[75] the integration of farm supply and marketing cooperatives. And Robert Child reported that cooperatives are merging with or acquiring each other so that they would be able to provide the expanded facilities and services that farmers are demanding.[76] Thus, a change in the role of the family farm has necessitated not only a change in the role of agricultural cooperatives but also has brought about an integration among agricultural cooperatives.

The consequence of the continued transfer of the functions of the family farm to agricultural cooperatives is to make the latter, instead of the former, the center of agricultural activity. The agricultural cooperatives are making the purchasing, marketing, financing and production decisions. They decide the price for the farm supplies that farmers have to pay, arrange as to how the farm production is to be financed, determine as to how farm production should be undertaken, and set the price that the farmer has to get for his product. In the process of such a transfer of functions, the status of the farmer is being virutally reduced to that of an employee of the agricultural cooperatives.

The agricultural cooperative is thus no longer an extension of the family farm; rather the family farm is becoming an extension of the agricultural cooperative. The farmer is no longer a constraint in the relationship with the agricultural cooperative, but instead a variable that has to adjust to the requirements of the operation of the agricultural cooperative. Farmers are increasingly being called upon to subordinate their activities to those of agricultural cooperatives. In fact, Ronald Knuston has been calling upon farmers for an increased commitment to their agricultural cooperatives.[77] And Melvin Sims has advised farmers to give up their independence if they want to take advantage of agricultural cooperatives.[78] And the farmers do not have any choice.

As agricultural cooperatives contine to increase their scale of operation, they become more insensitive to the needs of the farmer. Marshal Harris described the change in the relationship of the agricultural cooperative and the farmer in this manner:

> In their original form, most farmer cooperatives were small, they maintained close contact with and were responsive to their members. Under these conditions cooperatives usually acted as agents of their members, and the consequent transfer of enterpreneurship from farmer to cooperative was not substantial. But as cooperatives became larger and attained the size of modern corporations, the tendency has been for management to

> become less responsive to membership. Management has assumed more and more controls; and membership has permitted perhaps even abated such development. Some large cooperatives hold a substantial portion of members' entrepreneurship with buying and selling certain inputs and products.[79]

The operation of the cooperative form of business organization in agriculture presupposes the existence of family farms as its members. But as the entrepreneurship functions of family farms are continually shifting to agricultural cooperatives, the status of the family farmer is being reduced to that of a laborer: the family farmer first surrendered the marketing function, then the purchasing function, then the management function, and now the financing function. And as the agricultural cooperative continues to undertake the activities that the family farm could not carry out, the family farmer is being reduced to the status of an employee of the cooperative and his activities are becoming an extension of those of the cooperative. Even if such a relatiobship may not have already been achieved in many of the agricultural cooperatives, the technological and economic imperatives are such that the function of the farmer will tend to be reduced to a highly specialized task that approximates the role of a laborer instead of an entrepreneur. Thus, in an attempt to protect the independence of the farmer, the agricultural cooperative ends up making him dependent on itself. Such a change in the relationship between the farmer and the agricultural cooperative negates the very rationality of such cooperatives.

The dilemma of the agricultural cooperative is this: if it attempts to operate within the constraints of the concept of cooperatives, it ends up losing the farmer to the proprietory interests and thus undermining the very existence of agricultural cooperatives;

if it keeps its membership, it will have to carry out tasks that will necessitate the subordination of the farmer to itself. In either case, cooperative rationality cannot be maintained in running the cooperative form of business organization. If the managerial and investment requirements of the farmer are to be met, cooperative rationality must be negated. And the imperatives for this negation are making the cooperative form of business organization increasingly obsolete.

Summary

The technological and economic imperatives of contemporary American farms are such that the family farmer is becoming increasingly unable to meet his managerial and ownership functions. The pressure for higher productivity has necessitated the adoption of an increasingly advanced agricultural technology, and the capital requirements of adopting this technology have risen so high that the management and investment requirements of farm production are outgrowing the competence of the family farmer. As a result, the role of the family farmer is increasingly changing to the status of a laborer.

The managerial and investment functions that the family farm surrenders could be assumed by either corporations operating in the farm supply and processing business, or agricultural cooperatives. Both the farm suppliers and the processors have been increasingly assuming the management and investment functions of the family farm; and in the process, the farmer is becoming an appendage of either the farm suppliers or the processors. Such has been the case in contract farming; and that the family farmer has been reduced to a status of an employee in the case of contract farming has been adequately documented.

If agricultural cooperatives are to permit the corporations to assume the management and investment functions of the family farm, then they bring upon themselves their own extinction. A contract grower would have no need for the services that agricultural cooperatives have to provide: these services can be made available by the contractor. And without the family farmer as a member, agricultural cooperatives cannot survive. The expansion of contract farming is making it more difficult for agricultural cooperatives to have family farmers as members. Contract farming is thus a threat to the survival of agricultural cooperatives.

If agricultural cooperatives hope to survive, they must assume the managerial and investment functions surrendered by the family farmer. But in the process they become the core of farm activity. Agricultural cooperatives purchase farm supplies, make production decisions, finance farm operation and sell farm products of the family farm. And as the agricultural cooperative becomes the center of farm activity, the farmer becomes a mere extension of the cooperative. But such a relationship is inconsistent with the concept of agricultural cooperatives whose essential attribute is that they become an extension of the family farmer and not the other way around. Accordingly, if agricultural cooperatives continue to assume the managerial and investment functions of the family farm, they will find it increasingly difficult to maintain cooperative rationality.

The subordination of the activities of the family farmer to that of the cooperative is not consistent with the concept of cooperatives and hence of cooperative rationality. Yet such a relationship is inevitable if agricultural cooperatives are to continue to undertake the managerial and investment functions of the family farm. Thus, cooperative rationality is inconsistent with the role that the family farm has to play in contemporary American agriculture.

The technological and economic imperatives of contemporary farming are such that the cooperative form of business organization is becoming obsolete. If agricultural cooperatives continue to undertake the managerial and investment functions of the family farm, they can no longer be characterized as agricultural cooperatives since their mode of operation is not consistent with cooperative rationality. On the other hand, if they fail to undertake the managerial and investment functions of the family farm, they will be denied the membership of the family farm, thus threatening their own survival. In either case, cooperative rationality is losing its usefulness as a form of business organization.

FOOTNOTES

[1]Ronald D. Knuston. "Fit in you may be left out," News for Farmer Cooperative. Farmer Cooperative Service, U.S. Department of Agriculture, October, 1974, p. 4.

[2]Edwin G. Nourse. "The Economic Principles of Cooperation in Agricultural Cooperation," in Martin A. Abrahamsen and C. L. Scroggs (eds.), Agricultural Cooperation. Minneapolis: University of Minnesota Press, 1957, p. 180.

[3]Philip Raup. "Social Goals in Farm Size," in Gordon A. Ball and Earl O. Heady (eds.), Size, Structure, and Future of Farms. Ames, Iowa: Iowa State University Press, 1972, pp. 5-6.

[4]U. S. Department of Agriculture. Managing a Farm, Bulletin No. 10. Farmer Cooperative Service, U. S. Department of Agriculture, 1944, p. 20.

[5]Leroy Quance and Luther Tweenten. "Policies, 1930 - 1970," in Gordon A. Ball and Earl O. Heady (eds.), Size, Structure and Future of Farms. Ames Iowa: The Iowa State University Press, 1972, p. 19.

[6]Don Paarlberg. "Family Farmers can Compete," News for Farmer Cooperatives, Farmer Cooperative Service, U. S. Department of Agriculture, May, 1973, p. 3.

[7]Dale E. Hathaway. "Agriculture: Production," in David L. Sills (ed.), International Encyclopedia of Social Sciences. The Macmillan Company and Free Press, 1968, p. 226.

[8]Don Paarlberg. Op. cit., p. 2.

[9]Marshal Harris. "Shifts in Enterpreneurial Functions in Agriculture," American Journal of Agricultural Economics, December, 1969, p. 519.

[10]U. S. Department of Agriculture. Legal Phases of Farmer Cooperatives, Information 100. Farmer Cooperative Service, U. S. Department of Agriculture, 1976, p. 398.

[11]Keith I. Clearwaters. "Justice Spokesman Looks at Immunity, Constraints," News for Farmer Cooperative, Farmer Cooperative Service, U. S. Department of Agriculture, July, 1974, p. 6.

[12]U. S. Department of Agriculture. Ibid., p. 400.

[13]Earl O. Heady and Gordon A. Ball. "Public Policy Means and Alternatives," in Gordon A. Ball and Earl O. Heady (eds.), Size, Structure, and Future of Farms. Ames Iowa: The Iowa State University Press, 1972, pp. 381-382.

[14]John F. Timmons. "Tenure and Size," in Gordon A. Ball and Earl O. Heady (eds.), Size Structure and Future of Farms. Ames, Iowa: The Iowa State University Press, 1972, p. 243.

[15]Don Paarlberg. Op. cit., p. 2.

[16]Ronald D. Knuston. "A Full Service Cooperative Concept," News For Farmer Cooperatives, Farmer Cooperative Service, U. S. Department of Agriculture, August, 1975, p. 16.

[17]Ibid.

[18]Marshal R. Godwin and L. L. Jones. "The Emerging Food and Fiber system: Implications for Agriculture," American Journal of Agricultural Economics, December, 1971, p. 810.

[19]Ibid.

[20]W. Burt Sundquist. "Scale Economies and Management Requirements," in Gordon A. Ball and Earl O. Heady (eds.), Size, Structure, and Future of Farms. Ames, Iowa: The Iowa State University Press, 1972, p. 89.

[21]Walter Jacoby and Gene Ingalsbe. "What We Want to Know About Our Cooperative," News For Farmer Cooperatives, Farmer Cooperative Service, U. S. Department of Agriculture, January, 1976, p. 16.

[22]Olin B. Quin. "Sources and Uses of Funds in Agriculture," American Journal of Agricultural Economics, December, 1974, p. 1065.

[23]John R. Brake. "Capital and Credit," in Gordon A. Ball and Earl O. Heady (eds.), Size, Structure and Future of Farms. Ames, Iowa: The Iowa State University Press, 1972, p. 142.

[24]Gordon A. Ball and Earl O. Heady. "The Trends in Farm Enterprise Size and Scale," in Gordon A. Ball and Earl O. Heady (eds.), Size, Structure, and Future of Farms. Ames, Iowa: The Iowa State University Press, 1972, p. 42.

[25]John R. Brake. Op. cit., p. 142.

[26]Walter Jocoby and Gene Ingalsbe. Op. cit., p. 16.

[27]Ronald O. Aines. "Linkages in Control and Management with Agribusiness," in Gordon A. Ball and Earl O. Heady (eds.), Size, Structure, and Future of Farms. Ames, Iowa: The Iowa State University Press, 1972, p. 182.

[28]Beryle Stanton. "New Dimensions Proposed For Farm Credit System," News For Farmer Cooperatives. Farmer Cooperative Service, U. S. Department of Agriculture, June, 1970, p. 20.

[29]Roby Sloan. "The Money Market - Is it Adequate for the Needs of Today's Agriculture," American Journal of Agricultural Economics, December, 1970, p. 688.

[30]Marshal R. Godwin and L. L. Jones. Op. cit., p. 810.

[31]Ronald D. Knuston. Op. cit., p. 18.

[32]Earl O. Heady and Gordon A. Ball. Op. cit., p. 392.

[33]Dale C. Dahl. "The Changing Nature of Agricultural Input Industry," American Journal of Agricultural Economics, December, 1970, p. 687.

[34]Willard F. Mueller and Normal R. Collins. "Integration of Production, Processing and Marketing," American Journal of Agricultural Economics, December, 1957, p. 1479.

[35]Dale Anderson. Op. cit., p. 368.

[36]Ronald D. Knuston. Op. cit., p. 16.

[37]Wayne D. Rasmussen. "Advances in American Agriculture: The Mechanical Tomato Harvester - A Case Study," in Melvin Kranzeberg and William H. Davenport (eds.), Technology and Culture: An Anthology. New York: Schocken Books, 1972, p. 265.

[38]Lee Kolmer. "Agricultural Decision Making in a New Environment," News For Farmer Cooperatives. Farmer Cooperative Service, U. S. Department of Agriculture, May, 1972, p. 4.

[39]Gordon Leigh. "Emerging Needs of Farmer Give Clue to Cooperative Horizons," American Cooperation, 1970, p. 13.

[40]Walter Jacoby and Gene Iagalsbe. "Give Us Stronger Management and Marketing," News For Farmer Cooperative, Farmer Cooperative Service, U. S. Department of Agriculture, February, 1976, p. 12.

[41]E. H. Fallon. "Can Yesterday's Cooperatives Meet Tomorrow's Needs," News For Farmer Cooperatives. Farmer Cooperative Service, U. S. Department of Agriculture, April, 1972, p. 5.

[42]Gordon Leith. Op. cit., p. 12.

[43]Ibid.

[44]Ibid., p. 15.

[45]Arllo J. Minden. "Changing Structure of the Farm Input Industry: Organization, Scale, and Ownership," American Journal of Agricultural Economics, December 1970, p. 679.

[46]Dale C. Dahl. Op. cit., p. 687.

[47]Arlo J. Minden. <u>Op. cit.</u>, p. 679.

[48]Dale C. Dahl. "Public Policy Changes Needed to Cope With Changing Structure," <u>American Journal of Agricultural Economics</u>, May, 1975, p. 208.

[49]Ted. L. Jones. "Financial Management - The Key to Success," <u>American Cooperation</u>, 1970, p. 369.

[50]Ronald O. Aines. <u>Op. cit.</u>, p. 183.

[51]Ted L. Jones. <u>Op. cit.</u>, p.368.

[52]Ronald O. Aines. <u>Op. cit.</u>, p. 187.

[53]<u>Ibid</u>., p. 181.

[54]<u>Ibid</u>., p. 187.

[55]Ray Goldberg. "Farmer Co-ops and Industry: Profitable Partnerships," <u>News For Farmer Cooperatives</u>, Farmer Cooperative Service, U. S. Department of Agriculture, June, 1972, p. 4.

[56]Ronald D. Knuston. "Family Farmers Can Earn Membership in Tomorrow's Industrialized Agriculture," <u>News For Farmer Cooperatives</u>. Farmer Cooperative Service, U. S. Department of Agriculture, June, 1972, p. 4.

[57]Willard F. Mueller and Normal R. Collins. <u>Op. cit.</u>, p. 1471.

[58]Don Paarlberg. <u>Op. cit.</u>, p. 4.

[59]Ronald D. Knuston. "Cooperative Strategies in Imperfectly Competitive Market Structures - A Policy Perspective," <u>American Journal of Agricultural Economics</u>, December, 1974, p. 906.

[60]Radoje Nikolitch. "The Individual Family Farm," in Gordon A. Ball and Earl O. Heady (eds.), <u>Size, Structure and Future of Farms</u>. Ames, Iowa: The Iowa State University Press, 1972, p. 250.

[61]Willard F. Mueller and Normal R. Collins. <u>Op. cit.</u>, p. 1478.

[62]Ronald D. Knuston. "Definition of Producer is Critical Policy Issue," <u>News For Farmer Cooperatives</u>, Farmer Cooperative Service, U. S. Department of Agriculture, August, 1974, p. 17.

[63]William T. Manley and Donn A. Reimund. "Organization and Control of the Food System," <u>Marketing and Transportaion Situation</u>, Economic Research Service, U. S. Department of Agriculture, February, 1973, p. 15.

[64]Ronald D. Knuston. "Family Farmers Can Earn Membership in Tomorrow's Industrialized Agriculture," <u>Op. cit.</u>, p. 4.

[65] *Ibid.*, p. 4.

[66] Berry L. Flinchbaugh and Richard S. Fenwick. "Who will Control U. S. Agriculture," *American Cooperation*, 1974-75, p. 18.

[67] Ronald D. Knuston. "Family Farmers Can Earn Membership in Tomorrow's Industrialized Agriculture," *Op. cit.*, p. 3.

[68] *Ibid.*

[69] Robert B. Child. "Can Cooperatives Serve Large Young Farmers in the Seventies," *News For Farmer Cooperatives*, Farmer Cooperative Service, U. S. Department of Agriculture, September, 1970, p. 13.

[70] Ronald D. Knuston. "Cooperative Strategies in Imperfectly Competitive Market Structures - A Policy Perspective," *Op. cit.*, p. 904.

[71] William Black and Ronald D. Knuston. "Let's talk about Marketing Agreements," *News For Farmer Cooperatives*, Farmer Cooperative Service, U. S. Department of Agriculture, September, 1974, p. 4.

[72] Paul Hill. "Does the Cooperative Help Young Farmers," *American Cooperation*, 1972-1973, p. 67.

[73] Ronald D. Knuston. "A Full Service Cooperative Concept," *Op. cit.*, p. 16.

[74] W. C. Paris. "Coordination in the Poultry Industry," *American Cooperation*, 1970, p. 111.

[75] Gordon Leigh. *Op. cit.*, p. 15.

[76] Robert Child. *Op cit.*, p. 11.

[77] Ronald D. Knuston. "A Full Service Cooperative Concept," *Op. cit.*, p. 17.

[78] Melvin E. Sims. "Controlling Our Own Destiny," *American Cooperation*, 1970, p. 3.

[79] Marshal Harris. *Op. cit.*, p. 527.

CHAPTER III

THE ORGANIZATIONAL COMPETENCE OF AGRICULTURAL COOPERATIVES AND COOPERATIVE RATIONALITY

In the last chapter we saw how the change in the role of the family farm necessitated a change in the role of agricultural cooperatives. And inasmuch as this alteration may require new organizational capabilities, it is legitimate to raise the question of whether agricultural cooperatives have the organizational competence to assume their new roles. Such a question cannot be answered, however, without appreciating the full spectrum of change in the role of agricultural cooperatives. For the change in their role is not limited to that necessitated by an alteration in the role of the family farm; rather, the change in the role of agricultural cooperatives has also been made imperative by changes in the structure of agriculture. And, unless we can first specify the nature of these changes, we will not be able to appreciate fully the extent to which agricultural cooperatives have the competence to assume their changing roles.

The Bargaining Role of Agricultural Cooperatives and the Structure of Agriculture

Inasmuch as agricultural cooperatives were once extensions of the family farm, their initial role was primarily limited to that of a bargaining agency. The Purchasing Cooperative was the purchasing agent and the Marketing Cooperative was the marketing agent. In each case, the objective was to improve the price that the farmer could get for his inputs and outputs. Such was the motivation behind organizing the Dairy Cooperative Association of New York in 1883, the Farmers Elevators Exchange of Iowa in 1868, the Fruit and Vegetable Marketing Association of New Jersey in 1884, the Farmers' shippers Association of Nebraska in 1882, and the Cotton Producers Association of Mississippi in 1879.[1]

Theoreticians on agricultural cooperatives have also recognized bargaining as the primary function of agricultural cooperatives. According to Edwin Nourse, the essential philosophy of agricultural cooperatives is "the idea that a means must be found for giving agriculture a type of organization whose production and bargaining units respectively will expand in step with the growing needs of agricultural technique and of the size requisite to an effective bargaining position with which they must deal."[2] Don Paarlberg underscored this bargaining function of agricultural cooperatives when he pointed out that their role is to enable the individual farmers to obtain the benefits of large scale buying and selling without undermining the decision making role of the farmer.[3] And Howard Elson indicated that "virtually all (agricultural cooperatives) were founded...to improve farmers' bargaining position by pooling their buying and selling power."[4]

The bargaining function of agricultural cooperatives presupposes a structure of agriculture that necessitates and permits such a function to be carried out. A bargained outcome is a negotiated outcome: each of the parties of the negotiation makes certain concessions; and the final outcome is a compromise. But a negotiated outcome also presupposes that the parties to the negotiation are of comparable bargaining power. Indeed, the moment one of the parties has the power to dictate the terms of the agreement, the outcome can no longer become a negotiated one. And this means that the bargaining function of agricultural cooperatives cannot be expected to be carried out in an agricultural structure that is characterized by a highly centralized mode of coordination and control (here referred to as industrialized agriculture).[5] Nor is it necessary in an agricultural structure that is characterized by a highly decentralized mode of coordination and control (here referred to as open market agriculture).[6]

In open market agriculture the bargaining role of agricultural cooperatives depends upon whether the market is perfect or imperfect. If the market is perfect, there is no bargaining role for agricultural cooperatives to play. After all, the assumption of a perfect market is that no firm can influence the price of commodities. But the moment that agricultural cooperatives become able to influence prices, the market automatically becomes imperfect. Accordingly, the bargaining role of agricultural cooperatives is incompatible with a perfect market condition for agriculture.

The bargaining role of agricultural cooperatives is instead associated with an imperfect market. Describing the imperatives that gave rise to the formation of agricultural cooperatives, Joseph Knapp had this to say:

> With rapid expansion and mechanization of farms, output increased by "leaps and bounds," and this increased supply exerted a downward pressure on farm prices, which was further aggravated by the decline in the general price level which followed the Civil War.

> The farmer, however, would not accept the theory that his troubles were entirely due to overproduction and deflation. He blamed much of his plight on an unfair system of "interchange," whereby he was forced to pay excessive toll in marketing his products, and excessive prices for his purchased supplies; and he was vehement in his treatment of all "monopolists" and middlemen." As the farmer saw his condition, he was "fleeced both coming and going."
>
> Unable individually to protect himself against exploitation from industry which was rapidly becoming organized in corporations and combinations, the farmer turned for relief to economic cooperation as a counter-method of organizatin, first under the auspices of the Grange and then through the Farmers Alliance movement. "Let us organize" became the battle cry.[7]

Whether the price decline was in fact due to overproduction and deflation does not change the argument. What is significant is that the motivation of the farmers to organize their cooperatives was based on their perception that they were becoming victims of an imperfect market. Hence, agricultural cooperatives were organized to redress the affliction that farmers suffered from such a market condition. Accordingly, the bargaining role of agricultural cooperatives can flourish in an open market agriculture only if the market is imperfect. And if the structure of agriculture further changes, the bargaining role of agricultural cooperatives becomes obsolete.

The Changing Structure of Argiculture

Webster's Dictionary defines structure as "the arrangement of the parts into a whole." In this regard, the structure of agriculture would be the arrangement of its parts into a whole. And what are the parts that constitute agriculture? The food system is generally conceived to constitute the farm input sector, the farming sector, the processing sector, and the distributing sector.[8] And each of these sectors is composed of many firms. It is the arrangement of these firms and sectors into a whole that we refer to as the structure of agriculture. But the way these parts could efficiently be arranged varies depending upon the nature of interdependence that inheres among them.[9]

Open Market Agriculture

In open market agriculture the nature of interdependence between the different sectors is reciprocal. The farm input sector is dependent upon the farming sector as an outlet for its output, while the farming sector is dependent upon the farm input sector as a source of its input: and the farming sector is dependent upon the processing sector as an outlet for its output, while the processing sector is dependent upon the farming sector as a source of its input. The most appropriate way of coordinating a reciprocal interdependence, according to J. D. Thompson, is by mutual adjustment.[10] And the price system as a mode of coordination is a form of mutual adjustment.

The price system indeed coordinates the activities of reciprocally interdependent sectors. For example, the coordination problem between the farm input sector and the farming sector is that the former should produce what the latter would like to buy at a certain price; and, conversely, the latter would have to buy what the former would have to produce at a certain price. Without the price system the farm input sector would not know what the farming sector would like to buy, nor would the farming sector know what the farm input sector would produce. The price system is thus a means of communicating between these two sectors as to what and how much of each commodity should be produced by the farm input sector. And the desired quantity and quality is arrived at through a series of adjustments. It is not, for example, uncommon for the farm input sector to produce certain commodities below or above the quantity that is required by the farming sector. In that case, the shortages would be reflected in an increase in prices, thus signaling a production of more in the future; and the suplus would be reflected in a decline of price, thereby signaling less production. Through such an adjustment process, the farming and farm input sectors coordinate their activities. Other reciprocally interdependent sectors, mutatis mutandis, behave likewise.

The price system also coordinates the activities of the different firms that constitute each sector. The price that is determined through the adjustment process between the reciprocally interdependent sectors is the regulator of the level of production of each firm in the farm input sector and of quantity demanded by each firm in the farming sector. Each firm in the farm input sector makes its production decisions on the basis of prices determined by the relative bargaining power of the reciprocally interdependent sectors. Inasmuch as no firm has, in a competitive market, any influence on the level of price, firms in both sectors merely respond to these prices. Accordingly, the price established by the relevant sectors represents "a rule which constrains action of each unit (firm) into paths consistent with those taken by others in interdependent relationships."[11] Unless the firms in each sector are coordinated in this manner, the price system cannot work. And this form of coordination is what characterizes a pooled interdependence.[12] Indeed, the nature of interdependence among the firms that constitute each sector is a pooled interdependence.

In open market agriculture there is no direct interdependence between firms from different sectors. At the price established by the reciprocally interdependent sectors, the firms in question can sell to or buy from any of the numerous firms in each sector. Accordingly, there is no coordination problem involved between firms of different sectors in open market agriculture. The reverse is true in industrialized agriculture.

Industrialized Agriculture

In industrialized agriculture the primary interdependence that prevails is not between sectors but between firms of different sectors. Industrialized agriculture is thus characterized by vertical integration which takes the form of integration by ownership or contractual arrangements. In contract farming, for example, the farmer is committed to sell his produce before he undertakes production. The quantity, the quality and the price of the product are specified in the contract. Even the method of production is planned for the farmer therein. The plan is therefore a device used to coordinate the activities of the farmer and the processor, a method of coordination which is appropriate for a sequential interdependence.[13] And the nature of interdependence between the processor and the farmer is indeed a sequential one.

Although the processor is, to a certain extent, dependent upon the farmer, it is the dependence of the farmer on the processor as an outlet for his output that is more crucial. As it will be shown later, the processor can easily produce its own farm products for its input, while the farmer has virtually no capability to undertake processing activities as an outlet for his output. Accordingly, it is primarily the farmer who has to adjust to the requirements of the processor. Such is the nature of sequential interdependence.[14]

In industrialized agriculture there is not significant interdependence either among the firms of the same sector or between the different sectors of agriculture. In fact, the vertical integration between the firms of the different sectors obviates any interdependence that could exist among the firms of the same sector or between the different sectors themselves. Contract farming, for example, makes the behaviour of farmers or the interaction between the farming sector and the processing sector virtually irrelevant. Hence, there is no coordination problem involved among firms of the same sector or between the different sectors of industrialized agriculture.

The Industrialization of Agriculture

The structure of agricluture is increasingly changing from an open market to an industrialized form. Ronald Knuston has repeatedly articulated this change, a change which is made imperative by the continued use of advanced technology in agriculture.

Acknowledging the impact of technology on the structure of agriculture, Manley and Reimund had this to say:

> Technology has played a leading role in bringing about change both within and outside the food system. Major innovations in the past have generally moved agriculture towards industrialization. This will likely continue even though there will be changes in technological emphasis to accommodate such issues as environmental enhancement.[15]

And the pressure of technological advance continues unabated. In a recent study by the Economic Research Service of the USDA, it was reported that major tehcnological breakthroughs are expected in highly complex areas "such as the enhancement of photosynthesis efficiency, in inhibition of photo respiration, increased biological nitrogen fixation, carbondioxide enrichment, plant growth regulators, genetic manipulation of plant proteins, bioprocessing and antitransparents."[16] Arlo J. Minden reported that "almost without exception companies maintain continuing research and development programs aimed at improving their offering varieties suited to new production technologies and changes in the ecological environment."[17] Godwin and Jones are no less emphatic about the impact of technology on the structure of agriculture. They pointed out that

> ...rapid technological advance has been the single-most impelling force dictating the current structure of production in agriculture... The continuous incremental improvements in the quality and situation specificity of off-farm inputs create an inflow of new technology that heavily influences the emerging character of commercial agriculture...the outpouring of new technologies from public and private research and dvelopment sources may be expected to continue at an unprecedented rate... Continuous pressure is thus exerted in the direction of even higher productivity associated with complex large scale and highly capitalized units.[18]

The economic imperatives of the continued use of advanced technology in argiculture are such that the effect of the uncertainties that inhere in the price system of coordinating argiculture is becoming increasingly intolerable. The growing specification of input attributes that the use of advanced technology requires is increasing the likelihood of their shortages when the mode of coordination is the price system. And to the extent that the production units in agriculture have become more capital intensive and large scale in their operations, the effect of the shortages and surpluses that inhere in the price system of coordination has become increasingly alarming. Mueller characterized the problem that the price system of coordination is presenting to the processor in this manner:

> Risk manifests itself through extreme variations in the quantity of the raw product available to producers at given times. This variation can affect processing costs if the firm utilizes large amounts of fixed factors. Dependence on price competition is no guarantee to a processor that his supply will be increased.[19]

Peter G. Helmburger noted that the price system is too ambiguous for a contemporary American agriculture that is becoming more and more sensitive with respect to the temporal, spatial and quality dimensions of production,[20] while Ronald Knuston reported that food firms have come to realize that they cannot rely on the free and open market.[21] The technological imperatives of contemporary American agriculture call for a closer and more precise coordination. And such is the justification for increasing vertical intergration in agriculture.
Seaver argued that the motive for integration is to avoid the risk and uncertainties associated with the operation of the free market.[22]

The vertical integration of agriculture could be brought about through ownership or contractual arrangements between the firms of different sectors. The processor, for example, could own the farms that supply it with the specific farm products it desires or arrange a contract with the farmer such that the latter supplies the specific products desired by the processor. Both of these arrangements would enable the processor to obtain exactly the quantity and the quality of products it desired at a price that had been agreed to in advance. Farm production could thus take place according to plans. The use of plans to coordinate the agricultural activities of the different sectors indeed reduces if not eliminates the shortages and surpluses that inhere in the price system of coordination. But then there is the question as to who does the planning or prepares the contract in contract farming. This issue could be resolved by the relative bargaining power of the firms concerned.

Godwin and Jones concluded that the manner and rate at which the change in vertical integration occurs will be determined by the power balance between the processor and the farmer; and this balance appears to be heavily on the side of the processor. In fact, the processor is the originator of the new techniques of integrating agriculture.[24] And Don Paarlberg noted that the contracts are often drawn by the processor and offered unilaterally to the farmer on a take it or leave it basis.[25] And the impact of the contracts on the farmer is pointed out by Knuston as "while advantageous from the standpoint of coordination, substantially change the power position of the producer."[26]

The industrialization of agriculture is thus making the processor the nucleus of agricultural activity; and the farmer is becoming merely a subordinate participant. Indeed, an increasing amount of concern has been expressed in recent years as to who will control American agriculture: the farm supply manufacturer, the family farmer, or the processor. Don Paarlberg pointed out that "fifty years ago, the question of 'who is going to control agriculture' would have been a ridiculuous question. Every one knew who was going to control agriculture; it was the farm operators, family farmers. They provided the land, labor and capital; they made the decisions."[27]

Inasmuch as the corporation is the dominant form of business organization in the farm input and processing sectors, both the farm supply manufacturer and the processor have access to capital. However, the processor is in a better position to control markets. As a result, control of agriculture is increasingly shifting towards the processing sector of agriculture. Manley and Riemund concluded that a large part of the decision making function has shifted from the production sector to the processing and distributing sector.[33] And Marshal Godwin and L.L. Jones argued that "agricultural producers should expect pressure from processors and distributors for more orderly supply flow process, increased product uniformity and greater stability in new product prices."[34]

It is the technological and economic forces in motion that have made the processing sector such a preponderant force in agriculture. Ronald O. Aines discovered that the farm input and processing sectors have grown faster than the farming sector; and the processing sector has grown the fastest among the three.[35] The growing preponderance of the processing sector is further reflected by its share of the total agricultural income. Thus, the USDA reported that "in a typical industrialized country, $100 worth of food in the retail shop will contain $50 representing the cost of processing and distribution against $20 in agricultural inputs and $30 of the value added on the farm."[36]

The growing dominance of the processing sector is further accentuated by the continued concentration that characterizes its structure. Manley and Reimund reported that food processing plants declined by 24%, while the output per plant increased by 82% between 1958 and 1967.[37] Using the Bain classification, Knuston ascertained that 55% of the value added is in industries where the eight largest firms have over 70% of the market or the four largest firms have over 50%.[38] And with such an increasing preponderance of the processing sector in general and its oligopolistic structure in particular, the bargaining role of agricultural cooperatives becomes rather precarious.

The Industrialization of Agriculture and the Change in the Role of Agricultural Cooperatives

The industrialization of agriculture is characterized by vertical integration which can be brought about through either ownership or contractual arrangements involving the farmer. Where ownership is the method of vertical integration, agricultural cooperatives obviously play no role. It is only when vertical integration is brought about by contractual arrangements that agricultural cooperatives can expect to play one.

Contract Farming and the Bargaining Role of Agricultural Cooperatives

In contract farming agricultural cooperatives act as a buffer between the farmer and the processor. The processor has a contract with the agricultural cooperative for the delivery of the desired input at a specified price, while the cooperative in turn has a contract with its members for the delivery of desired products at a specific price. The imperatives for such an arrangement are articulated by Black and Knuston:

> More demands of a long term nature are being placed on cooperatives. Proprietory food processors and merchandisers are making investments in plants and equipment in the hundreds of millions of dollars. They want and need to operate them at full capacity. They are particular about variety and product quality. They are interested in regular and long term sources of supply. Cooperatives can compete for these outlets and such commitments only if they have assurance of supply sources.[39]

The exacting demand imposed on agricultural cooperatives by the processing corporations cannot be met unless cooperatives in turn enter into a contractual arrangement with farmers. Knuston has thus argued that "as vertical coordination in the corporate sector increases in importance, cooperatives will increasingly be required to enter into similar arrangements which permit forward planning, production shed-uling and forward sales by the cooperative."[40] And Paul Hill noted that agricultural cooperatives are finding it increasingly necessary to sign formal agreements with their members.[41] Nor do the farmers have any choice but to sign these contracts. Emphasizing the need for the family farm to enter into a contractual relationship with its agricultural cooperative, Knuston had this to say:

> The marketing trend is that, if the family farmers are going to be a part of the developing industrialized system, enforced marketing agreements will have to be adopted as an integral part of cooperative membership. I know producers don't want to be tied up to a single marketing alternative--but soon all firms will be contracting--producers will be increasingly re-quired to consider the market situation at the time grain is planted and cows are bred.[42]

As a buffer between the processor and the farmer, agricultural cooperatives can either assume the managerial role that the processor would have undertaken if the contract were limited to the farmer and the processor, or continue their bargaining role in negotiating a better contract for their members than would have been the case other-wise. However, the bargaining power of the processor is so overwhelm-ing that agricultural cooperatives cannot expect to change the sub-stance of the contract such that the processor would have to make significant concessions.

Agricultural cooperatives are not in a strong position to force significant concessions from the processing corporations. Inasmuch as these corporations have the capability to undertake farm production, agricultural cooperatives cannot threaten them to accept a contract that requires significant concessions by withholding farm products from them. Indeed, according to Knuston, "if the processing sector is unable to get uniform supplies from the existing producers, the processing sector itself will undertake farm production."[43] And Dale Anderson has concluded that "if the processor is unable to obtain the necessary supply through traditional sources it may become necessary to take on production or to corner the market, but to be assured of the necessary quantity and quality of the product required."[44] On the other hand, agricultural cooperatives, as it will be shown later, would find it difficult to undertake processing if and when they discovered that the terms of the contract by the processing corporations were disadvantageous to the farmer. In fact, the contract is imposed upon the agricultural cooperatives which in turn impose it on the farmers.

It is the failure of agricultural cooperatives to obtain significant concessions from the processors that has prompted them to undertake the processing of agricultural products. According to Louis P.F. Smith, "the first entry of a cooperative into any processing trade is the direct result of exploitation by private firms."[45] Arguing why these cooperatives should undertake food processing, Howard Elson pointed out that a soybean processing plant of the Farmers Grain Dealers Association in Iowa receives more earning from processing 5 million bushels than from exporting 150 million bushels of corn and soybeans.[46] William F. Allewert has maintained that "if the cooperative is to limit itself to selling to other manufacturers for reprocessing or manufacturing, they must reconcile themselves to the often marginal profits related to any commodity marketing system."[47] And

Gordon Leith has complained that "farmers have problems in selling their products to their best advantage...I feel strongly that farmers need to keep control of their products further down the marketing line."[48] Such are the limitations of the bargaining role of agricultural cooperatives in an industrializing agriculture. And according to Breimyer, "collective bargaining is more compatible with the economy of yester-year than with the kind of economic system we promised ourselves for our day, and sometimes pretend we actually have."[49] Indeed, the bargaining role of agricultural cooperative is becoming an anacronism in an increasingly industrialized agriculture wherein, as Harvey Ebert has reported, "many bargaining cooperatives have moved in the direction of the operating cooperative with various degrees of success."[50]

The Industrialization of Agriculture and the Operating Role of Agricultural Cooperatives

The operating role of agricultural cooperatives in an industrializing agriculture can take either of two forms: to replace the processing corporation in supervising and assisting the farmers such that the latter would be able to produce according to the specifications of the processor or to undertake food processing by itself. The former role would be contrary to the spirit of cooperative rationality since it makes the agricultural cooperative an extension of the processing corporation instead of the farmer; and the latter role raises the question of whether agricultural cooperatives have the competence to undertake such a task.

The operating role of agricultural cooperatives requires a substantial amount of investment. Differentiating between the bargaining and operating roles of agricultural cooperatives, Harvey Ebert has pointed out that unlike the bargaining role, the operating role of cooperatives requires a huge amount of capital: a large amount of capital is required in order to undertake extensive processing, research and development, market research, packaging, advertisement, merchandising and promotion programs, as well as maintaining a sales force.[51]

To compete effectively with the processing corporations, agricultural cooperatives have to invest a substantial amount of resources in research and development. Allewert noted that the premium of benefits in food processing accrues to those who put a premium on research and development. But research and development require a substantial amount of capital investment--"a capability to absorb losses and failures and an ability to sustain efforts that may require years of work to achieve profitability."[52] The magnitude of the problem associated with research and development is further increased since the federal and state governments are withdrawing their traditional supports of research and development programs. Robert Long has reported that "it is clear to some of us close to the scene that increased federal and state funds for agricultural research will be unlikely for the foreseeable future."[53]

The pressure for increased financial outlay by operating cooperatives is not limited to research and development; it is rather pervasive. Melvin Sims, the President of FS Services, pointed out that a large amount of capital is needed if agricultural cooperatives are to provide new services to their members, build new facilities, finance research and even to keep up with inflation.[54] Thomas Ellerbe agrees when he cites the most significant problem that these cooperatives are facing as the financing of new products, new services and new facilities essential to agricultural cooperatives.[55] And Lee Kolmer concluded that

> ...probably the one single factor that seems to predominate management's thinking as it looks towards the next decade is the increasing critical problem of financing. Are we going to rely on member equity for as high percentage of our total capital needs as we have in the past? What kind of limitations on growth are placed upon us if we do rely on member equity.[56]

The industrialization of agriculture has made the bargaining role of agricultural cooperatives rather obsolete. Instead, it is making it increasingly imperative that agricultural cooperatives assume operating functions. In fact, the USDA has reported that the

> ...size, scope and operational image of the growing processed foods industry imparts a fairly clear message to family farmers that an individual family farm would ever be able to participate in any more than a subservient role in such an industry. Further, opportunities are rapidly diminishing for any one cooperative now operating to grow from within quick enough to capture a significant foothold.[57]

Accordingly, if agricultural cooperatives have to play any meaningful role in an industralizing agriculture, they will have to undertake food processing which requires a rather substantial financial outlay. And how to raise this growing financial outlay has been a vexing problem that agricultural cooperatives have been facing.

Financing Agricultural Cooperatives and Cooperative Rationality

In the final analysis, the source of finance for agricultural cooperatives resolves itself into debt and equity capital. When the role of agricultural cooperatives was primarily limited to bargaining, the financial requirements were so low that they could substantially be met by equity capital. As agricultural cooperatives increasingly assumed operating functions, however, the need for debt capital became more significant. Indeed, the financial requirements of operating cooperatives have grown so much that a substantial portion of capital is in the form of debt. Noel W. Stuckman reported, for example, that "a large cooperative here in the Eastern United States has more than $100,000 invested for each producer member, of this the average producer himself has an investment of more than $20,000 in stock and debenture."[58] The growing significance of debt financing in agricultural cooperatives is also recognized by the USDA.[59] And John Hopkin and J. E. Doyle argued that it is the high investment requirements of the changing technology and markets that has made it imperative for agricultural cooperatives to rely more and more on borrowed funds.[60]

The growing reliance of agricultural cooperatives on borrowed funds is making the banks for cooperatives more circumspect about their loan policies than they have been in the past. B. H. Schuttle reported the change in attitude among the banks for cooperatives as:

> The banks for cooperatives are, of course, directly affected by this greater demand for funds. Some of the banks have already adopted systems of advance capitalization particularly as they relate to large new loans. Others are studying the matter carefully because of continuing pressure on capital ratios to develop the needed funds. We, as a group of banks, are watching over our own growth closely and have adopted a guideline for gross loans to net worth that would encourage each bank to follow.[61]

This guideline that each bank would have to follow suggests that the debt capital that agricultural cooperatives can hope to raise is governed by the magnitude of the equity capital they can muster. Thus, banks for cooperatives would not extend loans without any reference to the equity capital of the agricultural cooperative. To ensure that the loans would not be exposed to unacceptable financial risks, these banks would insist that the cooperatives maintain a certain level of debt to equity capital ratio as a maximum. If loans continued to expand without such a corresponding increase of equity capital, agricultural cooperatives would soon approach the maximum level of debt to equity capital ratio, and after such a point it would be difficult to raise any more loans without raising equity capital. Accordingly, to the extent that the possibility of raising debt capital is dependent upon the equity capital that has already been mustered, the financial problem of agricultural cooperatives resolves itself into a problem of raising equity capital.

Agricultural cooperatives could raise their equity capital either internally or externally. The internal source of equity capital takes the form of savings retained in the cooperative, while the external source takes the form of sale of capital stock to the cooperative's members. But these two sources of equity capital are not independent of each other: the internal source is dependent upon the external source of equity capital. In order to generate the savings that will have to be used as an internal source of equity capital, capital stock will have to be raised to finance the investment that will make this generation possible. But to rely on savings as a strategy of raising equity capital is like putting the cart before the horse. In this regard, savings cannot be a substitute for capital stock. Thus, if agricultural cooperatives are to operate on the basis of cooperative rationality, they will have no choice in raising equity capital other than the sale of capital stock to their members.

Indeed, farmers are called upon to make additional investments in their agricultural cooperatives. Knuston argued that "to develop the kind of cooperative system needed to compete and grow, a new round of producer-investment capital may be needed."[62] The question then becomes whether agricultural cooperatives are able to raise their equity capital by selling capital stock.

The financial plight of farmers is such that not only would they be unable to provide the equity capital required by agricultural cooperatives but, as it has already been shown in the preceding chapter, they themselves expect financial assistance from the agricultural cooperatives. And the pressure on agriclutural cooperatives to help farmers finance their operation is reported by a cooperative executive in this manner:

> I believe that regional cooperatives are and will be under greater pressure to extend agricultural credit to local cooperatives and, in turn, to the farmer members... No ordinary young man can acquire the capital to do a good job of farming unless he has the capital to manage it. Therefore, he will look to farm credit agencies, his cooperative, and private dealers to furnish great amounts of capital through credit.[63]

Under such circumstances, it is rather unrealistic to expect agricultural cooperatives to raise their equity capital by selling capital stock to their members. In fact, agriclutural cooperatives find it difficult to convince their members to buy additional capital stock, a difficulty attested to by an executive of an agriclutural cooperative who reported that "creating an increasing sense of obligation for participation in cooperative affairs by members in furnishing more ownership capital is a real problem."[64] And according to Howard Elson, the biggest problem of selling capital stock is the reluctance of farmers to commit their resources to their cooperatives for a long period of time.[65]

The agriclutural cooperatives and the family farm compete for the same resources. And inasmuch as the resources at the disposal of the farmer are limited, an attempt to satisfy the financial requirements of the agricultural cooperative would involve a reduction of investment in the family farms and vice versa. Accordingly, farmers must, in the final analysis, choose between investing in their cooperatives or in their farms. And according to Merle Betts, farmers--particularly the young ones--choose to invest in their own farms and not in their agricultural cooperatives.[66]

The inability and unwillingness of farmers to provide the equity capital that would enable their cooperatives to undertake operating functions has created a conflict between cooperative rationality and the organizational competence of agricultural cooperatives. If cooperative rationality has to be observed, the required equity capital should be raised from the members. As their capital requirements continue to escalate, however, agricultural cooperatives can no longer hope to raise their required equity capital from their members. Thus, to persist in limiting the sources of equity capital to the patrons necessarily compromises the competence of agricultural cooperatives to undertake their new role. On the other hand, if agricultural cooperatives are to have the organizational competence that would enable them to assume this role, they will have to raise their equity capital from non-patrons, a measure which is inconsistent with cooperative rationality. After all, the unity of patronage and ownership in one person is fundamental to the concept of the cooperative form of business organization.

The dilemma that agricultural cooperatives are facing involves choosing between observing cooperative rationality at the expense of organizational competence, or developing their organizational competence at the expense of cooperative rationality. Whichever way the choice may go, the cooperative form of business organization is increasingly proving to be anachronistic for the industrializing American agriculture. A strict adherence to cooperative rationality is making it difficult for agricultural cooperatives to carry out their operating functions. And if agricultural cooperatives were to violate cooperative rationality in order to develop their organization competence, then they could no longer be considered a cooperative form of business organization.

Faced with such unpleasant alternatives, agricultural cooperatives are making a desperate effort to raise the required equity capital internally. Willian F. Allewert has argued that

> ...if we were to remain an independent cooperative, an additional growth investment must essentially come from the patronage of future years and recognizing that processing-marketing cooperatives like ours inevitably must be heavily invested in land and facilities in terms of member equity levels, we carefully searched all possible ways of the accumulation of additional capital. Frankly, we could find nothing new or adequate within the confines of legal limitations and historical philosophies of cooperatives. We could find only the standard devices--revolving funds, and similar systems, borrowing from members including loans and, with varying degrees, other finanacing opportunities usually related to the general business--short- and long-term obligations. We could find no counterpart for cooperatives to the public equity investment readily available to the proprietory company.[67]

Melvin E. Sims equally emphasized internally generated funds as the last resort of raising equity capital. He presented the problem that FS Services is facing:

> If it is to gear up to provide the supply needs of its members so that they will have a greater control over their destiny, approximately $160 million dollars of new capital will be needed in the next five years. If farmers are to own and control this FS System, they will have to provide most of the equity capital... this new equity capital can be raised through a program of retention of earnings. This, of course, assumes that there will be earnings sufficient to provide for the new capital and still flow a reasonable amount of cash of the present members.[68]

As indicated previously, however, the strategy of relying on internally generated funds as a bulwark of equity capital is putting the cart before the horse. To expect income before making the investment is rather paradoxical. In the next chapter we will explore how agricultural cooperatives generate the required equity capital internally.

FOOTNOTES

[1]Joseph G. Knapp. The Rise of American Cooperative Enterprise: 1620-1920. Danville, Illinois: Interstate Printers and Publishers, Inc., 1969, pp. 71-90.

[2]Edwin G. Nourse. "The Economic Principles of Cooperation in Agricultural Cooperation," in Martin Abrahamsen and C. L. Scroggs (eds.), Agricultural Cooperation. Minneapolis: University of Minnesota Press, 1957, p. 180.

[3]Don Paarlberg. "Family Farmers Can Compete," News For Farmer Cooperatives, Farmer Cooperative Service, U. S. Department of Agriculture, May, 1973, p. 5.

[4]Howard Elson. "How a Cooperative Serves One Member," American Cooperation, 1970, p. 147.

[5]Marshall R. Godwin and L. L. Jones. "The Emerging Food and Fiber System: Implications for Agriculture," American Journal of Agricultural Economics, December, 1971, p. 807.

[6]Ronald D. Knuston. "Fit In or You May Be Left Out," News For Farmer Cooperatives, Farmer Cooperative Service, U. S. Department of Agriculture, October, 1974, p. 4.

[7]Joseph G. Knapp. Op. cit., pp. 46-47.

[8]William T. Manley and Donn A. Reimund. "Organization and Control of the Food System," Marketing and Transportation Situation, Economic Research Service, U. S. Department of Agriculture, February, 1973, p. 4.

[9]James D. Thompson. Organization in Action. New York: McGraw-Hill Book Co., Inc., 1967, p. 54.

[10]Ibid.

[11]Ibid.

[12]Ibid., p. 56.

[13]Ibid.

[14]Ibid.

[15]William T. Manley and Donn A. Reimund. Op. cit., p. 18.

[16]Ronald D. Knuston. " A Full Service Cooperative Concept," News For Farmer Cooperatives, Farmer Cooperative Service, U.S. Department of Agriculture, August, 1975, p. 16.

[17]Arlo J. Minden. "Changing Structure of Farm Input Industry: Organization, Scale, and Ownership," American Journal of Agricultural Economics, December,1971, p. 680.

[18]Marshall R. Godwin and L. L. Jones. Op. cit., pp. 809-810.

[19]Willard F. Mueller and Normal R. Collins. "Integration of Production, Processing and Marketing," American Journal of Agricultural Economics, December, 1957, p. 1474.

[20]Peter G. Helmburger. "Markets, Farm Size, and Integration," in Gordon A. Ball and Earl O. Heady (eds.), Size, Structure and Future of Farms. Ames, Iowa: The Iowa State University Press, 1972, p. 120.

[21]Ronald D. Knuston. Op. cit., p. 4.

[22]Stanley K. Seaver. "An Appraisal of Vertical Integration in the Broiler Industry." American Journal of Agricultural Economics, December, 1957, p. 1487.

[23]Marshall R. Godwin and L. L. Jones. Op. cit., p. 807.

[24]William T. Manley and Donn A. Reimund. Op. cit., p. 15.

[25]Don Paarlberg. Op. cit., p. 4.

[26]Ronald D. Knuston. "Cooperative Strategies in Imperfectly Competitive Market Structures - A Polity Perspective," American Journal of Agricultural Economics, December, 1974, p. 906.

[27]Don Paarlberg. Op. cit., p. 4.

[28]Berry L. Flinchbaugh and Richard S. Fenwick. "Who Will Control U. S. Agriculture," American Cooperation, 1974-75, p. 18.

[29]Eugene B. Pickler. "The Incidence of Large Farming Units," American Journal of Agricultural Economics, December 1970, p. 761.

[30]Dale C. Dahl. "Public Policy Changes Needed to Cope With Changing Structure," American Journal of Agricultural Economics, May, 1973, p. 211.

[31]Ronald D. Knuston. "Fit in or You May Be Left Out," Op. cit., p. 5.

[32]Ibid., p. 4.

[33]William T. Manley and Donn A. Reimund. Op. cit., p. 14.

[34]Marshall R. Godwin and L. L. Jones. Op. cit., p. 807.

[35]Ronald O. Aines. "Linkages in Control and Management with Agribusiness," in Gordon A. Ball and Earl O. Heady (eds.), Size, Strubture,

and Future of Farms. Ames, Iowa: The Iowa State University Press, 1972, pp. 171-172.

[36]U. S. Department of Agriculture. "Cooperatives in Global Processed-Food Trade Face Question: Partner or Servant," News For Farmer Cooperatives, Farmer Cooperative Service, U. S. Department of Agriculture, November, 1974, p. 9.

[37]William T. Manley and Donn A. Reimund. Op. cit., p. 14.

[38]Ronald D. Knuston. "Cooperative Strategies in Imperfectly Competitive Market Structures - A Policy Perspective," Op. cit., p. 905.

[39]William Black and Ronald D. Knuston. "Let's talk about Marketing Agreements," News For Farmer Cooperatives, Farmer Cooperative Service, U. S. Department of Agriculture, September, 1974, p. 4.

[40]Ronald D. Knuston. "Cooperative Strategies in Imperfectly Competitive Market Structure," Op. cit., p. 911.

[41]Paul Hill. "Does the Cooperative Help Young Farmers," American Cooperation, 1971, p. 67.

[42]Ronald D. Knuston. "Fit In or You May Be Left Out," Op. cit., p. 5.

[43]Ronald D. Knuston. "Family Farmers can earn Membership in Tomorrow's Industrialized Agriculture," News For Farmer Cooperatives. Farmer Cooperative Service, U. S. Department of Agriculture, February, 1974, p. 4.

[44]Dale C. Dahl. Op. cit., p. 210.

[45]Louis P. F. Smith. The Evolution of Agricultural Cooperation. Oxford: B. Blackwell, 1961, p. 159.

[46]Howard Elson. "How a Cooperative Serves One Member," American Cooperation, 1972, p. 149.

[47]William F. Allewert. "What are Long Range Financing Alternatives for Cooperative Growth," American Cooperation, 1974-75, p. 472.

[48]Gordon W. Leith. "Emerging Needs of Farmer give Clues to Cooperative Horizons," American Cooperation, 1972, p. 13.

[49]Harold Breimyer. Bargaining Perspectives: Proceedings of the 20th National Conference of Bargaining Cooperatives. Farmer Cooperative Service, U. S. Department of Agriculture, July, 1976, p. 24.

[50]Harvey Ebert. "An Operating Cooperative. What it is," Bargaining Perspectives: Proceedings of the 18th National Conference of Bargaining Cooperatives. Farmer Cooperative Service, U. S. Department of Agriculture, July, 1974, p. 11.

[51] *Ibid.*, p. 9.

[52] William F. Allewert. *Op. cit.*, p. 472.

[53] Robert W. Long. Perspectives on Research and Education for Commercial Agriculture," *American Journal of Agricultural Economics*, December, 1974, p. 1006.

[54] Melvin E. Sims. "Controlling our own Destiny," *American Cooperation*, 1970, p. 31.

[55] Thomas F. Ellerbe Jr. "Cooperative Unlimited - A Concept of Cooperation," *American Cooperation*, 1972-73, p. 150.

[56] Lee Kolmer. "Agriclutural Decision Making in a New Environment," *News For Farmer Cooperatives*, Farmer Cooperative Service, U. S. Department of Agriculture, May, 1972, p. 5.

[57] U. S. Department of Agriculture. *Op. cit.*, p. 9.

[58] Noel. W. Stuckman. "Which Cooperative Best Serves Farmer's Interest," *Bargaining Perspectives: Proceedings of the 18th National Conference of Bargaining Cooperatives*, Farmer Cooperative Service, U. S. Department of Agriculture, July, 1972, p. 24.

[59] Nelda Griffin. *Financial Profile of Farmer Cooperatives in the USA*. Farmer Cooperative Service, U. S. Department of Agriculture, 1972, p. 24.

[60] John A. Hopkin and J. E. Doyle. *Op. cit.*, p. 324.

[61] B. H. Schuttle. "Complexities to Mount in Financial Packages," *News For Farmer Cooperatives.* Farmer Cooperative Service, U. S. Department of Agriculture, December, 1975, p. 8.

[62] Ronald D. Knuston. "A Full Service Cooperative Concept," *News For Farmer Cooperatives*, Farmer Cooperative Service, U. S. Department of Agriculture, August, 1975, p. 17.

[63] Joseph G. Knapp. *Farmers in Business*. Washington, D. C.: American Institute of Cooperation, 1963, p. 383.

[64] *Ibid.*, p. 385.

[65] Howard Elson. *Op. cit.*, p. 148.

[66] Merle Betts. "Farmers and B. C.'s both have Responsibilities," *American Cooperation*, 1972-73, p. 193.

[67] William F. Allewert. *Op. cit.*, p. 473.

[68] Melvin E. Sims. *Op. cit.*, pp. 33-34.

CHAPTER IV

THE INTERNAL SOURCE OF EQUITY CAPITAL AND COOPERATIVE RATIONALITY

The inadequacy of capital stock as a source of equity capital has made it imperative for agricultural cooperatives to rely on internally generated funds or retained savings as a last resort. Joseph Knapp[1] has reported that the managers of agricultural cooperatives have come to the conclusion that there is no easier way of raising equity capital than retaining savings. As a result, the retained savings constitute an increasingly important source of equity capital for agricultural cooperatives. In a study of 448 regional cooperatives, Nelda Griffin[2] discovered that about 60% of the total equity capital is in the form of retained savings. Indeed, according to Howard Elson,[3] the most important source of money for agricultural cooperatives is retained savings.

Despite its growing significance, however, retained savings cannot be the answer to the problem of raising equity capital in agricultural cooperatives. And to appreciate the limitations of this source of equity capital, we have to examine the nature of savings in agricultural cooperatives.

The Nature of Savings in Agricultural Cooperatives

The nature of savings can be traced to the administrative difficulties involved in implementing the principle of service at cost. Agricultural cooperatives would show no savings at all if members were charged with exactly the cost of services they receive. But this presupposes that the cost of services could be ascertained with precision at the time the services are rendered. Unfortunately, this is not the case.

The cost of services cannot be determined with precision at the time they are rendered to the members. And it is not the variable costs associated with these services which present the problem for they can easily be ascertained at the time the services are rendered. Rather it is the allocation of fixed costs that creates the problem because these costs cannot be allocated until the volume of service rendered in a fiscal period can be ascertained. This means that the fixed costs cannot be allocated to these services until the end of the fiscal period. And yet, agricultural cooperatives have to charge a price for the services they render to their members. The price they charge cannot be the same as the cost of the services; for such a cost could not have been ascertained at the time the services are rendered. Accordingly, agricultural cooperatives have no choice but to charge prices that eventually prove to be either above or below the cost of services they render to their members.

Whether the price that agricultural cooperatives have to charge should be below or above the cost of services is a matter of administrative convenience. To charge a price below cost means that the cooperative would have to collect the difference between the price and the cost of services from its members; and to charge a price above cost means that the cooperative would have to refund the difference between the price and cost of services to its members. Inasmuch as refunds to members are easier to manage than collections from members, agricultural cooperatives pursue a policy of charging prices higher than the costs of the services they render. And it is as a result of such a policy that savings could emerge in agricultural cooperatives.

Savings in agricultural cooperatives are no more than the difference between the cost of services rendered and the price members have to pay for them. And this means that savings can be increased by either raising the price or reducing the cost of services to be rendered. If the increase of savings is due to an appreciation of prices, it cannot be argued that such an increase is an internal source of equity capital. Rather the source of such an increase in savings is obviously the patrons which makes it an external instead of an internal source of equity capital. Thus, savings generated through price appreciation consitute an indirect way of raising equity capital from the members. Instead of using the sale of capital stock to raise equity capital, agricultural cooperatives can achieve the same result by raising the price of services they render. But such a course of action leads to the same problem of raising equity capital from the members. Accordingly, if savings are to constitute an internal source of equity capital, they would have to represent a reduction of cost and not an appreciation of price. And, indeed, such is the way savings are perceived in agricultural cooperatives.

Emphasizing the nature of savings as a reduction of costs, Gordon Leith has maintained that "Farmers want efficient, well managed cooperatives that produce savings. Savings is the name of the game--any way you slice it. Cooperatives must do everything possible to keep costs down."[4] If agricultural cooperatives are to keep costs down, they have to be operated efficiently. Thus, in the final analysis operating efficiency is the source of savings and the internal source of equity capital. And it is in this regard that Melvin E. Sims defended the legitimacy of savings in agricultural cooperatives when he argued that:

> ...if cooperatives price competitively at the time of sale and remain efficient in their operation, the members have no reason for concern regarding a high level of income in their cooperative. Actually they should not be defensive or even apolegetic about generating a high level of profit and should, in fact, be proud of the performance--it gives them a concrete way of judging the economic benefit of their cooperative.[5]

If members are to use savings as a basis of assessing how well off they have become as a result of patronizing their agricultural cooperatives, then, the source of savings cannot be price appreciation, for such savings would represent a contribution from the members in the form of higher prices rather than the economic benefit that members could expect from their cooperatives. The only way that savings can represent a measure of how well off the members have become as a result of patronizing their agricultural cooperatives is if the source of savings is operating efficiency. Accordingly, if cooperatives are to raise their equity capital internally, then improvements have to be made on the efficiency of their operations. But the constraints and contingencies that cooperative rationality imposes on the operation of agricultural cooperatives is such that operating efficiency cannot constitute a significant source of equity captial.

The Limits of the Internal Source of Equity Capital and Operating Efficiency

The level of efficiency of operation that agricultural cooperatives can achieve is inferior to that of the corporations against which they compete. An optimal use of resources in agricultural cooperatives would be considered suboptimal in corporations. The kinds of constraints that cooperatives operate under are such that they cannot use their resources as efficiently as corporations can. The limited financial base and the principle of democratic control as a basis of managing agricultural cooperatives constitute the constraints which make it difficult for agricultural cooperatives to attain the same level of operational efficiency as the competing corporations do. And the effectiveness of these constraints increases as the operations that cooperatives undertake become more complex and require a higher magnitude of financial outlay.

The nature of activities that agricultural cooperatives initially undertook required neither significant financial outlay nor sophistication in their management. Indeed, the narrow financial base could not have been a serious constraint when cooperatives were primarily engaged as bargaining agents of the farmer. Nor was the operation of the small local cooperatives complex enough to make democratic control incompatible with their management. In this regard, the constraints that inhere in agricultural cooperatives were then only a possibility, not a reality.

As agricultural cooperatives continued to undertake activities that required a large amount of financial outlay and sophistication of management, however, the constraints that were originally mere possibilities became realities. Both the limited financial base and the principle of democratic control as a basis of management became increasingly incompatible with the financial and managerial requirements of contemporary American agricultural cooperatives. The limited financial base became more effective in restricting the technological options that cooperatives could choose from as well as in making them more susceptible to the constraints of the task environment,while the emphasis on democratic control became a constraint in the cooperatives' decision making process. And the combination of the constraints of limited financial base and the principle of democratic control increasingly made it difficult for agricultural cooperatives to obtain competent personnel to manage them. Thus, as the constraints that were initially mere possibilities increasingly became realities, the operational efficiency of agricultural cooperatives began to be compromised more and more.

The Limited Financial Base of Agricultural Cooperatives and Operating Efficiency

Unlike corporations, agricultural cooperatives have no access to capital markets. The unity of patronage and ownership in the member limits the financial base of agricultural cooperatives to the patrons. And this constraint makes it imperative for cooperatives to settle for a lower level of operating efficiency than the competing corporations would have to do.

In comparison with the competing corporations, the narrow financial base of agricultural cooperatives increases the constraints that the task environment presents to their operations and restricts the technological options that they can choose from. Regardless of the magnitude of savings that they could produce, technologies that would require a large financial outlay would be effectively excluded from adoption. The agricultural cooperatives cannot afford to finance the adoption of capital intensive technologies. Robert Bryne,[6] for example, reported a study which showed that fourteen agricultural cooperatives could have saved almost a million dollars a year if they had moved their grain and fertilizer ingredients in their own barge and towboat equipment. But it was the inability of the agricultural cooperatives to finance the acquisition of the barge and towboat equipment that foreclosed such a saving. And inasmuch as technology is becoming increasingly capital intensive, the technological options that agricultural cooperatives can choose from become fewer, thus eliminating many of the possibilities of upgrading their operational efficiency.

The narrow financial base of agricultural cooperatives also reduces the savings that might otherwise be realized in their transaction with their task environments. Because of the much more limited financial resources at their disposal, agricultural cooperatives have to place a higher premium on the financial aspect of their transaction with their task environment than do the competing corporations. But a more favourable financial arrangement would involve a cost. Thus, in a transaction between agricultural cooperatives and the corporations that constitute the task environment, the latter has to offer attractive financial arrangements in exchange for higher savings than would have been the case otherwise; and the former has to offer attractive savings in exchange for receiving a more attractive financial arrangement than would have veen the case otherwise. And such an arrangement is akin to what Ronald Aines calls "linked permanent capital" in which the task environment would finance the transaction that is involved in exchange for price advantage.[7] Accordingly, satisfactory terms of trade between the agricultural cooperatives and their task environment would reduce the savings that they would have been able to realize under a situation where the financial constraints were less severe.

In the exchange relationship of agricultural cooperatives and financial institutions, for example, cooperatives would have to incur higher costs in order to take advantage of debt capital. And since it is difficult to raise the equity capital that would serve as a cushion for the interest of debtors, debt capital could be raised only at the cost of either higher interest rates or allowing the creditors to assume more control over the operation of agricultural cooperatives or a combination of both. The higher interest rates would obviously reduce the magnitude of savings that cooperatives could otherwise have generated; and the share of control in the management of cooperatives by the creditors constitutes a constraint that would ultimately result in the reduction of savings. Thus, the terms under which debt capital would be made available to agricultural cooperatives reduce the possibility of generating savings of comparable magnitude to those of the corporations against which they compete.

Inasmuch as the operation of agricultural cooperatives requires an increasing amount of financial outlay, the effect of the narrow financial base on their operating efficiency will continue to be increasingly severe. Savings will continue to be lost from a failure to adopt more efficient technologies as well as from shifting the cooperatives' financing role to their task environment. And if agricultural cooperatives are to overcome this problem, they will have to consider the possibility of widening their financial base.

Cooperative leaders have already started advocating such an expansion of financial base. Thus, Paul Hill[8] and E. H. Fallon[9] argued that agricultural cooperatives have to expand their financial base beyond their patrons if they are to compete successfully against the corporations. However, if agricultural cooperatives are to expand their financial base, they will violate the unity of patronage and ownership in the member, thus abandoning cooperative rationality. On the other hand, if they are to operate on the basis of cooperative rationality, they will have virtually no choice but to operate at a lower level of operating efficiency. And so far, agricultural cooperatives have chosen to compromise their operating efficiency rather than sacrifice their cooperative rationality.

Democratic Control and Operating Efficiency

Even if agricultural cooperatives were to operate without the constraints of limited financial base, they would still have to contend with the effect of democratic control on operating efficiency. The level of competence of the decision makers and the process of decision making that the principle of democratic control makes imperative is such that agricultural cooperatives would have to settle for an increasingly lower level of operating efficiency.

The principle of democratic control is designed to ensure that agricultural cooperatives cater to the interests of the members.

According to Paul Hill "members exercise control over their cooperative by electing directors from their own members. This assures that the cooperative will always be operated in their interest."[10] But as the complexity of the operation of the agricultural cooperative increases, such a control can only be achieved at the expense of operating efficiency. In spite of the technological imperatives that makes it necessary to shift the control of cooperatives' operations to management, the boards of directors of agricultural cooperatives continue to exercise a degree of control over operations which is becoming increasingly incompatible with the requirements of efficient operation of contemporary American agricultural cooperatives.

The boards of directors of agricultural cooperatives exercise more control over the operations of their cooperatives than do those of the corporations. Decisions that would have to be made by management in the corporations are made by the boards of directors in agricultural cooperatives. Contrasting the domain of decision making of the boards of directors of agricultural cooperatives with that of the corporations, Paul Hill had this to say:

> In commercial corporations, top management is part of the board, and in many cases, the major part of the board... This is not true in cooperatives; not even the chief operating executive is a board member. Therefore, it is sometimes easy for the board to give management such detailed directions that management is not really free to turn the business around.[11]

Although the board of directors of an agricultural cooperative assumes a larger role in decision making than does that of the corporation, the level of their competence to make decisions is inferior to that of the board of directors in a corporation. This inferiority is due to the fact that the universe from which the cooperative's board of directors is chosen is limited only to farmers. The agricultural cooperative does not have the same opportunity to tap talented individuals for membership of their board as does the corporation.

As the operation of agricultural cooperatives has grown more complex, the level of competence of the board has become an increasingly serious problem. As a result, cooperative leaders have started advocating the cooptation of outsiders into the board. Arguing in favor of augmenting the board with people whose occupation is not farming, Paul Hill noted that "the boards of our commercial competitors include highly qualified professionals in finance, law, business administration and the like. Why shouldn't our cooperatives have the benefit of two or three similar experts on their boards.[12] E. H. Fallon[13] agreed. However, there is also a general fear that such an arrangement would undermine the control of agricultural cooperatives by their members. According to one cooperative leader, for example, many farmers are afraid that "the expert might tend to dominate the discussion and the decision process. If the rest of the directors are going to defer to this so called expert, it would be a bad thing."[14] Such a state of affairs makes it obvious that the principle of democratic control constitutes an impediment for agricultural cooperatives to upgrade the competence of their boards of directors.

Not only is the competence of the decision makers questionable, but the decision making process itself is also of such a nature that it has a compromising effect on the quality of the decisions that eventually emerges. The decision of the board of directors is often a compromise.[15] The emphasis on democratic control makes it imperative that decisions be made by a consensus. And such a decision often falls short of the optimum from the standpoint of operational efficiency. Because the proposals that are to succeed will have to win acceptance by the board, they have to be less controversial in nature and thus decidedly conservative. Indeed, proposals that require bold initiative on the part of the agricultural cooperative are virtually ruled out. No wonder, then, that the board is often accused of conservatism in its decision making.[16]

The decision making process that has to be consistent with the principle of democratic control is also time consuming.[17] It takes time to bring the board together, and it takes time to carry out the discussions and persuasions that inhere in democratic decision making.[18] Since such democratic decision making is time consuming, decisions that have to be made within a short period of time inevitably have to be delayed; and when these decisions are made, they are too late to be effective. Accordingly, the belatedness of democratically arrived at decisions compromises the level of operating efficiency that agricultural cooperatives could achieve. And the effect of such belatedness becomes more significant as the complexity and scale of operations of cooperatives increase.

Such increased complexity and scale of operation of agricultural cooperatives make it imperative that they become increasingly sensitive with respect to the delay of decisions. The growing complexity of operations increases the number of belated decisions to be made by the boards, while the increased interdependence that characterizes complex operations makes the effect of these belated decisions rather pervasive. And the increased scale of operations makes the cost of delays in decision making increasingly unbearable to the cooperative. If the growing cost of delays in democratic decision making is to be mitigated, then, more and more of the operating decisions that are made by the board of directors will have to be made by the managers of agricultural cooperatives. Indeed, the management of agricultural cooperatives has already begun to articulate the increasing incompatibility of democratic decision making with the managerial requirements of contemporary American agricultural cooperatives.[19]

The principle of democratic control makes it difficult for agricultural cooperatives to achieve a high level of operating efficiency. The restriciton of membership on the board to farmers poses a problem in upgrading the competence of the board; and the fact that the domain of decision making of the board is rather wide makes the effect of such a level of competence rather pervasive in the cooperatives' management. Moreover, the delays and compromises that characterize the democratic decision making process in agricultural cooperatives further compromise their level of operating efficiency. And inasmuch as the complexity of the operations that cooperatives undertake is increasing, the compromising effect of the principles of democratic control on operating efficiency will grow to be more severe.

The Cooperative Manager and Operational Efficiency

The cooperative manager lacks both the competence and the required authority to carry out his managerial tasks. The concentration of decision making power in the hands of the board of directors reduces the role of the cooperative manager to virtually that of a glorified clerk; and the financial constraints that agricultural cooperatives face make it difficult for them to compete for managerial talent with the corporations. As a result, the capability of the cooperative manager to effect operating efficiency is rather limited.

Agricultural cooperatives cannot afford to pay as much for their management team as the competing corporations do. Consequently, they are not only deprived of a sophisticated team of management but are also understaffed. Sidney Hoos dramatized the managerial problem of agricultural cooperatives in this manner:

> Too often, the depth and breadth of management personnel is so thin that, if the first, second or third leading man passes on to his higher rewards over the weekend, there is a chaos at the office Monday morning because second and third lines of management personnel defense have not been adequately prepared. Perhaps, in agricultural cooperatives, some one should wait at the stage doors of the best institutes of technology and the best graduate schools and liberal arts colleges to attract their most brilliant graduates entering the business world. To do so, cooperatives have to compete for the best brains.[20]

The limited financial base of agricultural cooperatives does not permit them to compete for the best managerial talent. Instead, they develop their managerial team through promotions from within. As Gene Ingalsbe noted, agricultural cooperatives do not have to pay a manager brought up from within as much as they would have to pay a professional from outside.[21] Accordingly, what differentiates top management from the rest of the employees of agricultural cooperatives is not so much their talent but rather their seniority. And on this score, Paul Hill noted that "cooperatives lack depth in management. They place too much reliance on seniority. They tend to be highly inbred. Few people are brought in from outside at the middle management or higher levels. They do not move soon enough or hard enough to solve a sticky problem in personnel."[22]

Even if agricultural cooperatives could afford the salary of competent managers, the background of the board of directors is such that they often fail to see the justification for what they consider to be an exorbitant salary. Travis Jamison pointed out that the background of most of the directors is such that "they find it difficult to evaluate the salary of a manager with a proper perspective."[23] And Gene Ingalsbe noted that "many times the board is reluctant to pay a manager brought up through the system as much as they know they would have to pay a professional from outside."[24] Thus, it is not only the limited financial base of agricultural cooperatives but also the lack of foresight on the part of the board of directors that has subjected them to an incompetent management team.

The incompetence of the managerial team of the agricultural cooperatives is a source of frequent complaints from the farmers. In their interview of young farmers, Walter Jacoby and Gene Ingalsbey encountered complaints of the following order: "why cooperatives hire such poor management... Hire a manager with ability to handle bussiness and the people under him. They are afraid to hire enough people to serve our needs and fulfill their commitments."[25]

The problem of a cooperative manager is not only one of incompetence, however, but also one of lack of authority to carry out managerial tasks. Managers of cooperatives complain that they have not been able to secure the necessary authority to match their responsibility for efficient operation of agricultural cooperatives. At a recent national meeting, a representative of cooperative management argued for increasing the authority of management. He cited the advantages as: "it will save us a lot of time and discussion, and it will be much easier and faster to make decisions."[26] Any yet, there is a general concern that management is assuming too much decision making power.

Kelsey B. Gardner reported that many members of agricultural cooperatives complain that the effort of management is concentrated on improving business operations at the expense of being responsive to the needs of the members.[27] And according to Gene Ingalsby, "directors and management of some cooperatives are striving so hard to become just like all other business that they fail to recognize and captialize on the unique characteristics of a cooperative business organization and basic principles that distinguish it from other types of business firms."[28] Here again we observe a conflict between the imperative of operating efficiency and that of the principle of democratic control.

The growing complexity of cooperatives' operations make it imperative that management should have increased power in decision making if the agricultural cooperatives are to be operated efficiently. On the other hand, the delegation of such a power could make the principle of democratic control increasingly superfluous. Thus, agricultural cooperatives have to choose once again between cooperative rationality and operating efficiency. And so far, they have steadfastly insisted on observing the principle of democratic control even at the expense of operating efficiency. Ralph Hofstad, the president of one of the largest agricultural cooperatives in the United States, unequivocally supported the principle of democratic control when he declared that "if cooperative control has moved away from the farm, if management has abrogated power at the expense of traditional democracy, then it is time we restore basic principles to their rightful place."[29]

The reaction against the power of management is so strong that members of agricultural cooperatives prefer to put up with the inefficiencies that are associated with the long tenure of the board than to incur a possibility of conceding power to management. Roger Aberle underscored the inefficiencies associated with the board members' long tenure and, hence, with their old age in this manner:

> Older directors tend to be more conservative and slower in making decisions. Further, if their tenure extends too long, they tend to become jealous of their position--guarding it from a political view rather than from a position of trying to do what is best for their organization and community.[30]

But E. H. Fallon[31] has argued that shortening the tenure of the board would give the appointed manager undue power in the running of the cooperative. Such reluctance to shorten the tenure of the board of directors suggests that agricultural cooperatives prefer to live with the inefficiencies that are associated with the board's long tenure rather than face the possibility of management having more power of decision making resulting from a fast turnover in board members.

Summary

Agricultural cooperatives cannot depend on operating efficiency as a source of equity capital. Indeed, the imperatives of cooperative rationality are such that they cannot achieve a high level of operating efficiency. And as the operation of these cooperatives continues to be more complex and require an increasing amount of financial outlay, their capability to operate at a high level of efficiency is being compromised.

The limited financial base of agricultural cooperatives is increasingly foreclosing the adoption of efficient technologies as well as making the transaction between cooperatives and their task environments more expensive. The continued emphasis on observing the principles of democratic control makes it imperative that decisions be made by a rather incompetent board of directors as well as rendering the process of decision making rather inefficient. And as a result of the limited financial base of agricultural cooperatives and their continued emphasis on observing the principle of democratic control, agricultural cooperatives can not afford to employ competent managers. Nor are they willing to delegate to their managers the authority required to manage the increasingly complex operations of agricultural cooperatives. Such a state of affairs is making it increasingly difficult for cooperatives to achieve a high level of operating efficiency. And if they can not achieve a high level of operating efficiency, the source of retained savings that they have been increasingly depending upon in recent years cannot be a reduction of costs.

The Internal Source of Equity Capital and Price Policy

In spite of their limitations on operating as efficiently as the corporations against which they compete, agricultural cooperatives are increasingly relying on retained savings as a source of equity capital. And inasmuch as the source of these savings could only be either a reduction of cost (a high level of operating efficiency) or an appreciation of price, such a phenomenon cannot occur unless agricultural cooperatives pursue a policy of charging higher prices for the services they render than the competition warrants.

To argue that agricultural cooperatives can continue to rely on retained savings by charging the same price as the competing corporations do presupposes that the prevailing market price is high enough to permit cooperatives not only to generate substantial savings to be used as a source of equity capital, but also to cover the cost of their relative operating inefficiencies. And if this is to happen, then the rate of return on investment that corporations can make in agriculture must be rather substantial. Inasmuch as corporations operate at a higher level of operating efficiency than the agricultural cooperatives against which they compete, a level of price that could make it possible for cooperatives to generate substantial savings should allow corporations to make a substantial rate of return on investment. Such a situation cannot continue to prevail, however. The high rate of return on investment would attract other corporations to enter agriculture, thereby forcing the price to go down to such a level that the rate of return on investment that corporations could make in agriculture would not be, on the average, greater than that they could make in the other sectors of the economy. The prevailing price would thus not be high enough to permit agricultural cooperatives to continue generating substantital savings as a source of equity capital and at the same time cover their cost of operating inefficiencies. Accordingly, if cooperatives are to rely on retained savings as a source of equity capital, it becomes imperative for them to charge higher prices for the services they render than the competition permits. And, in fact, such is the policy that agricultural cooperatives pursue.

In their interview with young farmers, Walter Jacoby and Gene Ingalsbe found out that the price policy of agricultural cooperatives is what farmers complain about foremost.[32] Young farmers repeatedly pointed out that cooperatives are not competitive in their price policies. A few examples should illustrate the bitterness of these farmers towards such policies. One farmer complained "my coop is not competitive in grain bids. I can haul 80 miles and get more than enough to pay for any trucking." Puzzled by the high prices that agricultural cooperatives charge, another farmer raised this question: "we need to know why they feel we should patronize our cooperatives and support them when their prices are way above any one else's?"[33] And Paul Hill expressed his indignation with the price policy of agricultural cooperatives in the following manner:

> Most young farmers are sick and tired of walking into their local coop or going to their regional coop and listening to the line we will be competitive. It is high time that co-ops stop meeting competition and be the competition. If they do not start being the competition they are going to find themselves taking a distant second.[34]

The indignation of farmers is not limited to the price policy that their agricultural cooperatives pursue. They also complain about the cooperatives' policy of patronage refund.

The Internal Source of Equity Capital and the Policy of Patronage Refunds

The reliance of agricultural cooperatives on retained savings as a source of equity capital involves not only a problem of generating savings but also one of retaining them within the cooperatives as well. Agricultural cooperatives attempt to solve the former problem through a price policy and the latter through a policy of patronage refund.

The policy of patronage refund involves a decision as to what portion of the savings should be declared as patronage refunds and in what form these patronage refunds will be made available to the patrons. Hard-pressed for the creation of equity capital, the boards of directors of agricultural cooperatives pursue a policy that minimizes the flow of resources from the cooperatives to the patrons. Accordingly, a substantial portion of the patronage refund is paid out not in the form of cash, but rather in the form of certificates of ownership and indebtedness. This means that the cooperatives' patrons not only pay high prices for the services that their cooperatives render, but they also fail to obtain the amount they were initially overcharged.

The effect of the policy of patronage refund on the patrons is further aggravated by the fact that patrons have to pay taxes on the savings of their agricultural cooperatives regardless of whether or not these savings are made available to them. The law recongizes agricultural cooperatives as non-profit organizations. And the savings that the agricultural cooperatives report belong to the patrons. As a result, it is the patrons and not the cooperatives that have to pay taxes on these savings. When such a situation is combined with the policy of patronage refund that agricultural cooperatives pursue, the patrons end up paying more for taxes than the amount of cash they received in the form of patronage refund. And because of this possibility, agricultural cooperatives are required by law to pay at least 20% of their patronage refund in cash.

This requirement cannot be expected to solve the problem, however. Agricultural cooperatives have been able to circumvent this spirit of the law by satisfying just its minimum requirement--paying just 20% of their patronage refund in cash. And such a level of cash patronage has not proven to be adequate to cover the amount of tax that the patrons have to pay on their share of the savings that their cooperatives report. Paul Hill complained about the whole situation in this manner:

> Our tax laws are such that young farmers cannot afford to receive a dividend (patronage refund) of 20% in cash, have the rest deferred 7 to 10 years, and then pay tax on the full amount the year it is declared. The plain facts of the situation are that it actually costs the young farmer out-of-the-pocket cash to receive a dividend in many cases.[35]

The requirement that agricultural cooperatives should pay at least 20% of their patronage refund in cash also makes it necessary for them to increase the price of goods and services they sell. Because they find it imperative to retain their savings as a source of equity capital, the requirement that they pay at least 20% of their patronage refund in cash makes it necessary for them to increase the total reported savings so that the increase in savings offsets the cash patronage refund required by law. And this means that agricultural cooperatives have to increase the price of goods and services they sell to their patrons. Again, they have to face the complaints of their patrons. Thus, David Smith could report that the most frequent complaint of the patrons of agricultural cooperatives is that net margins are too high and the portion returned in cash is not enough.[36]

Agricultural cooperatives certainly face a dilemma with respect to the price policy and the policy of patronage refund they pursue. If they are to rely on retained savings as a source of equity capital, it is imperative that they pursue a policy of charging high prices for the goods and services they sell, while at the same time minimizing the cash patronage refund they have to pay to their patrons. On the other hand, if agricultural cooperatives were to abandon the strategy of relying on retained savings as a source of equity capital, their financial plight would be so overwhelming that it would be highly doubtful whether they would be able to carry out their activities on the basis of cooperative rationality. Nor is the strategy of relying on retained savings that attractive. The continuing complaint of patrons about the high prices they pay for the goods and services they buy and the low cash patronage refund they receive will eventually make it imperative for them to discontinue patronizing their agricultural cooperatives.

The Internal Source of Equity Capital and the Commitment of Patrons to Agricultural Cooperatives

The policies that could enable agricultural cooperatives to rely on retained savings as an internal source of equity capital are making it increasingly difficult for farmers to continue patronizing them. Indeed, the sacrifice that farmers have to make in order to patronize their agricultural cooperatives is growing unbearable. The effect of these policies is particularly severe on young farmers.

According to Gene Ingalsbe, "the capital needs of farmers are greatest when it is difficult to get a credit rating established."[37] And young farmers fall into this category. As a result, their capital needs would be expected to be greater than those of the established farmers. And this means that the effect of the financial sacrifice that patronizing agricultural cooperatives involves is more severe for young farmers. Accordingly, young farmers are likely to be the least prepared to patronize agricultural cooperatives. Such is indeed the case. A young farmer spoke of the attitude of his peers in this manner:

> I know some young farmers feel they get an advantage going to the non-coop for a cash discount, rather than trading with the coop whose patronage refund is particularly tied up in a revolving fund. The young farmers need the cash to get established.[38]

The availability of volume discounts to young farmers is increasingly exacerbating the opportunity cost of patronizing agricultural cooperatives. Inasmuch as the scale of operation of the young farmers is large, corporations are making volume discounts available to them. Such discounts are not offered by the agricultural cooperatives. And to the extent that the structure of farms is increasingly changing into a large scale operation, the farmers' temptation to patronize corporations in order to take advantage of volume discounts has become a rather pervasive problem for agricultural cooperatives. George L. Capel characterized the problem thus:

> As farms become larger and fewer, it is possible that cooperatives may find themselves at an increasing disadvantage in attempting to hold their present share of the market. Many large farmers are able to obtain their major inputs at lower prices from non-cooperative business. What the future holds for cooperatives depends upon the adaptibility of the cooperative to institute new pricing policies related to the volume of business conducted by individuals.[39]

The competition that agricultural cooperatives face from corporations is not limited to volume discounts. The change in the structure of the family farm has necessitated a new form of relationship between corporations and the farmer. The increasingly large scale operations of the family farm are making it economically feasible for corporations to undertake a direct sell of packages of goods and services to the farmer; and the growing complexity of the operation of the contemporary American family farm is making it more and more imperative that the farmer purchase his goods and services as a package. Corporations are thus adjusting their mode of operation such that they will be able to provide more effectively and efficiently the package of services that farmers are increasingly demanding. Arlo Minden has indicated that corporations in the farm input industry are not only decentralizing their operations to be closer to the farmer, but are also conducting an aggressive merchandising campaign to sell their service-product package.[40] And Joseph H. Marshall characterized the effect of the change of operations in corporations on agricultural cooperatives in this manner:

> With farm units getting larger and buying in large quantities the cooperative is faced with the possibility of working out an arrangement to provide efficient service at competitive prices. This is necessary to remain competitive with other major agricultural supply organizations who have streamlined their distribution systems and have either totally or partially bypassed the local dealership.[41]

If agricultural cooperatives are to increase or even hold on to their share of the market, it is imperative that they offer the package of goods and services that their members require at competitive prices. The increasingly aggressive campaign of the corporations to sell their package of goods and services at attractive prices on the one hand, and the continued deterioration of the financial problems of the family farms on the other are making cooperatives' policies with respect to price and patronage refund increasingly repulsive to the members.

Consequently, the commitment of members to patronize their agricultural cooperatives is deteriorating. Melvin Sims has complained that members take their agricultural cooperatives as just another business.[42] The gravity of this problem is further articulated by Ronald Knuston in the following manner:

> Producers by and large lack commitment to their cooperatives. They will market their grain with a proprietory concern despite the fact that they have hundreds or frequently thousands of dollars invested in their local cooperatives. Such a lack of commitment cannot persist if cooperatives are to compete in the agriculture of the future.[43]

The lack of commitment to patronize agricultural cooperatives is worse among young farmers. Robert Child reported that:

> Nearly every major cooperative I know anything about is troubled by what seems to be an unfavourable set of attitudes and viewpoints on the part of many young farmers with regard to the support and use of their cooperative.[44]

And such a state of affairs is not surprising since young farmers are the ones that suffer the most from the policies of price as well as patronage refund pursued by agricultural cooperatives. By patronizing these cooperatives, young farmers not only bear the burden of the high prices of goods and services that the cooperative offers but also, as large farmers do, forego the volume discounts that would have been made available to them by corporations. And, the financial plight that young farmers face is such that the effect of these sacrifices is more severe on them than it is on large scale farmers.

Farmers have repeatedly pointed out that the cooperatives' price policy is the principal cause for the deterioration of farmers' commitment to their agricultural cooperatives. E. H. Fallon reported that young farmers generally agree that about 90% of their loyalty to their cooperative is primarily a function of the price policy.[45] And in the interview that Walter Jacoby and Gene Ingalsbe conducted, one of the farmers pointed out to them that all farmers would do their business with the cooperative if they were offered competitive prices and services.[46] It is rather ironic that the price policy made imperative by the agricultural cooperatives' requirements for equity captial could end up undermining the volume of business that they generate. Thus, the strategy that is adopted to solve the cooperatives' financial problem may very well bring an end to their survival.

The strategy of agricultural cooperatives to use policies of prioe and patronage refund as a device of generating equity capital is counter-productive. Because the direct approach of raising equity capital has not been successful, these policies are indirect means of raising equity capital from the farmers. Farmers have already unequivocally expressed their unwillingness to contribute equity capital to their agricultural cooperatives. And their refusal to patronize them is an indirect answer of refusal to an indirect means of coercion to contribute equity capital to their cooperatives. But this refusal to patronize their cooperatives is the last resort available to farmers against the coercion that cooperatives are exerting on them to contribute equity capital.

The Internal Source of Equity Capital and Cooperative Rationality

The significance of retained savings as a solution to the mounting financial problems of agricultural cooperatives cannot be overemphasized. Inasmuch as equity capital has become a bottleneck in the cooperatives' operation and to the extent that the farmers have unequivocally refused to contribute the equity capital that cooperatives are increasingly requiring, retained savings is becoming a last resort that could be used to raise equity capital without doing violence to the essential attributes of the cooperative form of business organization. However, the constraints that cooperative rationality imposes on the operation of agricultural cooperatives makes it difficult for them to achieve a level of efficiency of operation that would make the generation of the required savings possible. And the severity of the constraints becomes increasingly acute as agricultural cooperatives undertake activities that are requiring a large amount of financial outlay and complexity of operations. As a result, they cannot rely on their operating efficiency as a source of the equity capital that they so desperately need.

The retained savings of agricultural cooperatives are a result of the policies that they pursue with respect to price and patronage refund. Agricultural cooperatives generate their savings by raising the price of their goods and services beyond what the competition permits; and they retain a substantial portion of these savings by restricting the amount of cash patronage that could be declared. Neither of these policies is inconsistent with cooperative rationality. Agricultural cooperatives are not expected to charge their patrons the price that would enable them to just break-even, for such a price cannot be ascertained in advance. Nor are they expected to return all of their savings to their members: a portion of the savings would have to be retained as reserves for contingencies. Agricultural cooperatives have the discretion to set their prices and determine the amount of cash patronage refund they can declare. But this discretion is being increasingly used to raise the equity capital that they could not muster through direct solicitation of their members.

Inasmuch as retained savings are a result of the policies that agricultural cooperatives pursue with respect to price and patronage refund, the source of retained savings is the members themselves. Accordingly, the distinction between capital stock and retained savings is becoming increasingly artificial. The source of the equity capital in both cases is becoming the members, but while capital stock is raised by a direct solicitation of members to contribute equity capital to their agricultural cooperatives, retained savings are raised by indirectly coercing members to contribute equity capital. Thus, retained savings constitute neither savings nor an internal source of equity capital: they are increasingly becoming an external source of equity capital as much as capital stock is. And to the extent that the members have unequivocally expressed their reluctance to make contributions of equity capital to their agricultural cooperatives, there is no reason to expect members to respond favourably to an indirect means of raising equity capital. In fact, members are answering in the negative to such an indirect call. Indeed, the reluctance of farmers to patronize their agricultural cooperatives is an indirect refusal to submit to the policies of price and cash patronage refund that their cooperatives pursue to raise their equity capital.

Although these policies are consistent with cooperative rationality, their consequences for the survival of agricultural cooperatives as a viable form of business organization are rather far reaching. As members become increasingly reluctant to patronize their cooperatives, not only will these cooperatives lose their share of the market, but their financial base will also become more narrow. And the resulting narrower financial base exerts further pressure on the agricultural cooperatives to raise equity capital by pursuing the policies of raising prices and lowering their cash patronage refund which makes the problem more acute. The dynamics of this process of market erosion and the financial base of the agricultural cooperatives will inevitably lead to the dissolution of agricultural cooperatives as a form of business organization. Such is the consequence of their increasing reliance on retained savings as a solution to their financial problems; and such is the consequence that contemporary agricultural cooperatives will have to face if they are to continue operating on the basis of cooperative rationality.

FOOTNOTES

[1]Joseph G. Knapp. Farmers in Business. Washington, D. C.: American Institute of Cooperation, 1963, p. 380.

[2]Nelda Griffin. Financial Structure of Regional Farmer Cooperatives," General Report 133. Farmer Cooperative Service, U. S. Department of Agriculture, 1966, p. 14.

[3]Howard Elson. "How a Cooperative Serves One Member," American Cooperation, 1970, p. 148.

[4]Gordon W. Leith. "Emerging Needs of Farmer give clues to Cooperative Horizons," American Cooperation, 1970, p. 15.

[5]Melvin E. Sims. "Controlling Our Own Destiny," American Cooperation, 1970, p. 35.

[6]Robert J. Byrne. "Managing Transportation," News For Farmer Cooperatives, Farmer Cooperative Service, U. S. Department of Agriculture, May, 1973, p. 15.

[7]Ronald O. Aines. "Linkages in Control and Management with Agribusiness," in Gordon A. Ball and Earl O. Heady (eds.), Size, Structure, and Future of Farms. Ames Iowa: The Iowa State University Press, 1972, p. 181.

[8]Paul Hill. "Does the Cooperative Help Young Farmers," American Cooperation, 1972-73, p. 71.

[9]E. H. Fallon. "Can Yesterday's Cooperatives meet Tomorrow's Needs," News For Farmer Cooperative. Farmer Cooperative Service, U. S. Department of Agriculture, April, 1972, p. 8.

[10]Paul Hill. Op. cit., p. 67.

[11]Ibid.

[12]Ibid., p. 68.

[13]E. H. Fallow. Op. cit., p. 6.

[14]Gene Ingalsbe. "Co-op Leaders Respond to Young Farmers' Questions," American Cooperation, 1972-73, p. 75.

[15]Paul Hill. Op. cit., p. 66.

[16]Walter Jacoby and Gene Ingalsbe. "Young Farmers Speak Out on: Services We Need," News For Farmer Cooperative, Farmer Cooperative Service, U. S. Department of Agriculture, March, 1976, p. 16.

[17]Ralph Hofstad. "How We Structure and Run is The Basic Question," American Cooperation, 1975-76, p. 152.

[18]Ibid.

[19]Ibid.

[20]Sidney Hoos. "Trouble is Intellectual Stagnation," News For Farmer Cooperatives, Farmer Cooperative Service, U. S. Department of Agriculture, May, 1973, p. 3.

[21]Gene Ingalsbe. "Cooperative Strength Depends On Resolving Internal Issues," News For Farmer Cooperatives, Farmer Cooperative Service, U. S. Department of Agriculture, December, 1975, p. 12.

[22]Paul Hill. Op. cit., p. 68.

[23]Travis Jamison. "Takes Team Work For Good Board-Manager Relations," American Cooperation, 1975-76, p. 128.

[24]Gene Ingalsbe. Op. cit., p. 12.

[25]Walter Jacoby and Gene Ingalsbe. "Give Us Stronger Management and Marketing," News For Farmer Cooperatives, Farmer Cooperative Service, U. S. Department of Agriculture, February, 1976, p. 13.

[26]Ralph Hofstad. Op. cit., p. 152.

[27]Kelsey B. Gardner. "Matching Cooperative Principles With Today's Operating Practices," American Cooperation, 1971, p. 162.

[28]Gene Ingalsbe. "Cooperative Strength Depends On Resolving Internal Issues," Op. cit., p. 2.

[29]Ralph Hofstad. Op. cit., p. 152.

[30]Roger W. Aberle. "Strengthening Leadership with New Blood," American Cooperation, 1974-75, p. 288.

[31]E. H. Fallon. Op. cit., p.6.

[32]Gene Ingalsbe. "The more you give the more you get," News For Farmer Cooperatives, Farmer Cooperative Service, U. S. Department of Agriculture, October, 1974, p. 18.

[33]Ibid.

[34]Paul Hill. Op. cit., p. 66.

[35]Ibid.

[36]David L. Smith. "Member Relations Emphasis Needed in Good Times, Too," News For Farmer Cooperatives, Farmer Cooperative Service, U. S. Department of Agriculture, May, 1975, p. 20.

[37]Gene Ingalsbe. "The More You Give The More You Get," Op. cit., p. 18.

[38]Ibid.

[39]George L. Capel. "The Role of Cooperatives in the Input Industries," American Journal of Agricultural Economics, December, 1970, p. 693.

[40]Arlo J. Minden. "Changing Structure of the Farm Input Industry: Organization, Scale, and Ownership," American Journal of Agricultural Economics, December,1970, p. 678.

[41]Joseph H. Marshall. "Hot Points Needing Cooperative Action," American Cooperation, 1974-75, p. 71.

[42]Melvin E. Sims. Op. cit., p. 32.

[43]Ronald D. Knuston. "Fit In Or You May Be Left Out," News For Farmer Cooperatives, Farmer Cooperative Service, U. S. Department of Agriculture, October, 1974, p. 5.

[44]Robert B. Child. "Can Cooperatives Serve Large Young Farmers in the Seventies," News For Farmer Cooperatives, Farmer Cooperative Service, U. S. Department of Agriculture, September, 1970, p. 14.

[45]E. H. Fallon. Op. cit., p. 6.

[46]Gene Ingalsbe. "The More You Give The More You Get." Op. cit., p. 18.

CHAPTER V

CONCLUSION

The ultimate test for the viability of the cooperative form of business organization is the extent to which it can attract patrons. Agricultural cooperatives cannot be expected to survive if family farmers refuse to patronize them. The recent experience of American agricultural cooperatives makes it obvious, however, that it is becoming increasingly difficult to induce family farmers, particularly the young, to patronize them. Indeed, executives of agricultural cooperatives have been expressing their alarm with growing frequency. The question thus becomes what can be done to reverse the situation.

The course of action that can be taken depends upon the diagnosis of the problem. In the final analysis, however, the increasing reluctance of family farmers to patronize agricultural cooperatives is attributable either to their ignorance about the virtues of cooperatives, or to the inability of cooperatives to provide goods and services at prices family farmers are willing to pay, or a combination of both. For the true believers in agricultural cooperatives, the source of the problem is that contemporary family farmers, particularly the young, do not understand the philosophy and virtues of the cooperative form of business organization. Therefore, the solution they suggest is that agricultural cooperatives undertake a program of educating family farmers about both philosophy and virtues of the cooperative form of business organization. But such a course of action fails to address the specific complaints that family farmers make about agricultural cooperatives.

Farmers have repeatedly articulated that their reluctance to patronize agricultural cooperatives is a result of the fact that cooperatives pursue a policy of high prices and low cash patronage refund. The veritableness of such a claim cannot be dismissed. Nor can executives of agricultural cooperatives deny that they charge higher prices than the competition permits or that they restrict the cash patronage refund. The fact of the matter is that these executives have virtually no choice but to pursue such policies. Indeed, if agricultural cooperatives are to observe the unity of patronage and ownership in the family farmer, the only way they can raise the equity capital they need is by pursuing a policy of high prices and low cash patronage refund.

Price Policy and Cooperative Rationality

The price policy that agricultural cooperatives pursue is, in the final analysis, made imperative by the need to raise a growing amount of equity capital without violating the unity of patronage and ownership in the family farmer. The tasks that cooperatives have to undertake in contemporary American agriculture have been of such a nature that they require a large amount of financial outlay to be carried out effectively and efficiently. An increasingly large amount of such outlay are required to finance both the growing number of activities that have been transferred from family farmers to agricultural cooperatives as well as the processing of farm products and the manufacture of farm supplies that cooperatives have been undertaking.

Raising this increasingly large amount of financial outlay is one of the most pressing problems that agricultural cooperatives are facing in contemporary American agriculture.

This problem is essentially one of raising equity capital. Insofar as the extent of debt that agricultural cooperatives can incur is limited by the amount of equity capital they can raise, their financial problem cannot be solved unless they develop the capability of raising equity capital. And because of the requirement of the unity of patronage and ownership in the member, agricultural cooperatives can raise the equity capital they need only from the members: the family farmers who patronize them. However, the financial plight of family farmers is such that the possibility of raising the required equity capital through contributions is insignificant. As a result, the only option that agricultural cooperatives have to raise their equity capital without violating the unity of patronage and ownership in the member is by raising the price of goods and services they sell beyond what the competition permits. But such a policy is proving counter-productive in that it has made the opportunity cost of patronizing agricultural cooperatives so unbearable that family famrers are increasingly becoming reluctant to patronize them.

The Opportunity Cost of Patronizing Agricultural Cooperatives

The strategy of agricultural cooperatives to raise their equity capital by increasing their prices beyond what the competition permits can be effective only if family farmers are willing to continue patronizing cooperatives in spite of the high prices. However, the increasingly acute financial problem of these farmers together with the growing amount of financial sacrifice that is involved in patronizing agricultural cooperatives make it difficult for family famers to continue their patronage. Because of the increasing scale of operation of the family farms, the sacrifice of a small price advantage results in a sacrifice of a substantial amount of money. And such a sacrifice is hard to make for the family farmers whose financial plight is becoming more and more acute. The problem becomes even more serious when it is recognized that the opportunity cost of patronizing agricultural cooperatives will have the tendency to increase in the future.

As the industrialization of American agriculture continues, the pressure on agricultural cooperatives to raise their prices becomes more intensified, the scale of operation of family farms becomes larger, and the financial plight of family farmers becomes more acute. As a result, the opportunity cost of patronizing agricultural cooperatives is likely to increase. And so long as this cost continues to grow, agricultural cooperatives will find it difficult if not impossible to win the patronage of family farmers. If agricultural cooperatives are to survive it becomes imperative that they reduce the opportunity cost of patronizing them.

Unless agricultural cooperatives abandon their strategy of raising equity capital by increasing the price of their goods and services, they cannot bring about a significant reduction in the opportunity cost of their patronage. At the same time, they cannot renounce their price policy if they are to insist on observing the unity of patronage and ownership in the family farmer. Indeed, if they were to renounce this policy, they would have to abandon the unity of patronage and ownership in the family farmer so that they would be able to raise their equity capital from the capital market.

The desirability of abandoning this unity of patronage and ownership in the family farmer brings cooperative rationality in contemporary American agriculture to an end. For the other essential attribute of the cooperative form of business organization is not observed in the operation of agricultural cooperatives. The activities of agricultural cooperatives are no longer considered to be an extension of the family farm; on the contrary, it is the activities of the family farm that are becoming subordinated to the activities of agricultural cooperatives.

The Changing Role of Agricultural Cooperatives and the Imperatives of Coordination

One of the two fundamental attributes of the cooperative form of business organization is that the activities of agricultural cooperatives becomes subordinated to the activities of the family farm. However, contemporary American agricultural cooperatives find it expensive to undertake their operations under such an arrangement. Indeed, the scale and complexity of the operation of the tasks that these cooperatives have been undertaking are such that a substantial cost of coordination would have to be assumed if their activities were to be subordinated to those of the family farms.

This high coordination cost of subordinating the increasingly large scale and complex activities of the agricultural cooperatives to those of family farms essentially stems from the increase in the number of family farms to which agricultural cooperatives have to adjust and the cost of adjusting to each of them. Each adjustment that the agricultural cooperative makes to the requirements of each family farm affects not just a simple activity but triggers an adjustment of wide range of interdependent activities of the cooperative. And the higher the degree of interdependence among activities, the more difficult it becomes to manipulate one activity without affecting the others; the larger the number of activities that are interdependent, the higher is the cost of manipulating the whole group of activities. Inasmuch as the complex operations of agricultural cooperatives constitute a large number of highly interdependent activities, an attempt by the agricultural cooperative to adjust to the activities of the family farm would involve a high cost of coordination. And the heavy amount of investment that is associated with these complex activities only aggravates the situation.

The cost of coordinating the activities of the agricultural cooperatives with those of the family farms is further escalated by the increasing number of family farms to which the agricultural cooperatives would have to adjust. Because of the continuing merger of agricultural cooperatives, the number of family farms that each cooperative caters to has substantially increased. And if these large cooperatives adjust their activities to the requirements of each family farm, they incur a substantial cost of coordination.

The increase in both the number of family farms to which the agricultural cooperative would have to adjust and the cost involved in the porcess of adjustment to the requirements of each farm make the subordination of the cooperative to the family farm a rather costly arrangement for the operation of contemporary American agricultural cooperatives. On the other hand, the continuing transfer of the functions of the family farm to the agricultural cooperative has reduced the complexity of the operation of the family farm so much so that the farm activities can be subordinated to those of the cooperative without causing a significant increase in the cost of coordination to the farmer. Such a situation makes it imperative that the activities of the family farm become subordinated to those of the agricultural cooperative. Indeed, such has been the nature of the relationship between the family farm and the agricultural cooperative in contemporary American agriculture. In this regard, the relationship is not essentially different from the relationship of the family farm to corporations. In fact, family farmers often complain that agricultural cooperatives have become just another business: agricultural cooperatives and corporations treat family farmers in the same manner.

Once the activities of the family farm become subordinated to those of the agricultural cooperative, the unity of patronage and ownership in the family farmer becomes superfluous. After all, the unity of patronage and ownership in the member is meant to ensure that agricultural cooperatives cater to the interests of the family farmer. However, the subordination of farm activities to those of the agricultural cooperative suggests that no purpose is served by restricting the locus of control of agricultural cooperatives to the patron-owners. Nor would the family farmer be able to control the operation of agricultural cooperatives effectively. Indeed, family farmers do not have the competence nor the required motivation to control the increasingly large scale and complex operations of agricultural cooperatives. The unity of patronage and ownership in the patron-farmer has thus lost its usefulness; it has only become an impediment for agricultural cooperatives in their effort to raise their equity capital.

It is the economic imperatives that make it necessary for agricultural cooperatives to operate outside the constraints and contintencies that arise from the cooperative character of the organization. The requirements for efficient coordination make it necessary that the activities of the family farm become subordinated to those of the agricultural cooperatives; and the increasing opportunity cost of patronizing cooperatives makes it necessary that they abandon the unity of patronage and ownership in the member.

It is thus clear that contemporary American agricultural cooperatives do not have the capability of carrying out their tasks effectively and efficiently. The tasks they do undertake can be performed effectively and efficiently only if they operate outside the constraints and contingencies that characterize the cooperative form of business organization. On the other hand, agricultural cooperatives lose their cooperative character when they fail to operate within these constraints and contingencies. And there lies the growing incompatibility of the cooperative form of business organization with the tasks it has to perform in contemporary American agriculture.

BIBLIOGRAPHY

BIBLIOGRAPHY

Abbot, Fred. "Cooperative Efficiency and the Principles," in Cooperative Principles in the Modern World. Cooperative College Papers. Laughborough, England: The Education Department, Co-operative Union Ltd., 1967.

Aberle, Roger W. "Strengthening Leadership with new Blood," American Cooperation, 1974-75.

Aines, Robald O. "Linkages in Control and Management with Agribusiness," in Gordon A. Ball and Earl O. Heady (eds.), Size, Structure, and Future of Farms. Ames, Iowa: The Iowa State University Press, 1972.

Allewert, William F. "What are Long Range Financing Alternatives for Cooperative Growth," American Cooperation, 1974-75.

Anderson, Dale O. "Economic Means of Farm Groups," in Gordon A. Ball and Earl O. Heady (eds.), Size, Structure, and Future of Farms. Ames, Iowa: The Iowa State University Press, 1972.

Bakken, Henry H. Basic Concepts, Principles and Practices of Cooperation. Madison, Wisconsin: Mimir Publishers, Inc., 1963.

Ball, Gordon A. and Earl O. Heady. "The Trends in Farm Enterprise Size and Scale," in Gordon A. Ball and Earl O. Heady (eds.), Size, Structure, and Future of Farms. Ames, Iowa: The Iowa State University Press, 1972.

Barnard, Chester I. The Functions of the Executive. Cambridge, Mass.: Harvard University Press, 1938.

Bedi, R. D. Theory, History and Practice of Cooperation. Meerut, India: Loyal Book Depot, 1969.

Betts, Merle. "Farmers and B. C.'s Both have Responsibilities," American Cooperation, 1972-73.

Black, John D. Research in Agricultural Cooperation. New York: Social Science Research Council, 1933.

Black, William and Ronald D. Knuston. "Let's talk about Marketing Agreements," News For Farmer Cooperatives, Farmer Cooperative Service, U. S. Department of Agriculture, September, 1974.

Black, G. Y. "Cooperative Principles in the Modern World," in Cooperative Principles in the Modern World. Cooperative College Papers. Laughborough, England: The Education Department, Cooperative Union Ltd., 1967.

Brake, John R. "Capital and Credit," in Gordon A. Ball and Earl O. Heady (eds.), Size, Structure, and Future of Farms. Ames, Iowa: The Iowa State University Press, 1972.

Breimyer, Harold. Bargaining Perspectives: Proceedings of the 20th National Conference of Bargaining Cooperatives, Farmer Cooperative Service, U. S. Department of Agriculture, July, 1976.

Byrne, Robert J. "Managing Transportation," News For Farmer Cooperatives, Farmer Cooperative Service, U. S. Department of Agriculture, May, 1973.

Capel, George L. "The Role of Cooperatives in the Inputs Industries," American Journal of Agricultural Economics, December, 1970.

Chandler, Alfred D., Jr. Strategy and Structure. Cambridge, Mass.: The MIT Press, 1962.

Child, Robert B. "Can Cooperatives Serve Large Young Farmers in the Seventies," News For Farmer Cooperatives, Farmer Cooperative Service, U. S. Department of Agriculture, September, 1970.

Clearwaters, Keith I. "Justice Spokesman Looks at Immunity, Constraints," News For Farmer Cooperatives, Farmer Cooperative Service, U. S. Department of Agriculture, September, 1970.

Cochrane, W. W. and R. H. Elsworth. Farmers' Cooperative Discontinuance. Miscellaneous Report No. 65, Washington, D. C.: U. S. Department of Agriculture, Farm Credit Administration, 1943.

Dahl, Dale C. "The Changing Nature of Agricultural Input Industry," American Journal of Agricultural Economics, December, 1970.

Dahl, Dale C. "Public Policy Changes Needed to Cope with Changing Structure," American Journal of Agricultural Economics, May, 1975.

Davidovic, George. "Critical Analysis of the Report of ICA Commission on Cooperative Principles 1963-1966," Review of International Cooperation, November, 1967.

Digby, Margaret. "Cooperative Principles," in Cooperative Principles in the Modern World. Cooperative College Papers. Laughborough, England: The Education Department, Cooperative Union Ltd., 1967.

Digby, Margaret. The World Cooperative Movement. London: Hutchinson University Library, 1963.

Dryer, Stanley. "Cooperative Principles," Review of International Cooperation, November, 1967.

Dubhashi, P. R. "Cooperative Efficiency and the Principles," in Cooperative Principles in the Modern World. Cooperative College Papers. Laughborough, England: The Education Department, Cooperative Union Ltd., 1967.

Dubhashi, P. R. Principles and Philosophy of Cooperation. Poona, India: Vaikunth Mehta National Institute of Cooperative Management, 1970.

Ebert, Harvey. "An Operating Cooperative. What It Is," Bargaining Perspectives: Proceedings of the 18th National Conference of Bargaining Cooperatives, Farmer Cooperative Service, U. S. Department of Agriculture, July, 1974.

Ellerbe, Thomas F. "Cooperative Unlimited - A Concept of Cooperation," American Cooperation, 1972-73.

Elson, Howard. "How a Cooperative Serves One Member," American Cooperation, 1970.

Emmer, Gerald W. "Structure Depends on Purpose and Changing Times," American Cooperation, 1974-75.

Fallon, E. H. "Can Yesterday's Cooperatives Meet Tomorrow's Needs," News For Farmer Cooperatives, Farmer Cooperative Service, U. S. Department of Agriculture, April, 1972.

Fay, C. R. Cooperation at Home and Abroad. London: P. S. King & Son, 1939.

Filley, H. C. Cooperation in Agriculture. New York: John Wiley & Sons, Inc., 1927.

Flinchbaugh, Berry L. and Richard S. Fenwick. "Who Will Control U. S. Agriculture," American Cooperation, 1974-75.

Galbraith, Jay. "Environmental and Technological Determinants of Organization Design: A Case Study," in Jay W. Lorsch and Paul R. Lawrence (eds.), Studies in Organization Design. Homewood, Illinois: Richard D. Irwin, Inc., 1970.

Galbraith, John Kenneth. The New Industrial State. Boston: Haughton Mifflin Company, 1967.

Gardner, Kelsey B. "Matching Cooperative Principles with Today's Operating Practices," American Cooperation, 1971.

Griffin, Nelda. Financial Profile of Farmer Cooperative in the U.S.A. Farmer Cooperative Service, U. S. Department of Agriculture, 1972.

Griffin, Nelda. Financial Structure of Regional Farmer Cooperatives, General Report 133. Farmer Cooperative Service, U. S. Department of Agriculture, 1966.

Godwin, Marshal R. and L. L. Jones. "The Emerging Food and Fiber System: Implications for Agriculture," American Journal of Agricultural Economics, December, 1971.

Goldberg, Ray. "Farmer Co-ops and Industry: Profitable Partnerships," News For Farmer Cooperatives, Farmer Cooperative Service, U. S. Department of Agriculture, June, 1972.

Harris, Marshall. "Shifts in Enterpreneurial Functions in Agriculture," American Journal of Agricultural Economics, December, 1969.

Hathaway, Dale E. "Agriculture: Production," in David L. Sills (ed.), International Encyclopedia of Social Sciences. The Macmillan Company and Free Press, 1968.

Heady, Earl O. and Gordon A. Ball. "Public Policy Means and Alternatives," in Gordon A. Ball and Earl O. Heady (eds.), Size, Structure, and Future of Farms. Ames Iowa: The Iowa State University Press, 1972.

Helmburger, Peter G. "Markets, Farm Size, and Integration," in Gordon A. Ball and Earl O. Heady (eds.), Size, Structure, and Future of Farms. Ames, Iowa: The Iowa State University Press, 1972.

Henzler, R. "Are the Cooperative Principles Still Valid," in Cooperative Principles in the Modern World. Cooperative College Papers. Laughborough, England: The Education Department, Cooperative Union Ltd., 1967.

Hill, Paul. "Does the Cooperative Help Young Farmers," American Cooperation, 1972-73.

Hofstad, Ralph. "How We Structure and Run is the Basic Question," American Cooperation, 1975-76.

Hoos, Sidney. "Trouble is Intellectual Stagnation," News For Farmer Cooperatives, Farmer Cooperative Service, U. S. Department of Agriculture, May, 1973.

Hulber, Lyman S. "Important Legal Considerations of Cooperative Organization and Operation," American Cooperation, 1935.

Ingalsbe, Gene. "Co-op Leaders Respond to Young Farmers' Questions," American Cooperation, 1972-73.

Ingalsbe, Gene. "Cooperative Strength Depends on Resolving Internal Issues," News For Farmer Cooperatives, Farmer Cooperative Service, U. S. Department of Agriculture, December, 1975.

Ingalsbe, Gene. "The More You Give the More You Get," News For Farmer Cooperatives, Farmer Cooperative Service, U. S. Department of Agriculture, October, 1974.

International Cooperative Alliance. "Resolution Adopted by the ICA 23rd Congress," Review of International Cooperation, November, 1966.

Jacoby, Walter and Gene Ingalsbe. "Give Us Stronger Management and Marketing," News For Farmer Cooperatives, Farmer Cooperative Service, U. S. Department of Agriculture, February, 1976.

Jacoby, Walter and Gene Ingalsbe. "What We Want to Know About Our Cooperative," News For Farmer Cooperatives, Farmer Cooperative Service, U. S. Department of Agriculture, January, 1976.

Jacoby, Walter, and Gene Ingalsbe. "Young Farmers Speak Out on: Services We Need," News For Farmer Cooperatives, Farmer Cooperative Service, U. S. Department of Agriculture, March, 1976.

Jamison, Travis. "Takes Team Work for Good Board-Manager Relations," American Cooperation, 1975-76.

Jones, Ted. L. "Financial Management - The Key to Success," American Cooperation, 1970.

Justice, William F. "Cooperatives are Unique: Keep Them That Way," News For Farmer Cooperatives, Farmer Cooperative Service, U. S. Department of Agriculture, December, 1975.

Knapp, Joseph G. Farmers in Business. Washington, D. C.: American Institute of Cooperation, 1963.

Knapp, Joseph G. The Advance of American Cooperative Enterprise: 1920-1945. Danville, Illinois: Interstate Printers & Publishers, Inc., 1973.

Knapp, Joseph G. The Rise of American Cooperative Enterprise: 1620-1920. Danville, Illinois: Interstate Printers & Publishers, Inc., 1969.

Knuston, Ronald D. "A Full Service Cooperative Concept," News For Farmer Cooperatives, Farmer Cooperative Service, U. S. Department of Agriculture, August, 1975.

Knuston, Ronald D. "Cooperative Strategies in Imperfectly Competitive Market Structures - A Policy Perspective," American Journal of Agricultural Economics, December, 1974.

Knuston, Ronald D. "Definition of Producer is Critical Policy Issue," News For Farmer Cooperatives, Farmer Cooperative Service, U. S. Department of Agriculture, August, 1974.

Knuston, Ronald D. "Family Farmers Can Earn Membership in Tomorrow's Industrialized Argiculture," News For Farmer Cooperatives, Farmer Cooperative Service, U. S. Department of Agriculture, June, 1972.

Knuston, Ronald D. "Fit In or You May Be Left Out," News For Farmer Cooperatives, Farmer Cooperative Service, U. S. Depattment of Agriculture, October, 1974.

Kolmer, Lee. "Agricultural Decision Making in the New Environment," News For Farmer Cooperatives, Farmer Cooperative Service, U. S. Department of Agriculture, May, 1972.

Kulkarni, K. R. Theory and Practice of Cooperation in India and Abroad, Vol. 2, Part 1, Bombay: Cooperators' Book Depot, 1959.

Lambert, Paul. "Views on the Cooperative Principles," Review of International Cooperation, November, 1967.

Lawrence, P. R. and Jay W. Lorsch. "Differentiation and Integration in Complex Organizations," Administrative Science Quarterly, Vol. 12, 1967.

Leith, Gordon. "Emerging Needs of Farmer Give Clue to Cooperative Horizons," American Cooperation, 1970.

Long, Robert W. Perspectives on Research and Education for Commercial Agriculture," American Journal of Agricultural Economics, December, 1974.

Loos, Karl D. "Legal Fundamentals of Cooperation," American Cooperation, 1936.

Manley, William T. and Donn A. Reimund. "Organization and Control of the Food System," Marketing and Transportation Situation, Economic Research Service, U. S. Department of Agriculture, February, 1973.

Marshall, Joseph H. "'Hot' Points Needing Cooperative Action," American Cooperation, 1974-75.

Miller, J. D. "The Philosophical and Legal Background of the Cooperative Movement in the United States," American Cooperation, 1935.

Minden, Arlo J. "Changing Structure of the Farm Input Industry: Organization, Scale, and Ownership," American Journal of Agricultural Economics, December, 1970.

Mueller, Willard F. and Normal R. Collins. "Integration of Production, Processing and Marketing," American Journal of Agricultural Economics, Decmeber, 1957.

Nakubayashi, Sado. "A Review of the Rochdale Principles," Review of International Cooperation, November, 1967.

Nikolitch, Radoje. "The Individual Family Farm," in Gordon A. Ball and Earl O. Heady (eds.), Size, Structure, and Future of Farms. Ames, Iowa: The Iowa State Universtiy Press, 1972.

Nourse, Edwin G. "From Dogma to Science in Cooperative Thinking," in Martin A. Abrahamsen and C. L. Scroggs (eds.), Agricultural Cooperation. Minneapolis: University of Minnesota Press, 1957.

Nourse, Edwin G. "The Economic Principles of Cooperation in Agricultural Cooperation," in Martin A. Abrahamsen and C. L. Scroggs (eds.), Agricultural Cooperation. Minneapolis: University of Minnesota Press, 1957.

Nourse, Edwin G. The Legal Status of Agricultural Cooperation. New York: Macmillan Company, 1928.

Orne, Anders Emanuel. Cooperative Ideals and Problems. Manchester, England: The Cooperative Union Ltd., 1937.

Ostergaard, G. N. and H. R. Hasley. Power in Cooperatives. Oxford: Basil Blackwell and Mott, Ltd., 1965.

Paarlberg, Don. "Family Farmers Can Compete," News For Farmer Cooperatives, Farmer Cooperative Service, U. S. Department of Agriculture, May, 1973.

Packel, Israel. The Law of the Organization and Operation of Cooperatives. Albany, New York: Mathew Bender and Company, Inc., 1940.

Paris, W. C. "Coordination in the Poultry Industry;" American Cooperation, 1970.

Pentecost, B. H. "Legal Aspects of Cooperatives Reviewed," American Cooperation, 1973-74.

Pickler, Eugene B. "The Incidence of Large Farming Units," American Journal of Agricultural Economics, December, 1970.

Pollard, Sidney. "Cooperative Principles in the Modern World," in Cooperative Principles in the Modern World. Cooperative College Papers. Laughborough, England: The Education Department, Cooperative Union Ltd., 1967.

Quance, Leroy and Luther Tweenten. "Policies, 1930-1970," in Gordon A. Ball and Earl O. Heady (eds.), Size, Structure, and Future of Farms. Ames, Iowa: The Iowa State University Press, 1972.

Quin, Olin B. "Sources and Uses of Funds in Agriculture," American Journal of Agricultural Economics, December, 1974.

Rasmussen, Wayne D. "Advances in American Agriculture: The Mechanical Tomato Harvester - A Case Study," in Melvin Kranzberg and William H. Davenport (eds.), Technology and Culture: An Anthology. New York: Schocken Books, 1972.

Raup, Philip. "Social Goals in Farm Size," in Gordon A. Ball and Earl O. Heady (eds.), Size, Structure, and Future of Farms. Ames, Iowa: The Iowa State Universtiy Press, 1972.

Robotka, Frank. "A Theory of Cooperation in Agricultural Cooperation," Martin A. Abrahamsen and C. L. Scroggs (eds.), Agricultural Cooperation. Minneapolis: University of Minnesota Press, 1957.

Robotka, Frank. "Philosophy of Cooperation in Agricultural Cooperation," in Martin A. Abrahamsen and C. L. Scroggs (eds.), Agricultural Cooperation. Minneapolis: University of Minnesota Press, 1957.

Rust, Irwin W. Cooperatives in Agribusiness. Farmer Cooperative Service, U. S. Department of Agriculture, 1968.

Schaars, Marvin. "Basic Principles of Cooperatives: Their Growth and Development in Agricultural Cooperation," in Martin A. Abrahamsen and C. L. Scroggs (eds.), Agricultural Cooperation. Minneapolis: University of Minnesota Press, 1957.

Schein, Edgar. Organizational Psychology. Englewood Cliffs, New Jersey, Prentice Hall, 1970.

Schiller, Otto. Cooperation and Integration in Agricultural Production. New York: Asia Publishing House, 1969.

Schuttle, B. H. "Complexities to Mount in Financial Packages," News For Farmer Cooperatives, Farmer Cooperative Service, U. S. Department of Agriculture, December, 1975.

Seaver, Stanley K. "An Appraisal of Vertical Integration in the Broiler Industry," American Journal of Agricultural Economics, December, 1957.

Selznick, Philip. TVA and the Grass Roots. Berkley: University of California, 1949.

Simon, Herbert A. Administrative Behavior. New York: Macmillan Publishing Co., Inc., 1957.

Sims, Melvin E. "Controlling Our Own Destiny," American Cooperation, 1970.

Sloan, Roby. "The Money Market - Is it Adequate for the Needs of Today's Agriculture," American Journal of Agricultural Economics, December, 1970.

Smith, David L. "Member Relations Emphasis Needed in Good Times, Too," News For Farmer Cooperatives, Farmer Cooperative Service, U. S. Department of Agriculture, May, 1975.

Smith, Louis P. F. The Evolution of Agricultural Cooperation. Oxford: Blackwell, 1961.

Spaul, Hber. The Cooperative Movement in the World Today. London: Barrie and Rockliff, 1965.

Stanton, Beryle. "New Dimensions Proposed for Farm Credit System," News for Farmer Cooperatives, Farmer Cooperative Service, U. S. Department of Agriculture, June, 1970.

Stuckman, Noel W. "Which Cooperative Best Serves Farmer's Interest," Bargaining Perspectives: Proceedings of the 18th National Conference of Bargaining Cooperatives, Farmer Cooperative Service U. S. Department of Agriculture, July, 1972.

Sundquist, W. Burt. "Scale Economies and Management Requirements," in Gordon A. Ball and Earl O. Heady (eds.), Size Structure, and Future of Farms. Ames, Iowa: The Iowa State University Press, 1972.

Thompson, James D. Organization in Action. New York: McGraw-Hill Book Company, 1967.

Timmons, Johan F. "Tenure and Size," in Gordon A. Ball and Earl O. Heady (eds.), Size, Structure and Future of Farms. Ames, Iowa: The Iowa State University Press, 1972.

Tramczynski, Bohdan. "New Cooperative Principles," Review of International Cooperation, November, 1967.

U. S. Department of Agriculture. Cooperatives: Distinctive Business Corporations, Information 66. Farmer Cooperative Service, U. S. Department of Agriculture, 1970.

U. S. Department of Agriculture. "Cooperatives in Global Processed-Food Trade Face Questions: Partner or Servant," News For Farmer Cooperatives, Farmer Cooperative Service, U. S. Department of Agriculture, November, 1974.

U. S. Department of Agriculture. Legal Phases of Farmer Cooperatives, Information 100. Farmer Cooperative Service, U. S. Department of Agriculture, 1976.

U. S. Department of Agriculture. Managing a Farm, Bulletin No. 10. Farmer Cooperative Service, U. S. Department of Agriculture, 1944.

Watkins. W. P. "The Nature of Cooperative Principles," in Cooperative Principles in the Modern World. Cooperative College Papers. Laughborough, England: The Education Department, Cooperative Union Ltd., 1967.

MICHIGAN STATE UNIV. LIBRARIES
31293103838110