ADULT VOCATIONAL EDUCATION: A CRITICAL REVIEW OF PROPOSED FUNDING PROGRAMS FOR ADULT EDUCATION IN AGRICULTURE

By:
Adult Agriculture Advisory
Committee

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FORWARD

The following paper has been prepared, after considerable research, survey and discussion, by the Minnesota State Advisory Council for Adult Vocational Agriculture Education. This council was organized in July 1975 and charged with the task of advising the Adult Vocational Agriculture Division of the Minnesota State Department of Education.

The council consists of a representative from each of the Vocational Agriculture Regions plus several at-large members and resource personnel. Each council member is charged with the task of being in contact with all adult vocational agriculture instructors within his area, with farm family clients, school superintendents, local boards of education, farm organizations and agri-industry. All council members are actively teaching adult vocational agriculture programs. The council feels it's task is to provide resource inputs that will be helpful to the decisions of the Department of Education, the State Legislature and the taxpayers of Minnesota.

It is the hope of this council that their contributions can maintain, improve and expand the program of adult vocational agriculture instruction in the state of Minnesota.

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I. INTRODUCTION

A recent headline in the St. Paul Dispatch, (Feb. 11, 1977) announced, "Size & Number of Farms in Minnesota on Increase." The article went on to describe the variation in size that occurs among the 118,000 farms counted in Minnesota. Thus it becomes apparent that the number of potential clients for adult education programs in agriculture is remaining stable or on the increase in this State. Countless documents published by the Minnesota Department of Agriculture attest to the vital role that agriculture plays in the state economy. Still other souces report on the percentage of the work force that is engaged in one or more phases of agricultural supply, marketing or production. The business and commerce community is not without its agricultural giants. Of the top 16 corporate type private businesses located in Minnesota, eleven are firms that deal either in the supply, manufacture or distribution of agricultural products. Few would agree that by any yardstick of importance used, agriculture is among the most prominant. Agriculture is still the number one contributor to GNP in Minnesota. Minnesota income ranges from 5th to 6th place among the states in the nation in contribution of agriculture to the net cash income of the nation.

The national commission of Food & Fiber indicated that 1984 would be the last year when the United States can meet the demand for food and fiber for its own citizens and those of the 66 developing nations which we supply by export, unless our technology undergoes considerable improvements. But technology development is of little value unless it is put into practice. The history of our own state would indicate that technology is adpated most rapidly when there is a sound educational program to move the technology from the researcher to the user.

If Minnesota is to maximize the utilization of the land resource, yet protect the rather fragile environment in which we live, increased attention must be focused on those who control the resources. With the increase in the number of small land holdings of rural residents, the problem of adequate education multiplies.

To what force can the prominance of agriculture in Minnesota be attributed? No mortal can take credit for the quality of the land & climate resource with which the State has been blessed. But man can claim some plaudits for the careful husbandry of the natural resource and the human resource through which the material productivity has been captured for the good of mankind. Of all of the States in the union, Minnesota has been most careful to insure that an adequate education system existed for agriculture at the high school, post high school and adult levels.

We are now at a point of decision. The legislature must decide to what extent they are going to continue to view education for adults as serving the

public good. Furthermore they must back their commitment to adult education with public dollars, and must determine the general framework in which public dollars for adult education will be administered.

The legislature already has had years of experience in funding adult education programs on the reimbursement basis for a portion of the salary and other items expended for adult education. It is likely that some modification will need to be made in the present funding mechanism to best fit the concept of current funding.

The legislature will no doubt be bombarded with a number of proposals for a new funding formula for adult education. While each proposal may have certain elements of merit, it is unlikely that any single proposal will be the panacea to adult education. It is likely that some proposals will tend to concentrate power and authority for adult programs with restricted administrative groups, while others may be more concerned with providing an equal education opportunity for all potential clients. It is not the purpose of this paper to be a proponent for one funding proposal as apposed to another. The purpose is to examine the nature of adult programs in Minnesota and to examine in detail the expected impact, both negative and positive, that each of a variety of funding patterns may have on the service of the state to its potential clients, the adult learner.

With that purpose in mind, the sections which follow will address the following key topics, first a brief historical review to put the adult programs in agriculture in perspective. Secondly, a series of problems to which a procedure for funding adult programs should be addressed. While the continuing need was alluded to in the introduction, the third section will examine the question of need more closely with some projection of numbers of potential clients and recognition of the groups to be served. Lastly, the paper will be addressed to the perceived advantages and disadvantages of a number of different alternatives for continued funding of adult education.

HISTORICAL BACKGROUND

The history of adult programs in agriculture is long and extensive. It would not be prudent to recount the historical events that have led to the current level of adult program activity, a position that has been envied by many states, and a program of operation in farm management education that has been adopted by more states than any other singular vocational program in history. A brief treatise on the recent history of the program can be found in the appendix as part of the cost study on adult management programs.

This review is limited to the historical events that have shaped the patterns for funding adult programs in agriculture. Minnesota should take some pride in the fact that they committed the public to a program in agricultural education long before federal legislation permitted sharing the responsibility with federal funds. By todays standards, the Putman Act of 1909 was indeed a meager beginning. Yet the $2,500 allotted to each of ten schools to begin

a program in agriculture was a most generous beginning. Certainly the founders envisioned the impact that such education could have on the husbandry of our natural resources. They were not without wisdom, for the Putman Act fostered the beginning of a comprehensive program of education in agriculture for both youth and adults.

It was the Smith-Hughes Act of 1917, by the very language of the bill, that recognized the need to provide education for adults, when it declared the purpose of the act is to provide education for "... present and prospective" farmers. It was left to the wisdom of the States to decide how firm the commitment would be for adult education as part of the charge to provide for both present and prospective farmers.

Just as farming in the early decades of the century was so different from today, so were the purposes and programs of adult education. The motto "make two blades of grass grow where one grew before" was a reflection of the intense interest in improved production. Adult education was a mandatory activity in vocational agriculture programs. At mid century, every vo-ag instructor had to offer at least 10 classes to adults and 15 classes for young farmers to have fulfilled his commitment for community agricultural education. To recognize the impact of this activity, and to convince local governing boards of the importance of adult education, the State Department of Education provided special incentives for adult work by funding at a higher rate of cost than that used for secondary programs. The formula of reimbursement of 75% of teachers salary and 50% of travel and subsistence has stood the test of time. It served well to provide the encouragement for local schools to pay special attention to fulfilling their role in community education.

It was the instruction provided by the war adjustment acts of the 1940's that paved the way for the current programs in adult education. Here a new concept was tried, a concept of total management, that captured the best of the old by dealing with the technology of agriculture, and the best of the new by introducing the concept of sound business planning and financial management.

While the funding of programs under the war adjustment acts was organized for a distinct and specific purpose, the opportunity to experience such programs provided valuable knowledge about the elements that were essential to maximize benefit from adult education. Several key concepts evolved that serve as the basic framework for todays adult programs in agriculture. First, the student-teacher ratio needed to be fixed at a reasonable level with teachers responsible to a specific group of clientele. Secondly, education had to be provided in a variety of settings, large group, small group, and individual, if the student client was to reap maximum benefits. Thirdly, instruction had to be for persons engaged in farming so they had opportunities for practice and offered over a long term to provide for evaluation of learning and the adoption of practice in a biologically controlled cycle of events. Last, instruction had to address the practices of management as well as the practices of production.

It is important to note, that throughout the development of the adult agricultural program, the procedure for funding remained relatively constant, with the funding being on the basis of reimbursement of a portion of salary & travel expenses accrued by the local education agency.

While this procedure has for the most part provided adequate incentives for the program growth, as will be illustrated in the sections which follow, the current financial situation of many districts offering adult programs would indicate that the procedure needs careful review.

II. PROBLEMS ASSOCIATED WITH ADULT EDUCATION

To assume that any single legislative program could solve all of the problems of adult education would be presumptuous. However, the more clearly the problems of adult education are defined, the easier it will be to draft legislation that will do the best job of meeting client needs and solving specific education problems. This section will address some of the problems and concerns important to adult education in agriculture.

Access To Education

There are sections of the State in prime agricultural communities where adult education is not available to potential clients. Some schools are without programs of vocational agriculture and thus provide no access to adult education. Other schools have vo-ag departments, but because of budget restrictions can ill afford to contribute to adult education, even on a cost sharing basis.

To maintain even a meager level of spending, some districts have had to devote all of their local allowable tax budget for maintenance of the elementary and secondary school programs, with little or no local revenue for adult education.

The rapid increase in the number of families who have gained control of a large part of the agricultural resource through an estate form of country living has outstripped the ability of agricultural departments to provide adult education services. Not only are these small land holdings concentrated primarily adjacent to the metropolitan areas, but they are occupied primarily by families with limited backgrounds in agriculture. The small size of these holdings and the nature of their occupants suggest that an atypical form of agricultural education for adults needs to be developed to serve this specific clientele.

In terms of the current contribution of the small land holder to agricultural productivity, the effort to provide education in agriculture could be ignored. However, it is the potential for agricultural production that must be examined. The potential is indeed great when the magnitude of the land resource tied up in such holdings is considered. While no new program is being proposed in this paper, the reader is alerted to the vast potential need for agricultural education among this growing and as yet unserved community of rural residents.

Access has yet another dimension that needs to be explored. Part of the problem with education for adults in agriculture is the long standing notion that education was more appropriate for someone else. It is a notion that is still held by some farm operators. This negative attitude may persist in some even when their own financial circumstances place the well being of their family in jeopardy. Adult programs in agriculture which concentrate on the less advantaged have been successful in not only producing marked changes in earnings of disadvantaged families, but also in changing their general attitudes about their own relationship to the community.

Ability Of Schools To Finance Local Programs

A large majority of schools are facing an immediate or impending financial crisis. The causes are many; rising costs, loss of enrollments in the elementary and secondary schools, rapid increases in property values coupled with levy limitations and restrictions on allowable school expenditures per student are all in one way or another related to the financial crisis faced by many schools. The effects on adult education are particularly adverse, since adult education is lower in priority than elementary and secondary education in most school systems and is the first to be adversely affected by severe budget constraints. The problem is multiplied when the ability to pay is compared among districts. It is a contributing factor to the problem of access previously described. Because a considerable portion of the total costs of an adult education program is borne by the local school district, there is reluctance to provide services to farm families who reside outside the district, even though the local city or town may be the trade center that profits from the farmers success.

Funding limitations also have an adverse effect on some aspects of program quality. Because expansion of manpower is limited by budget, some schools allow their adult instructors to carry a heavier load of student clients than would be prudent if quality education were a top priority.

Uncertainty of State Support

It has been generally agreed in business & industry, that the most productive workers are those who need spend little time and effort worrying about the reliability of their jobs. Business and industry builds in systems of job seniority to alliviate worry about job insecurity and provide incentives to encourage employees to remain loyal and faithful to the business enterprise. The uncertainty of funding for adult programs in recent years has created a general feeling of discontent among adult educators who find it necessary to utilize otherwise productive energies in efforts to justify their continued contribution to education under conditions of employment insecurity. It is safe to say that some of the very best adult instructors have been lured into non-education jobs by the very uncertainty of the funding for adult education.

Another problem relates to the process of budgeting and enrollment determination. The two processes are out of phase. Since adult program activity is tied closely to the calendar year because of the nature of the business analysis process, enrollment estimates are difficult to ascertain long in advance. While this procedure poses no particular problem with a cost-reimbursement formula as now used, it is a problem that would become very prominant if some alternative form of State support based on enrollment was adopted.

Restricted Use Of Ancillary Staff

The unique nature of entrepreneurship programs in Minnesota (Farm Management and Small Business Management) lends such programs to the very effective use of ancillary personnel such as clerical staff and some para-professional assistance. Unlike other adult teaching positions, this position places

the instructor in the role of a program manager. There are many activities associated with instructor record keeping, and departmental management that could be performed as well, and perhaps better, by clerical or paraprofessional staff aids. Thus schools could expand the scope of the instructors work by utilizing lower level personnel to handle routine tasks. Instructors who have been provided with clerical staff have demonstrated their ability to work more effectively with a broader range of clients.

This problem is, by its very nature, tied to the financial ability of schools to provide such personnel. The previous discussion on budget restrictions points to the increasing inability of schools to provide these needed services. However, if adult education is to get the most benefit from its resources, the optimum utilization of these resources should be considered.

The Ability (Or Inability) Of Farmers To Pay For Instruction

Some proponents of adult education suggest that all farmers should pay the same fee for adult education, regardless of their ability to pay. It may suffice to say that an equal fee structure statewide is not equality. An examination of the business analysis records for the various regions of the state indicates wide differences in the general earning levels of farm families. To assess an equal fee structure would be in effect a larger financial burden on farm families in some parts of the state as compared to others.

In addition, the earnings of families within groups is subjected to extreme variation. To affix an arbitrary fee schedule would be to deny access to those who by the nature and structure of their business cannot afford to avail themselves of the educational opportunities.

The Nature of Agriculture & It's Clientele

A previous reference was made to the uniqueness of the adult education programs in agriculture. The uniqueness cannot fully be appreciated without some reference to agriculture and it's clientele.

Unlike programs designed to train an adult for a specific job skill, management training programs are more diverse. First, one must recognize that the program is based upon the unique goals of the student clients. Each family and each farm may have a unique set of goals. In addition each family may require a unique set of educational experiences to accomplish those goals.

Management itself can be an illusive concept. Training a farm operator to be a good manager is not of the same magnitude as training a skilled tradesman. Not only are the tasks of management more diverse, but the major emphasis must be on teaching managers to be good decision makers. Not only is the nature of the training unique in relationship to other forms of adult education, but the nature of the context in which the training is offered is dynamic.

There is probably no other industry that is faced with such a rapid change in technology. One need only examine the current agricultural literature

to be overwhelmed by the rapid influx of change. Much of the increase in the productivity of agriculture depends upon the ability of change agents such as adult instructors to move the improvements in technology from the researcher to the farm.

But agriculture does not function in isolation from society nor with immunity from the external forces that govern the use of resources. The effect of rulings by the environmental protection agency, OSHA regulation, action of the DNR, energy conservation agencies and others all impact directly on the ability of the farm operator to function smoothly in society. The adult education programs play a vital role in assisting farmers to make suitable modifications in their operations to be responsive to the demands of such agencies and activities and yet retain the integrity of a sound farm business. The continued need to make adaptations in the farm business to respond not only to the external regulation and pressures on agriculture, but to the changing technology speaks to the need for programs that provide opportunities for enrollment over long periods of time.

Getting established in agriculture is in itself a problem that must be addressed. Simply knowing the technologies of the business and developing job seeking skills are of little value in establishing oneself as a farm entrepreneur. The legislature recognized that fact when they passed the legislation in the 1976 session of the legislature to assist young farmers in getting established. The authors recognized the need for educational support, and in the ensuing regulations mentioned the necessity of utilizing the services of an adult education program in maintaining farm establishment. The need for young farmer education is apparent. A problem is to have available the opportunities necessary for young men and women to become successfully established.

Summary

There are, one could imagine, a great many problems associated with vocational education programs for adults. Some are simply a reflection of the times, a response to the rapidly rising costs of education and a shift in emphasis as programs for school age children decline. But not the least of the problems is associated with the uniqueness of the educational programs for a unique kind of clientele. Agriculture is different. Its educational programs are different. Its approach to providng an educational opportunity is unique and effective.

The question remains if a system of support for adult programs can be developed that will respond to the problems and insure that agriculture will continue to be a viable economic force in the State of Minnesota

III. PROJECTED NEEDS FOR EDUCATIONAL SERVICES IN AGRICULTURE FOR ADULTS

Unfortunately, no-one has a crystal ball with which it is possible to accurately predict the future. Even the highly trained market analysists are often wrong in their predictions, as evidenced by the dismal failures of some products such as the Edsel Automobile. To predict what might happen to adult enrollments in the next few years is also speculative. The best estimates can be based on the trends that are developing from past history and the known events that will occur in the future. However, it is important in the planning process to make projections as accurately as possible, knowing full well that long term estimates will need to be adjusted as new data becomes available.

The purpose of adult education in agriculture is to serve people. It is logical to examine the needs for educational services on the basis of the past history of that service and the projected demand for such service, given that the opportunities for education will be available.

Table 1 which follows illustrates the number of persons that have been served directly, as enrollees in adult education programs in agriculture. The persons who may have benefited indirectly through the normal process of information diffusion and dissemination have not been estimated, and may be considered as bonus benefits to the states support of educational programs.

The enrollments reported for the years 1972-73 through 1975-76 are taken from the statistical reports submitted to the Vocational Division, State Dept. of Education at the close of each fiscal year. These reports are not simple reports of numbers, but in most cases include the roster of names of each individual enrolled. For the year 1976-77 - 1981-82, the tabled values are enrollment goal estimates. The narrative which follows will outline the rationale for the enrollment estimates.

ENROLLMENT PROJECTION RATIONALE

Adult Farm Management Education

Program growth for the years 1972-73 - 1975-76, has been erratic. The rapid buildup of veterans farm management programs was a contributing factor, since the veterans program served some farmers who may have elicted to join the farm management program. At the same time, the veterans program made a heavy demand on the relatively scarce supply of qualified teachers. There were also budget restrictions that limited the number of new program starts. A number of new programs were started in the 1975-76 year and twenty-three new programs either full or part time, started in the 1976-77 school year.

The projections for the years ahead are based on the following predicted events:

TABLE I

ACTUAL & PROJECTED ENROLLMENTS IN ADULT PROGRAMS IN AGRICULTURE IN 1972-73 - 1981-82

	Actual Enrollments				Estimated Enrollment Goals					
	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82
Full Time Equivalent Adult Management Programs	12,103	12,501	14,950	*16,769	18,339	19,370	22,807	25,245	28,223	32,315
Veterans Farm Business Mgt.	1,200	2,367	2,371	**2,422	3,925	3,900	1,800	1,640	1,200	400
Single Teacher - High School Adult	4,373	3,734	3,337	***3,738	3,800	3,850	3,925	4,500	5,100	5,300
Non-Formal Instruction	N/A	N/A	N/A	5,091	6,200	6,500	6,900	7,200	7,200	7,200
1) FTE Farm Business Management Instructors	N/A	92	98	99	107					

*Of the enrollment reported, 10,098 were enrolled in farm management education programs resulting in a complete farm business analysis. The remaining individuals were enrolled in enterprise, ag mechanics or young farmer classes based upon the data gathered in the farm management & education program. It is anticipated that the ratio between farm management education & other instruction will remain relatively constant.

**All full time veteran students meeting the minimum requirement of 440 hours of classroom, group and individual instruction programs.

***The majority of the enrollment is in enterprise, ag mechanics and young farmer programs, although some would be in organized farm management education programs which culminate in a complete business analysis.

1) Program growth may also be assessed by the size of the teacher cadre. Information gathered from the State Dept. of Education shows the number of full time equivalent adult farm business management instructors employed for the years 1973-74 - 1976-77.

1. Schools will continue to request the addition of adult farm management programs. The appendix contains a list of 34 schools that already, through official board action, have requested additional adult farm management instructors for the coming year, if funds are available.

2. As the veterans programs phase out, the adult programs will provide management instruction to those wishing to continue as well as to new veterans who are not eligible for veterans management instruction because of change in the veterans benefit laws.

3. The problem of access from schools without Ag programs will be solved, to allow inter-district servicing of farmers not now in a district providing service.

4. Attention will be given to the small farmer-rural resident and to those in the forest products industries where management programs currently do not exist. The number of farmers in these two groups exceeds the numbers now in economic classes I-III at which current programs are directed, so this provides a large potential market for educational management instruction.

Veterans Farm Business Management

There is a surge in enrollments in the veterans farm management program for the 1976-77 and 1977-78 year as veterans who have finished or will finish a training program take advantage of the 9 month training extension. The approximately 60 programs started in 1976-77 to accomodate the extension will phase out in the 1977-78 school year. There will be a gradual decline in enrollments as those enrolled complete their training or use up their entitlement. By 1981-82 only a small number of programs are expected to remain.

Single Teacher-High School Adult

The attention given to adult programs by teachers in one-man high school departments appeared to decline from 1972-73 - 1974-75. It should be noted that the increased number of adult instructors, and the adult instruction provided by the veterans instructors filled some of the gap. Enrollments are once again on the rise, and it is projected that declining enrollments in some secondary programs will provide additional time to devote to adult program activity. There has also been an increasing interest in young farmer programs.

Non-Formal Instruction

The annual reports for 1975-76 were the first to report non-formal instruction. This instruction is related to such activity as field days, tours and personal consultation with persons not formally enrolled. As the agriculture departments assume a greater role as the information center for

agriculture, it is expected that this form of instruction will increase; especially if the crossing of district lines to secure information becomes a common practice.

Summary

The need or demand for adult education can best be visualized by reference to the map which follows. The shaded or cross hatched areas provide opportunities for farm management education within school districts. It is evident that a very large number of farmers do not have immediate access to adult farm management education programs. How can the problem be solved? Only by expanding the opportunities for farmers to enroll, and by making programs available in every school community can the task be accomplished.

FINANCIAL RESOURCE NEEDS

The problem of providing access is certainly related to the ability to finance programs. To make some projection of the kinds of funds that will be needed to provide such access, it is first necessary to review the way in which the programs have been financed. The brief table which follows shows the contributions that have been made to adult education in agriculture.

It is not the purpose of this paper to project a necessary budget. The information is presented so that decision makers can more readily see the relationships between the projected program growth and the financial resources needed to permit growth to occur.

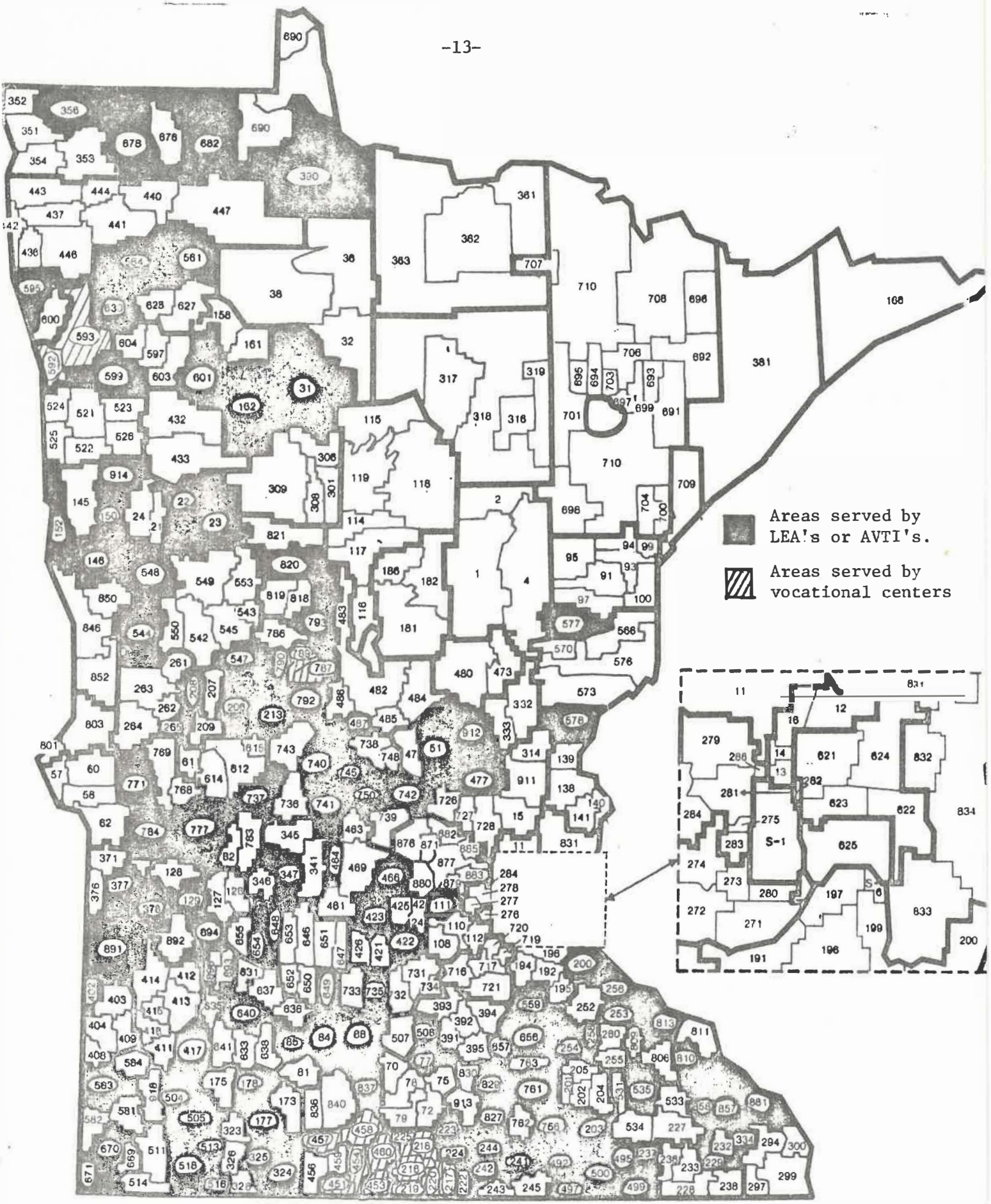

FIGURE 1. MINNESOTA SCHOOL DISTRICTS WITH FULL OR PART TIME ADULT FARM MANAGEMENT INSTRUCTORS - 1976-77

TABLE II ADULT AGRICULTURAL EDUCATION EXPENDITURES & PROJECTED BUDGETS: 1973-74 - 1977-78

	1973-74		1974-75		1975-76		1976-77	1977-78
	1) Total Costs	2) Reimbursed to LEA	Total Costs	Reimbursed to LEA	Total Costs	Reimbursed to LEA	Reimbursed	Budgeted
	$	$	$	$	$	$	$	$
Farm Management	1602010	1185114	1642457	1248153	1855985	1365431	1521923	1726916
Veterans Management	1066680	780992	1369273	993197	1475595	1056946	1197000	1066000
Secondary Adult	32683	24513	48940	36233	52661	39496	43290	47486
Ag Coordinators	N/A	90154	N/A	92760	100322	93570	98998	108375

1) Total cost refers to only contracted salary & travel expenses.

2) Reimbursed to LEA is the total payment to local education agencies from State & Federal Vocational Funds. Generally, 75% of contracted salary and 50% of travel and subsistence.

IV. SOME SUGGESTED FUNDING ALTERNATIVES: A CRITICAL REVIEW

There will undoubtedly be a number of schemes considered in attempting to arrive at a suitable plan for funding adult education. While this paper could, perhaps, lend strong support to a particular plan, the intent is rather to critically examine a number of schemes in terms of their potential positive and negative impact on the clients of adult education. The order in which the schemes are presented should in no way imply a preferrred order of priority. While the schemes may use the terminology "reimbursement", it is understood that all of the schemes would operate through some form of current funding.

PLAN I - REIMBURSEMENT OF SELECTED PROGRAM COSTS

General Description

This plan is the current model used for funding adult vocational education in Minnesota. Under the current system, salary of instructors and travel expenses are the two major costs upon which reimbursement is based. Salary has been reimbursed at 75% of contracted salary and travel at 50% of actual costs.

Proposals to continue this concept of adult funding would perhaps take into account some of the problems alluded to in a previous section and allow some funds for ancillary services to expand the efficiency of the teacher cadre.

The cost study located in the appendix will provide some guidelines as to the magnitude of the costs that might be considered for direct reimbursement.

Advantages of a Cost Reimbursement Funding Plan:

1. Both the legislature and the State Department of Education have had a long experience with this form of funding. The operational rules would require little modification, even with the inclusion of some new cost items eligible for reimbursement.

2. The schools with higher paid staffs and/or more extensive travel commitments are able to maintain programs without demanding excessive enrollment efforts from the instructional staff.

3. New programs can be started even though the number of students served is less than enrollments experienced in more mature programs.

4. The judgement of the professional State supervisory staff can be exercised to accommodate programs where the nature of the clientele or the environmental conditions of the region in which the program is located warrant a program of lesser scope than normally attained when both clientele and the instructional environment are closer to normal conditions.

5. Local control is more easily exercised over the program since the reimbursement flows directly to the L.E.A.

6. L.E.A.'s have options for raising the local share of costs. Since costs can be determined early, L.E.A.'s can determine if tuition, tax money or some other form of generated revenue will be used to cover the local portion of costs.

7. Program costs on a local and state level can be accurately estimated before the school year begins. Since by far the largest single cost is in instructional salary, and since salary is insured by contract prior to July 1, very accurate estimates of costs can be made. Other costs that might be reimbursable can also be carefully budgeted.

Disadvantages

1. Unless the funding level is high enough and diverse enough to cover some ancillary services, the local school is still responsible for a considerable share of the adult budget. When the problems of access are considered there are limitations on the amount that may be charged to participants. Levy limitations do not permit some schools to offer programs.

2. Reimbursed programs require closer supervision. Since state funding is based on cost inputs rather than on program outputs, the programs must be supervised more closely to insure that there is an acceptable level of accountability in the expenditure of state funds.

3. The problem of access is not easily solved if local districts must contribute a large share of the costs. (Although some districts have instituted non-resident tuition plans so that those outside share more equitable in the costs).

4. Past experience would indicate that program growth is slow under this system when expansion must be limited within a confined resource base.

PLAN II - FUNDING BASED ON FULL TIME EQUIVALENT STUDENT ENROLLMENT

General Description

A number of proposals have been advanced that use the enrollments of students on a full time equivalent basis as the basic formula for funding adult education programs. The proposals are patterned after the formula used in post secondary instruction where 1050 hours of student instruction constitutes one FTE.

Since agricultural education offers instruction in a variety of modes (farm management, enterprise, ag mechanics, young farmers, and non-formal instruction), considerable effort had been made in devising the full time equivalent

for each mode of instruction. Appendix A contains a summary of the deliberations which outline the procedures for calculating the FTE base for programs in Agriculture. The summary differentiates between each of the modes of instruction and takes into account the educational practices as they occur in the field. Referring to the appended paper will provide a good background for understanding the pro and con arguments presented herein.

The authors of this paper are also aware of divergent points of view as to the proper framework for the financial administration of adult funds. The two most dominant viewpoints center around the controversy of administering all adult programs through Area Vocational Technical Institutes as opposed to administering the funds through local educational agencies. Because appropriate administrative procedures is an issue that can be separated from the funding formulas, the issue of administration will be addressed separately.

A. THE FTE AS A BASIS FOR FUNDING

Advantages of the FTE Plan

1. Programs are funded on the basis of program accomplishment rather than program inputs or costs. Accountability is tied directly to the funding plan.

2. L.E.A.'s can utilize program funds to support all program costs, including ancillary services, thus reducing the dependence on local tax dollars.

3. Schools which attract large enrollments can utilize funds for program expansion or for the addition of ancillary services to improve the efficiency of the instructional cadre.

4. Since program funds are tied to program output, local administrators have more leverage in insisting on program accountability.

5. The level of supervision required at the state level is reduced, since the funding formula also outlines the rules by which programs are operated.

6. If funding levels are high enough to minimize local tax contributions, the problem of access among districts will be minimal.

Disadvantages of the Full Time Equivalent Student Funding Formula

1. FTE formulas make no allowance for differences in program costs. Thus schools with faculty with longer tenure and higher salaries, or schools with larger costs due to geographic dispersion of students must maintain higher enrollments to gain

the same percentage of funding of total program costs. High cost L.E.A.'s must compensate by demanding above average output or requiring higher levels of financial support from enrollees.

2. There is little room for judgement as to what constitutes a full time work load for an individual instructor. Thus the number of disadvantaged farmers or the complexities of businesses or the geographic spread of the enrollees cannot be considered in determining the instructors potential carrying capacity of students.

3. Program quantity becomes more important in the funding scheme than does program quality. To maintain a minimum funding level, it is important to attract some minimum number of students to be counted.

4. FTE formulae provide less opportunity for program innovation. Since it is essential to count enrollments, innovative programs which may interfere with the student count are more apt to be left untried.

5. Supervisors have less leverage in improving program quality. If the program meets minimum quantity levels to provide support at the local level, efforts to improve the quality of the program offering will be ignored.

6. Schools which fail to attain adequate enrollments to satisfy local funding needs may be more inclined to improperly report enrollments.

B. FUNDING ADMINISTRATION

To compare two different patterns of funding administration, it is necessary to examine how each scheme would be employed. While there may be an infinite variety of ways in which funds could be handled, this paper will address only two proposals. The first, administration through the AVTI system, is a reasonable fascimile of the plan prepared by the State Dept. of Education, Vocational Division. The second is a status quo alternative where all eligible funds are channeled through the L.E.A.

1. AVTI ADMINISTRATION

General Description of the Plan

The AVTI administration plan makes the AVTI the repository for all state aids for adult vocational education. AVTI's would in turn reimburse L.E.A.'s for program costs (less tuition or local contribution) with the residual remaining with the AVTI for new program generation or the subsidy of programs where costs exceed the revenue generated by the FTE formula. The current proposal is tied to the same funding rate/FTE as is now used in the post secondary program ($2000/FTE 1976-77).

An example of how the proposal would operate follows:

ADULT AGRICULTURE PROGRAMS

Example Income

Generated by LEA Program
But with AVTI as claimant

14 FTE in ADM. x $2000 = $28,000 Foundation Aid

Local School Contribution $450/FTE - $6,300

AVTI Income:		
Foundation Aid		$28,000
Minus Local Contributions		6,300
		$21,700
Net AVTI Income:		$21,700
Transfer to LEA		20,052
Net Residual to AVTI		$1,648
LEA Expenses		
Direct Costs	$24,400	
Indirect Costs	1,952	
Total Costs	$26,352	$26,352
Minus Local Contributions		6,300
Net LEA Cost		$20,052
Transfer from AVTI		20,052

Advantages of AVTI Administration Systems

1. Administration responsibility for local programs is shifted from the Vocational Division, State Dept. of Education to the AVTI's. thus providing the State Department of Education the opportunity to devote comparatively more time to program supervision and evaluation and proportionately less time to fiscal management.

2. L.E.A.'s could implement programs even if the FTE's generated at initiation were inadequate providing the AVTI had generated excess income from other adult programs.

3. Fiscal management would be moved closer to the consumer, thus providing more convenient access to the fiscal managers.

4. Excess foundation aid could be used to fund the system of adult program coordinators implemented by the State Dept. of Education in 1976-77; positions now on "soft money".

Disadvantages of AVTI Administration Systems

1. The AVTI would become another administrative layer through which local programs would have to move to gain access to the State program level.

2. Such a scheme separates responsibilities for financial control from responsibilities for supervision and evaluation; a situation that makes program growth & maintenance fragmentary.

3. One of the strengths of the current program of local control with state fiscal management has been its uniformity of purpose and program administration. It will be much more difficult to maintain program unity and program standards when the financial support of programs is divided among 33 separate institutions, and program decisions are made by adult AVTI administrators who may have little familiarity with the unique nature of entrepreneurship programs.

4. Local institutions are removed from the controlling function, since there is separation of budget and program. L.E.A.'s will be "at the mercy", so to speak of an AVTI in which they have no policy making representation.

5. Local institutions have little opportunity to gain reward from offering superior programs or serving more clients. In fact, local schools can gain the maximum support from state & federal funds if they limit enrollments to the minimum necessary to cover the net costs of local programs with state aid funds. In the example given in the introduction to this illustration, where 14 FTE's were generated, the local school could earn the maximum state and federal contribution by reducing the FTE load to about 13.5 FTE's. Providing costs were held constant, each additional enrollment would reduce the L.E.A.'s share of foundation aids and increase the net residual foundation aids that are kept by the AVTI administering the program; hardly a system that is conducive to encouraging the local district to discover ways of increasing the student-teacher ratio for adults.

6. Agriculture generates by far the largest number of FTE's in adult education of any other single service area in schools, outside of the metropolitan area. There is no assurance that the excess FTE income generated by the agriculture effort would be used to generate additional agricultural programs. When there is no incentive-reward system built into the funding scheme, the agricultural service area would most likely degenerate to an income maintenance level thus reducing agricultural program output and resulting in failure to solve the problems of unserved student clientele and student access.

7. Lack of uniform standards for program implementation will build inequities among AVTI regions in program access. It will be difficult to maintain uniform standards of decision making on program maintenance and new program starts when the responsibilities are shared by 33 institutions.

8. Lines of program responsibilities among AVTI's will need to be sharply defined. Specific school territory will need to be assigned to avoid disputes over program jurisdiction.

2. L.E.A. PROGRAM ADMINISTRATION

General Description of the Plan

Under this plan, foundation aid payments for adult programs would be administered by the Adult Section, Vocational Division, State Department of Education, with payments made directly to the schools that implemented the adult education program. Excess payments to local schools, the initiators of programs, could then be used by the school to subsidize programs that were not of sufficient size to generate supporting FTE foundation and or to generate new or expanded programs to serve local clientele. It would not be difficult to build into the funding formula some procedure to limit the excess funds that might be generated by a specific program to be used to subsidize other net loss programs or new or expanded program starts.

Advantages & Disadvantages of L.E.A. Administration Plan

It would be redundant to list the advantages & disadvantages of funding through local education agencies. Every advantage listed for the AVTI plan can be reworded into a disadvantage for the L.E.A. funding plan. Conversely, every disadvantage for the AVTI plan can be construed to be an advantage for the L.E.A. plan.

Summary Comments

There appears to be two principle concerns that need to be addressed with an FTE funding plan. The first deals with defining an FTE. While the agricultural group has been diligent in attempting to make a reasonable assessment of the FTE's that would be generated by each mode of instruction, there has been no attempt to equate the various kinds of adult education in agriculture with adult education that may occur in other service areas. While the agricultural group is confident that the fomulae they have devised to equate the various modes of agricultural instruction are equitable, there is no assurance that the formulae are equitable in comparison to adult programs offered in other program areas (except for Small Business Management, which has the same program organization).

There are other aspects in which the FTE formula is not as equitable as would appear at first glance. The basic assumption is that the student contact hour is an equitable way to compare programs. Yet few would argue that a one hour program that attracted 200 enrollees (generating 200 student

contact hours) would have the same net educational effectiveness as would be obtained by 20 enrollees receiving 10 hours of group instruction (also 200 student contact hours) or 10 enrollees each receiving 20 hours of personalized one-on-one student-teacher instruction. The quality of instruction as measured by aggregate student accomplishment is ignored by the FTE method of funding.

The second major issue is with the financial administration of adult education funds - an issue with multiple arguments to support or refute the plan, depending upon whether one views the administrative expendiency of the plan or the service to clients and local control as being the major concerns.

PLAN III - PROGRAM COST REIMBURSEMENT & FTE STUDENT FOUNDATION AID COMBINATION

General Description of the Plan

It is evident from the preceding discussion, that neither the FTE formula aid plan nor the cost reimbursement plan addresses all of the problems associated with adult program operation. It may be appropriate to consider an alternative that captures the best of both plans, but is not so technically difficult that it cannot be easily and equitably administered. This plan is based upon the idea that some minimum level of output would have to be maintained before the FTE formula would apply.

An illustration of the way in which such a program would function is outlined below.

Example 1

Enrollment of 14 FTE in the Adult Ag Program using the formula previously described.

Program Costs:					
Direct Costs	$24,400	(Salary	18,000	75%	13,500)
Indirect Costs	1,952	(Ancillary	4,000	50%	2,000)
	$26,352	(Travel	1,000	50%	500)
					16,000

Reimbursement: Salary, Ancillary & Travel:	$16,000
Local Program Total Costs:	$26,352
Less Cost Reimbursement (75% of Direct)	16,000
Local Cost Contribution (Which may be generated by tax dollars or participants fees or some combinations)	$10,352

Example 2

Base Foundation Aid applied when FTE's exceeds 14/Teacher (FTE)

Enrollment reported: 17 FTE's
Local contribution set at $450/FTE

Program Costs:	
Direct Costs	$24,400
Indirect Costs	1,952
Total Costs	$26,352

Local Program Income:		
Reimbursement of Selected Direct Costs		$16,000
3 FTE's @ 2,000	$6,000	
Less LEA Contrib. @ $450/FTE	1,350	
Net FTE Income	$4,650	4,650
Total LEA Income from State Aids		$20,650

Total Program Costs:	$26,352
Payment to LEA	20,650
Net LEA Costs	$5,702

Schools would be restricted from collecting more aid than was equal to total program costs.

Advantages of the Plan

1. Programs could be operated at less than full capacity during start-up and still recover a proportion of the higher per pupil costs.

2. Ancillary services could be added to improve the efficiency of the teacher with the knowledge that the extra students served would generate revenue to pay for added costs. (Incentive-reward system)

3. Since the FTE bonus formula would not take effect until a reasonable level of output had been achieved, there would be some incentive for administrators to more closely supervise the adult program and provide assistance for maximum utilization of the teaching cadre.

4. Schools would be encouraged to allow students from outside the district to enroll, since increasing student numbers above the minimum FTE bonus level would reduce local program costs.

5. School districts that had no adult agriculture program may be encouraged to join a neighboring district in a shared instructor when it can be demonstrated the program costs to the local school would diminish as the instructor brought the program up to full strength.

6. Schools would be rewarded for superior programs by larger contributions to costs by State & Federal funds when program scope exceeded the base norm.

7. Schools would be encouraged to employ superior staff since a proportion of the costs would be insured, and there would be a greater possibility of obtaining enrollments that would result in bonus FTE payments.

8. L.E.A.'s would maintain program control.

Disadvantages of the Plan

1. If based on total direct costs, schools would have to provide more documentation for costs than is now provided.

2. Programs would require the same degree of supervision at the local and state level as is now required.

3. The problem associated with false reporting would not be solved.

4. While quality would be an important determinate, student enrollment or quantity would have the greatest effect upon total reimbursement.

Summary

As one examines the advantages of both the FTE Funding plan and the costs reimbursement plan, it can be shown that most of the advantages of both plans are incorporated into this combination. By the same token, most of the disadvantages have been negated, since the plans tend to balance each other.

WHAT WOULD PROGRAMS COSTS?

It is not the purpose of this paper to present a budget for the operation of adult programs under the three alternatives that have been addressed. It may be useful, however, in devising the best plan to examine the comparative costs as they would be shared by local and State/Federal sources. For this purpose, the average cost data from the appendix of this report will be used with a $4,000 allowance for part time ancillary services (clerical or paraprofessional) since the average output exceeds the level considered to be consistant with reasonable full time employment. The example is based on one FTE instructor.[1] To project a total budget, reference can be made to the enrollment projections in a previous section.

Total cost projections for 1977-78 are based on 140 full time equivalent adult instructors. This number was derived by adding the 107 full time equivalent instructors employed in 1976-77, the 34 instructors that have been requested for 1977-78 (assuming they are full time) and 2 full time equivalent instructors for the adult program now being conducted by secondary vo-ag instructors. For convenience the total has been rounded to 140.

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[1]See Cost Study ..., Appendix, for output & costs for Farm Management Programs.

Average Output Based on FTE Formulae

		FTE
Farm Management Enrollees	54 families @ .333 =	18.0
Enterprise & Ag Mechanics	736 hours ÷ 1050 =	.7
Non Formal Instruction		1.0
	TOTAL	19.7

Average Program Costs

Costs: (Based on 1975-76 complete costs records)

Direct Costs:	$24,892
Indirect Cost (Not Incl. Debt Service)	1,551
Total Costs	$26,443

Reimbursement Plan

75% Salary; 50% Ancillary, 50% Travel

Salary	17,405	x75%	$13,053
Ancillary	4,000	x50%	2,000
Travel	1,300	x50%	650
			$15,703

Total Costs	$26,443
Total Reimbursement	15,703
Net Dist. Costs	$10,740

Local Contribution as % of Total Costs: 40.6%
Total State/Federal Costs Assuming 140 FTE Instructors: $2,198,420

FTE Basis

19.7 FTE in ADM x 2000	$39,400
Local Contribution ($450/FTE)	8,865
AVTI Income	$30,535
Total LEA Costs	$26,443
Less Local Contributions	8,865
To be claimed from AVTI	$17,578
AVTI Income	$30,535
Distribution to LEA	17,578
Net Residual to AVTI	$12,957
LEA	
Total Costs	$26,443
Local Contribution	8,865
LEA Dist. from AVTI	$17,578

Local Contribution as % of Total Costs: 33.5%
Total State/Federal Costs Assuming 140 FTE Instructors: $4,274,900

Combination Plan

19.7 FTE Less Standard 14 = 5.7 Bonus FTE

Reimbursement:	75% of Salary	$13,053
	50% of Ancillary	2,000
	50% of Travel	650
		$15,703

5.7 FTE x (2000 - $450 Local Contribution) = $8,835

Total Costs	$26,443
Less Reimbursement	15,703
Less FTE Bonus	8,835
Net Costs to LEA	$ 1,905

Local Costs as % of Total Costs: 7.8%
Total State/Federal Costs Assuming 140 FTE Instructors: $3,109,221
(See Table III for Distribution)

Assuming that 140 FTE programs would be in operation, and that each program met the enrollment levels used in the example, the total costs in State/Federal dollars would be as follows:

Reimbursed Plan:	$2,198,420
Combination Plan	3,109,221
FTE Only Plan	4,274,900

Enrollment Distribution

In the reimbursement plan and the FTE plan, the enrollment distributors among schools would not be a factor in determining the total costs. However, in the combination plan, enrollment distribution would have an effect on the amount of State/Federal aid distributed to schools. No actual data has been accumulated to use as a basis for the distribution, but the output data in the appendix provides some information on average enrollments of full time instructors in 1974-75. This information was used to construct a fairly normal distribution ranging from program size maximums known to the authors and program minimums that would be expected in new program starts. In addition to the Farm Management enrollment, 1.7 FTE's have been added to each Farm Management enrollment for enterprise, ag mechanics, young farmer and non-formal education. This value of 1.7 FTE was taken from the student contact hours reported in the cost study included in the appendix.

Table III - Distribution Of Programs By Enrollments: Combination Plan

Enrollments Farm Mgt.	No.*	Total FTE	Reimburse-ment	FTE Bonus	Total	Aggreg. Total
36	10	13.7	13,703**	--	13,703	137,030
37-41	15	14.7	15,703	1,085	16,788	251,820
42-46	20	16.4	15,703	3,720	19,423	388,460
47-51	25	18.0	15,703	6,200	21,903	547,575
52-56	35	19.7	15,703	8,835	24,538	858,830
57-61	20	21.4	15,703	11,470	26,443***	528,860
62-66	15	23.0	15,703	13,950	26,443***	396,645
TOTAL	140					3,109,221

*Based on historical distribution of enrollments.
**Because of program size, no ancillary costs are allowed.
***Since income cannot exceed costs, the maximum reimbursement is stabilized at total costs.

FISCAL ADMINISTRATION OF THE ALTERNATIVES UNDER CURRENT FUNDING

Reimbursement Plan

Under this plan the contracted salary of the instructor, contracted ancillary service and estimated milage & subsistence payments would be used as the basis for the quarterly payments to schools. Adjustments in the differences between estimated budgets and actual expenditures would be made in the last quarterly payment.

FTE Plan

Quarterly current funding payments would have to be based on anticipated enrollments, with estimated enrollments made for in advance of the actual enrollment. For programs with continuous enrollment, such as farm management and small business management education, the enrollments could be estimated with some precision. Enrollments in all other types of program would entail considerable estimation.

Quarterly payments would be made on the basis of estimated enrollments with the difference between estimated and actual accounted for in the last quarterly settlement. Procedures to handle the problem of recapturing payments to schools when estimated enrollments did not materialize would have to be carefully worked out.

Reimbursement - FTE Combination

Under this plan, the contracted salary of the instructor, contracted ancillary service & estimated travel & subsistence would be used as the basis for determining the quarterly payments to schools. Differences between estimated costs and actual expenditures would be adjusted in the last quarter. Any payment made to compensate for excess FTE's would be made in the final quarter only when enrollments were a matter of record.

Reporting

For the reimbursement plan and the combination plan, if administered fiscally as suggested above, no change would need to be made in the current reporting scheme. Schools already submit a program plan that lists instructors salary and budgeted travel and subsistence. A single line to capture budget for ancillary services would need to be added to the report. This planning document would be sufficient for the initial distribution of funds for the reimbursement portion of both plans.

The statistical report now used by the agricultural section would be adequate to capture enrollment data for computing the FTE portion of the combination plan.

Under the FTE only plan, a new scheme would have to be devised to report estimated enrollments for each school. The report would have to contain not only number to be enrolled, but the number of hours of instruction to be provided each enrollee.

V. SUMMARY

Agriculture still is, and probably will remain for some decades to come, one of the primary economic forces in Minnesota. Most would recognize the vital role that the industry plays in feeding and clothing the people of this nation, and indeed, the world. Minnesota is blessed with a highly productive land and climate resource. But it is people who convert the resources into products that we need and enjoy.

It is in fact the people resource toward which education is directed that is the focus of this paper. How do we best serve the population who manage the land and environmental resources? It is the intent of this paper to examine some alternative ways in which the educational resource dollars can be directed. The authors make no commitment to one form of resource distribution as approved to another. Rather, they direct their attention at trying to focus on the advantages and disadvantages that these different alternative plans may have on the service to potential clients.

The problems of adult education may be classified into several distinct areas. They are:

Access to education: How can the people not now being served be provided the opportuntiy for adult education?

Ability of schools to finance adult education: Wtih many schools facing severe financial problems, how can the problems of finance best be alleviated.

Stability of State support: Uncertainty of State support has led to unrest for some of the outstanding adult educators, and has adversely effected programs. How can the funding procedures for adult education be stabilized?

Expanding the influence of the teaching cadre: What mechanisms could be devised to allow for the utilization of ancillary personnel to permit the instructor to work with more students?

Assuring access to those who cannot afford to pay: Can procedures be devised to insure that those who cannot afford to pay for education are not denied access? Can schools develop their own schemes for meeting these needs?

The nature of agriculture and its clientele: Agriculture is different, it's clients as entrepreneurs are also different from those normally served by vocational education. Can a scheme be devised for adult education that respects and compensates for those differences?

The map included in the text is probably the easiest way to visualize the unmet need for adult education in agriculture. Projections of enrollment growth are based upon the large geographic areas that are not served and upon the ability to find qualified teachers to service the expanding programs. Enrollments are also predicated on the assumption that instructors will be able to utilize ancillary services to expand the student-teacher ratio.

The funding plan alternatives have been limited to three, a cost reimbursement plan, a plan based on FTE students and a plan that combines elements of cost reimbursement and FTE funding. In each case, the advantages and disadvantages of the plans have been accessed, keeping in mind the general problem areas previously outlined. No attempt was made to be a strong proponent of one plan as apposed to another.

Some attention was directed at the costs that each plan would incur should the various plans be applied to adult programs in agriculture. Cost estimates were based on the number of full time equivalent instructors that would be employed in 1977-78 if all requests for programs that are currently in hand were to be authorized.

In summary, the plans approach funding from two perspectives: a funding based on program costs (cost reimbursement) and funding based on program output (FTE plan). The third alternative combines elements of both cost reimbursement and program output.

It is hoped that this paper will be useful to the policy makers in determining how adult education might best be funded. As previously stated, the authors are not proponents of one funding plan as apposed to another. Although the lists of advantages and disadvantages may appear to lend more support to one plan than another, that was not the intent. The authors are all directly involved in adult education in agriculture. Their primary concern is for service to the adult clientele in their communities. They are not proponents of changes that improve administrative expediency unless such change also improves service to their present and potential clients.

PROPOSED PROCEDURE FOR CALCULATING FULL TIME EQUIVALENT STUDENTS FOR ADULT EDUCATION PROGRAMS IN AGRICULTURE

The formulae for calculating full time equivalent (FTE) students should reflect the characteristics of the components of adult education programs in agriculture. An analysis of the "job" or position of adult agriculture instruction indicates that the following activities have historically been considered as part of the description of the job.

1. Formal classroom instruction in Farm Business Management.

2. Formal classroom instruction for Enterprises, Mechanized Agriculture and Beginning Farmer.

3. Small group meetings and events for special problem solving.

4. Individualized instruction of the farm and consultation at the school with families enrolled in one of the formal classes.

5. Supervision of experience programs for those enrolled in farm management education in such areas as record keeping, business planning, goal setting, evaluation and business organization.

6. Non-formal instruction for those not regularly enrolled, but who seek the advice and counsel of adult instructor. (Referred to historically as community service.)

It should be recognized that the basic unit of instruction is farm management education. Those activities related to the farm management education program constitute the bulk of the education effort and are those activities which contribute to the full time employment of the adult vocational agriculture instructor. Because this program effort is essentially a full time program, even though the students are not enrolled in the same fashion as other full time post secondary students, the formula for full time equivalents is based upon the assumption that were foundation aids to be used as a mechanism for funding, this program should recover the same costs as assigned to other full time foundation aid programs at the post secondary level.

Some portions of the adult instructors job deal with activities that are supplemental to management instruction. Therefore, the FTE base for these activities are calculated separate from management instruction.

Definitions

1. Farm Management Family: A family is defined as a commonly recognized family household unit consisting of husband and wife (or wife and husband), or single persons who are enrolled in a farm management education program with preparation for or access to a farm business analysis on their family business and who are making a conscientious effort to achieve family and farm goals.

2. Enterprise Classes: Formal classes held for three or more sessions dealing with components of the commonly recognized productive enterprises on farms including leadership instruction related to the management of organizations engaged in farm related activity.

3. Mechanized Agriculture: Formal classes held for three or more sessions dealing with the broad aspects of farm mechanization including soil, water and environmental protection.

4. Beginning Farmer Instruction: Education for married couples or single persons who have decided upon farming as an occupation and have begun the process of becoming established as farm operators, but have not yet attained managerial control of all of the resources of the business.

5. Group Instruction: An activity in which two or more persons enrolled in any of the formal instructional programs are called together for specialized instruction.

6. Non-formal Instruction: Instruction and consultation with persons or organizations not formally enrolled in classes.

Farm Management Instruction

FTE FORMULA

Activity	Formula	Student Hours
Farm Mgt.-Classroom 3 hrs/class/month/ 12 months x 1.75 members/family	3 x 12 x 1.75	63.00
Group Instruction 10 hrs/year/1.75 members/family	10 x 1.75	17.50
Individual Instruction 3 hrs/instruction/ 12 months x 1.75 members/family	3 x 12 x 1.75 x 3.0*	189.00
Supervised Occupational Experience 7 hrs/month/family	7 x 12	84.00
	Total Student Hours	353.5

353.5 hrs/family ÷ (175 days x 6 hrs/day) = .336 F.T.E. Students

*Individual instruction is counted at a ratio of 3:1 to classroom instruction.

Supplementary Instruction

Enterprise Classes

Classroom

Enrollment x 3 hrs/meeting x number of meetings = student hours of instruction.

Individualized Instruction

Enrollment x 2 hrs/instruction x one instructional visit = student hours of instruction.

Mechanized Agriculture

Classroom

Enrollment x 3 hrs/meeting x number of meetings = student hours of instruction.

Individualized Instruction

Enrollment x 2 hrs/instruction x one instructional visit = student hours of instruction.

Beginning Farmers

Classroom

Enrollment x 3 hrs/meeting x number of meetings = student hours of instruction.

Individualized Instruction

Enrollment x 2 hrs/instruction x 3 instructional visits = students hour of instruction.

Non-Formal Instruction

Since there is no effective way of calculating the non-formal instruction for each individaul instructor, it is suggested that the non-formal instruction be credited with 1 F.T.E. for each instructor.

Special Allowance for Program Start

It is recognized that starting a program required more time and effort than program maintenance. To compensate for the extra effort needed, it is recommended that the following incentive be used.

Year of Operation	Formula F.T.E.
First Year	3 F.T.E.
Second Year	2 F.T.E.
Third Year	1 F.T.E.

Program start is defined as the employment of an instructor to begin or expand a program of adult farm management instruction. In the event the instructor is employed on a part-time position, the special allowance for program start will be prorated based upon the percentage of time assigned to adult instruction.

Size and number of farms in Minnesota on increase

By GENE LAHAMMER
Associated Press

The number of Minnesota farms is increasing as well as the average size of the farms, according to the state farm census.

If that sounds impossible without annexing North Dakota, it's because of the growth of socalled "hobby" farms along the eastern border of Minnesota and surrounding metropolitan areas.

The hobby farms are less than 50 acres and are clustered around the larger industrial communities. For example, the 1,130 farms in Hennepin County have an average size of 115 acres while the 125 farms in Ramsey County have an average size of only 38 acres.

HOBBY FARMS appeal to families who want a largely rural environment while the wage earner takes advantage of pay scales offered in a metropolitan area.

The state farm census counts units of less than 10 acres with annual agricultural salesl of over $250.

The census shows there are 118,000 farms in the state with an average size of 259 acres.

The largest farms are in the western part of the state. Kittson County in the Red River Valley has the largest average size, 702 acres. It is the only county where the average farm is more than one square mile.

THE SECOND largest farms are in Wilkin County with 573 acres, followed by Traverse, 520 acres; Norman 500 acres; Polk, 495 acres; Clay, 472 acres; Marshall, 458 acres; Roseau, 435 acres; Koochiching, 430 acres, and Mahnomen 426 acres.

U.S. Agriculture Secretary Bob Bergland owns a 567-acre farm in Roseau County near the Canadian border.

Only two counties have more than 1 million acres under cultivation. Polk County in the fertile Red River Valley has 1,197,800 tillable acres followed by Otter Tail with 1,054,400 acres.

MARSHALL IS third with 900,800 acres, followed by Stearns, 769,600 acres; Clay, 667,500 acres; Renville, 631,400 acres; Roseau, 627,900 acres; Norman, 580,300 acres; Redwood, 560,600 acres and Fillmore, 538,900 acres.

Otter Tall County has the most farms with 4,255, followed by Stearns, 3,955; Todd, 2,635; Wright, 2,540; Polk, 2,420; Morrison, 2,415; Fillmore, 2,320; Goodhue, 2,255; Renville, 2,320, and Marshall, 1,965.

The state Agriculture Department says the trend toward larger farming units and the small hobby farms is taking place at the expense of the medium-size farming enterprise.

COOK COUNTY in the extreme northeast corner of the state has the fewest farms with 20 and the smallest amount of farmland with 1,600 acres. Adjacent Lake County has only 45 farms and 6,800 acres of tillable land.

In addition to Hennepin and Ramsey, the other five counties in the Minneapolis-St. Paul metropolitan area have been affected by the growth of hobby farms. The average farm size in those counties is well below the statewide average.

The average farm size in Carver County is 143 acres; Anoka, 144 acres; Scott, 146 acres, Washington, 156 acres and Dakota, 221 acres.

Local authorities in some outlying areas from the Twin Cities have attempted to discourage urban sprawl by zoning ordinances which prohibit the breakup of farmland in less than a 40-acre tract for a new home.

APPENDIX B

DEPARTMENT Education

Office Memorandum

APPENDIX C

TO : Mr. Dave McCullough
Adult Coordinator

DATE: August 19, 1976

FROM : Odell T. Barduson
Adult Vo-Ag Supervisor

PHONE:

SUBJECT:

1. 1977-78 Budget Addendum.
2. 29 schools with "School Board Action" asking for program approval for Adult Vo-Ed. Farm Business Management Education programs.
3. Names of 29 schools with above Action & Application:

1. Mid State Voc. Center
2. Pierz
3. Woodland Voc. Center
4. Dawson
5. Cherry
6. Hutchinson AVTI
7. Detroit Lakes AVTI
8. Brandon
9. Houston
10. Byron
11. New Prague
12. East Central Voc Center
13. East Grand Forks AVTI
14. Ada
15. Southern Polar Coop. Center
16. Edgerton
17. St. Charles
18. Belgrade
19. Princeton
20. Bemidji
21. Norwood
22. Bertha-Hewitt
23. Wannamingo
24. Agassiz Valley
25. Appleton
26. Ortonville
27. Highland Voc Coop Center
28. Grand Meadow
29. Southland

The above 29 requests divide out as follows in regard to full-time or part-time budget needed:

18 Full-Time = 243,000 (Reimbursement $)
11 Part-Time = 54,000
297,000

OTB/sab

Schools added after August: #30 New Folden, #31 Willmar, #33 Worthington & #34 Bellingham

PROGRAMS OF CONTINUING VOCATIONAL EDUCATION FOR MINNESOTA FARMERS

The program described briefly here have the basic purpose of helping farm families achieve business and family goals through improved management, organization and operational efficiency of their farms. These programs, designated as Farm Business Management, are designed to provide instruction in decision-making to the farm family farm management team.

Vocational-Agricultural education offered by the public schools are classified as follows:

1. Farm Business Management: (Full time adult instruction) This program consists of three integral parts. The basic and primary parts consist of a full-time instructor in a year round program of management (entrepreneur) education designed to meet the decision-making needs of a farm business unit (husband and wife) or single persons who are enrolled in a farm management education program with preparation for and access to a business analysis of their family farms and who are making a conscientious effort to achieve family and farm business goals.

   Secondly, it included formal enterprise classes dealing with production agriculture, such as: Use of fertilizers, herbicides, marketing and livestock management, estate planning, farm machinery maintenance, buildings, drainage, soil, water and pollution control, etc.

   The third part of this program is non-formal instruction, such as consultation with persons and/or organizations nor formally enrolled in classes.

   In summary, the "full time" adult farm management program consists of:

   a. Farm business management education
   b. Formal enterprise classes
   c. Non-formal instruction

2. Farm Business Management: (With part time instruction) These programs are conducted by high school teachers who primarily teach in the secondary program and spend some time on a similar type of adult program as indicated in No. 1. Due to time limitations, these teachers conduct more enterprise type of meetings than those in No. 1 program. In Minnesota this philosophy of adult education, as a supplement to the secondary program, was the nucleus and development of the full time farm management program.

In summary, the part time farm business management program includes the same three parts as full time farm management instruction within a more limited framework.

a. Farm business management education
b. Formal enterprise classes
c. Non-formal instruction

3. Veteran Farm Management: This program is designed to provide eligible veterans with the technical and managerial competencies necessary for the operation and management of their farms. This program is similar to the farm business management, except that it required more intensive formal class instruction per year.

4. Formal Enterprise Classes: These types of classes are defined in program No. 1. In brief, enterprise classes present and answer special needs farmers have concerning specific technology needed in the process of production.

5. Crop & Livestock Specialty Programs: These programs are full time, year round, and assist farmers in management and modern technology in crop and livestock specialty production such as sheep and wool, truck gardening, beef, small fruit and swine.

ENROLLMENT

Current state-wide enrollment in these programs is reported as follows:

	Program	1973	1974	1975
1.	Adult Farm Management (Full, Part-time & Specialty)	12,103	12,501	14,950
2.	Veterans Farm Management	1,200	2,367	2,371
3.	Enterprise Classes	4,373	3,734	3,337

CURRENT PROGRAM COSTS (1974-75 YEAR)

	Program	State Funds	LEA Funds	Tuition Fees
1.	Adult Farm Management (Full, Part-time & Specialty)	1,248,153	444,304	*
2.	Veterans Farm Management	993,197	376,085	*
3.	Enterprise Classes	36,233	12,706	*
4.	Vo-Ag Coordinators (50% time of 8)	87,205	5,553	*

Comments

*The tuition and fees vary among school districts

The above program costs do not include administrative or ancillary costs (except Vo-Ag Coordinators) or other overhead or allocated costs since such information is not readily available at this time. A survey is now being completed to provide these costs.

The Delivery System

Minnesota's local school districts, 445 in number, comprise the major delivery system for providing adult farm management educational programs to farmers and veteran farmers.

Approximately 277 secondary schools conduct adult and veteran farm management programs. There are 185 adult programs conducted by full time instructors while 172 are conducted in either single teacher departments or instructors who devote part time to adult instruction. Twenty-four of Minnesota's AVTI's conduct full time adult farm management programs.

State Department of Education, Division of Vocational Education

Program approval, program planning, program operational guidelines, program funding assistance, and technical service are the roles of the Vocational Educational Division.

State Categorial Aids are used for adult agricultural education programs. The State currently funds 75% of the local instructor's salary and 50% of his travel. The balance is generated at the local level.

The Adult Education Unit, State Department of Education, assists local districts by providing guidance and counseling in program operations, funding and quality control. This is done through direct contact, teacher workshops, through 50% time of 8 regional Vo-Ag Coordinators, and the State Adult Farm Management Advisory Council.

Ag Coordinators

This role is identified independently because of joint funding arrangements.

The State is divided into 8 Agriculture Education Regions. One coordinator is responsible for each region, and for articulation of Ag Education between institutions and program levels in that region.

In the past, the coordinator was funded by various units in the State Dept., but headquartered in an Area Vocational School. He provided assistance and guidance to Secondary, Post Secondary (AVTI), Adult and Veteran Farmer Instructors.

Currently, the coordinator is funded on the basis of 50% of salary and travel, Adult Section of the Vocational Division, and 50% from his AVTI location. This, no doubt, will cause some dramatic changes in the role of the coordinators.

Procedures For Developing Adult Agriculture Programs

Adult programs are established by the Superintendent and Boards of Education. Usually such programs are established as a result of requests of the farm people in the community to meet their needs. Many schools encourage adults to request programs. This happens where the school administration has defined and recognized a need.

The district recruits students, hires the instructors, and conducts the program. The districts currently fund 25% of the instructor's salary, 50% of the instructor's travel cost, and any overhead or administrative costs. They usually charge the student a fee or tuition to cover part of the program costs. The district must receive State Department approval for new programs, especially if State funding is to be requested.

Program Value

"Investment in Education For Farmers", published by the Agricultural Education Department, College of Education, University of Minnesota, January, 1968, gives a description of educational inputs and economic outcomes.

Reference is specifically made to cost-benefit ratios to Adult Education in Agriculture. They include:

1. Direct returns to the farmer with future benefits discounted to 1968 values, at the rate of $4 of labor earnings realized for each $1 invested in the educational program.

2. Benefits to the community - calculated on the ratio of the rise in farm labor income to costs borne by the community - show $2 return to the community for each one dollar of community costs. This ratio does not include increase in business activity or increased tax base.

3. Benefit-cost ratio, which included farm sales as a measure of business activity of $9 income for each $1 of community costs.

4. A dramatic effect on marginal return over an extended period (see graph on next page).

   The graph can be interpreted as follows:

   a. First 3 years - rapid gains in income from adaption of modern technology.

   b. Diminishing returns occurred as ceilings were reached in existing enterprise combinations.

   c. Fourth and fifth years - reorganization and reallocation of productive resources in existing enterprise combinations.

d. Sixth through tenth years income increased sharply and dramatically.

Economic return on investment as projected by the above study based on 1975 statistics:

Adult Farm Management

1. The farmer's benefit - cost ratio. For each dollar invested by the farmer in the program, he received a return of $4.20. This does not include social and aesthetic values derived from the educational experience. The costs used in this ratio are only farmer costs, and do not include the tax dollars used to support the program.

2. The community's benefit - cost ratio. For each dollar the community spends on farm business management education, they can expect to generate about $2.00 in increased farm labor earnings. Costs used in this ratio include both the costs referred to in item 1, and all tax dollars regardless of source, spent by the local school for program support.

   * 14,950 people ($1,692,457 invested) x $2. return = $3,384,914

3. The community benefit - cost ratio measures the business activity generated based on increased farm sales. For each dollar spent or charged to farm business management education, the community could expect to receive $9.06 in increased business activity in increases in farm sales.

   * 14,950 ($1,692,457 invested) x $9 return = $15,232,113

   It is important to recognize that there is also a multiplier effect associated with the generation of new community income. Thus a dollar of new income generated by one segment of the community expands through the multiplier effect. A new dollar would be expected to change hands 5 to 7 times in a community. If the community supported a farm management education program with one dollar of tax revenue it could be expected to generate $9 in increased farm sales. The $9 in increased farm sales would in turn generate $45 = $63 in increased business activity within the community.

   * 14,950 people ($1,692,457 invested) x $9 return x (5-7) multiplier effect = $76,160,565 to $106,624,791

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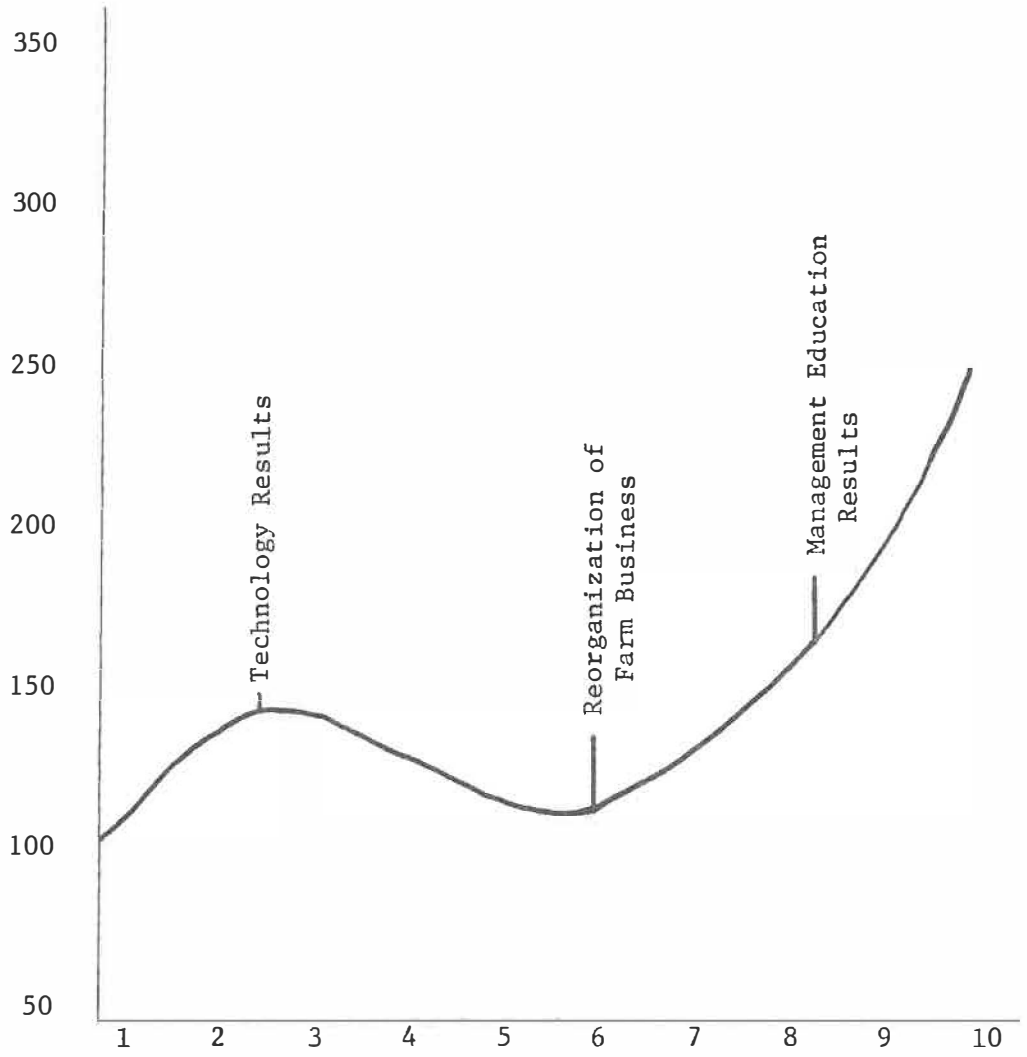
*Measurable monetary returns to the people of Minnesota as a result of Adult Farm Business Management Programs.

ECONOMIC CONTRIBUTION OF ADULT AND VETERANS
FARM BUSINESS MANAGEMENT EDUCATION*

Learning-Earning Curve

Index of Mean

Relationship Between Indexed Mean Labor Earnings And Adult Farm Business Management Education



*Based upon a study by Dr. Edgar Persons, et al, Ag. Ed. Dept., U of M

Veteran Farm Management

The educational economic benefits of the Veterans program may be assumed to be similar since the program is by design similar to those reported in the Adult Farm Management Study.

A second major source of economic benefits to all people in Minnesota occurs each year as a result of the payment of $8,867,540 to 2,371 Veterans who are enrolled in 96 full time Veterans Cooperative Management programs.

Continuing and Potential Needs

Maintenance of programs at local schools is essential for 3 major reasons:

1. Proximity of school to the farmer allows regular attendance and participation, without excessive travel time and absence from the farm.

2. To provide ease of instructor travel to each farm each month to provide on-site instruction and counseling.

3. To encourage local decision making and needs evaluation. Expansion of programs is necessary to aid more farmers in developing greater management ability to cope with increasing technological change and inflationary pressures in an efficient and profitable manner.

As more small farms are started as a result of predicted out-migration from urban areas, local pressure for educational assistance will increase.

Little has been done for the low income farmer, yet where programs have been developed for this group, great benefits have accrued through increased efficiency and higher income.

Much is being heard of the plight of the young farmer seeking the opportunity to farm. This young farmer problem is serious and needs a great deal of extra time from the adult Vo-Ag instructors.

Vocational education philosophy and adult farm management philosophy has always been to educationally serve all people needing and desiring vocational education and agriculture education. Therefore, programs must be designed to address in an appropriate manner the needs of all of the above named people as well as all people.

The following is a list of schools whose local school board and administration have requested start-up authorization for expanded or new adult business management programs:

Mid State Voc. Center
Pierz

East Central Voc. Center
East Grand Forks AVTI

Southland	Ada
Woodland Voc. Center	Southern Polar Cooper Center
Dawson	Edgerton
Cherry	St. Charles
Hutchinson AVTI	Belgrade
Detroit Lakes AVTI	Lyle
Brandon	Princeton
Houston	Bemidji
Byron	Morwood (Central High)
New Praque	

Other requests for programs have not been submitted to the State Department because of local funding complications.

Current and Historic School District Maintenance Needs

A. Present Funding Structure

The state in conjunction with a small percentage of federal funds pay 75% of the teacher's salary and 50% of travel for individualized on-farm instruction.

The LEA contributes 25% of the teacher's salary from local funds. The local school matches the remaining 50% of instructional travel funds. A summary example of a school's reimbursement follows:

	Total	State & Federal	LEA	Fees & Tuition
Teachers Salary	16,000	12,000	4,000	*
Instructional Travel	1,400	700	700	
Total	17,400	12,700	4,700	

*Fees and Tuition vary among school districts.

Administrative and ancillary costs are not included in the present funding process and therefore are not shown in the sample above.

B. Three Present Funding Problems

1. LEA Basic Levy Limitation: (No 1. problem) There are many local school districts that have or are reaching the basic levy limitation for elementary and secondary foundation aids. When this occurs it takes away the local school's (school board and citizens) rights or prerogative to vote and decide that they want an Adult Farm Managment program and are willing to match all or part of the LEA's 25% share of the program. The only recourse is through a referendum.

2. School District Lines or Boundaries: (No. 2 problem) The present method of funding teachers' salaries has many advantages. However,