

Agricultural Program Aides—Why Not?

Howard Ladewig and Vance W. Edmondson
Texas A & M University

The authors report the results of a pilot research program in Texas involving the use of local low-income farmers as agricultural program aides to bring about changes in agricultural production and management and level of living. After aides worked intensively with them, farmers in counties where aides were ranked high by Extension staff on 15 character and personal traits were found to make greater use of USDA agencies and showed greater increases in gross farm income than those farmers in counties where the aides were ranked low by Extension staff on the traits. Implications are that "we have just begun" efforts involving paraprofessionals in agricultural Extension education. Where do you think we should go from here?

The use of indigenous nonprofessionals as program aides in educational programs for the hard-to-reach audiences is gaining momentum in Extension. *A People and a Spirit*¹ recommended that over 52,000 aides be employed by 1975 to augment the professional staff in working with these audiences.

One Extension program that uses nonprofessionals as aides is the Expanded Food and Nutrition Education Program for low-income families. A nationwide evaluation of that program gave much credit to the 4,700 aides who worked directly with

hard-to-reach families. These aides helped them understand the need for improving diets and demonstrated how family income and skills could be used more effectively to improve diets.²

Nonprofessionals are also being used as aides in Extension education for low-income farm families. The general purpose of agricultural aides is to work with hard-to-reach farmers on an intensive basis to effect changes in production agriculture, management, and level of living.

Although aides have proven quite effective in the fields of public

This article is a revision of a paper presented at the Rural Sociology Section, Association of Southern Agricultural Workers, Atlanta, Georgia, February, 1973.

health and nutrition, we lack evidence of their success in agricultural Extension education. Because there has been little research and because there is a growing interest in using nonprofessionals as agricultural aides, Extension Service-USDA provided a grant of Special Needs funds to help support this research study.

Program Background

The Texas Agricultural Extension Service organized a pilot program in 1969 entitled the Intensified Farm Planning Program (IFPP). This program used local farmers as program aides in helping small farm families develop the ability to take advantage of socioeconomic opportunities available to them.

Eleven program aides were selected in March, 1969, to work in 10 Texas counties having a high incidence of poverty and with farmers who weren't active in ongoing Extension education programs. Due to the death of one aide and the termination of another, this study was concerned with nine counties and nine aides.³ At the time of employment, the median age of the aides was 44, the range was 24 to 59. All had some agricultural experience and at least 11 years of schooling.

Extension personnel having knowledge of the personal and character traits of each of the 9 program aides at the beginning of IFPP were asked to rate the aides as high or low on each of 15 personal and character traits. The characteristics selected were patterned after theoretical and

empirical knowledge gained from literature reviewed for this project. More on the rating procedures is presented under "Indicators and Measurements."

Selection of Cooperators

In selecting farmers to participate in IFPP, each county in IFPP tried to select farms that represented the general population of farms in the lower-income strata within each county. Selected socioeconomic data of farmers participating in the program are shown in Table 1. The average age of participating farmers at the beginning of IFPP was 54 years, average farm size was 125 acres, while average income from the sale of farm products in 1968 was \$1,828.

Although this study is concerned with 176 farmers, IFPP is serving a much larger audience. However, reliable evidence isn't available at this time to account for all those who have been served by the program.

Indicators and Measurements

The purpose of this study was twofold. First, it was to determine if nonprofessionals are effective as aides in Extension educational programs for hard-to-reach farm audiences in the lower-income strata. Effectiveness of the aides was measured by determining the changes participating farmers made over a three-year period in (a) using

Table 1. Socioeconomic characteristics of farmers participating in IFPP, 1968.

County	Number of farmers in program	Average age	Average size of farm (acres)	Mean income from sale of farm products	Number reporting off-farm employment
Cherokee	16	60	80	\$1,035	13
Falls	15	57	83	2,695	3
Freestone	21	54	166	1,659	19
Guadalupe	15	56	191	3,361	8
Lamar	19	51	90	1,620	15
Lee	19	56	112	1,330	12
Milam	18	56	102	1,045	10
Starr	27	48	202	2,593	11
Washington	26	52	75	1,329	17
TOTAL	176	54*	125*	\$1,828*	108

*Weighted average.

selected USDA agencies and (b) gross farm income. The time period covered from which data are used was 1968 through 1971. We used 1968 as the year against which to measure the change data.

The second purpose of this study was to determine if Extension staff members can contribute significantly to the appraisal of characteristics associated with effectiveness of aides. Therefore, Extension personnel familiar with each of the 9 aides were asked to rate the aides as high or low on 15 personal and character traits. A value of one was assigned to each trait rated as high and a value of zero to each trait rated as low. Thus, each aide's rating could range from a minimum of 0 to a maximum of 15. The personal and character traits used in this study are shown on Table 2.

The total of the 15 items was used as an indicator of each program aide's quality of leadership.⁴ However, the number was used to indicate order and not interval. For example, a program aide with a total of 15 possessed stronger leadership qualities than an aide with a total of 14, but how much stronger isn't known.

Spearman's rho (r_s) was used to measure the degree of association of Extension staff judgments to aide effectiveness.⁵ The .01 level of confidence is the criterion used in this report to determine if a significant association exists between aide effectiveness and staff judgments of aide traits. A significant association would be an indication that Extension staff judgments could contribute to the appraisal of characteristics associated with aide effectiveness.

Table 2. Scale for measurement of personal and character traits of Extension aides.

Check one*		Traits
High	Low	
_____	_____	1. Breadth of interest
_____	_____	2. Ability to formulate goals
_____	_____	3. Ability to communicate
_____	_____	4. Farming experience
_____	_____	5. Farming accomplishments
_____	_____	6. Familiarity with production enterprises
_____	_____	7. Sociability
_____	_____	8. Adaptability to problems
_____	_____	9. Ability to conduct demonstrations
_____	_____	10. Initiative
_____	_____	11. Persistence
_____	_____	12. Aggressiveness
_____	_____	13. Farm ownership
_____	_____	14. Farm income
_____	_____	15. Reputation

*Value: high = 1; low = 0.

Findings

Measuring the use of services of selected USDA agencies was accomplished by determining the num-

ber of farmers who used these services in the benchmark year (1968) and in 1970-71.

As indicated in Table 3, there was a distinct increase in the number

Table 3. Distribution of 176 IFPP farmers by participation in assistance and education program offered by selected USDA agencies, 1968 and 1970-71.

Agency	1968 No.	1970-71 No.	% Change
Soil Conservation Service	28	75	167.9%
Agricultural Stabilization and Conservation Service	38	104	173.7
Farmers Home Administration	7	47	571.4
Texas Agricultural Extension Service*	3	70	2,233.3

*Refers only to attendance at scheduled group meetings.

of farmers using the governmental services in 1970-71 who hadn't used governmental services in the year before IFPP started. Also, some counties realized a greater change in the number of farmers using government services.

To determine the association of staff judgments to aide effectiveness, the nine counties were ranked according to (1) the number of additional farmers using one or more of the USDA agencies since the beginning of IFPP and (2) Extension staff judgments of the personal and character traits of the aides.

As indicated in Table 4, a significant association existed between the 2 rankings. That is, counties having program aides who were judged high on the personal and character trait rating had more farmers who used the selected USDA agencies than did counties having

program aides who were judged lower on the personal and character trait rating.

The second measure of aide effectiveness was changes in gross farm income. Findings in Table 5 indicate that participants increased farm income by nearly one-third from 1968 to 1971.⁶ However, considerable variation was noted in the average change in farm income when compared by counties.

When the nine counties were ranked by change in gross farm income and aide trait ratings, a significant level of association existed. As shown in Table 6, counties having program aides judged higher on the personal and character trait rating also ranked higher on average changes in farm income than did counties having program aides judged lower on the character trait rating.

Table 4. Association of Extension staff judgments of aide personal and character traits to aide effectiveness (change in use of selected USDA agencies).

County	Trait rank	Change in USDA use rank
A	8.5	8
B	8.5	9
C	7	7
D	6	5
E	5	6
F	4	4
G	3	1
H	2	3
I	1	2
	$r_s = .93$	$df = 9$
		$P < .01$

Table 5. Gross farm income of 176 IFPP farmers, 1968 and 1971.

	1968	1971	% Change
Farm income	\$321,671	\$424,384	31.9%
Mean farm income	1,828	2,411	31.9

Table 6. Association of Extension staff judgments of aide personal and character traits to aide effectiveness (change in gross farm income).

County	Trait rank	Change in farm income rank
A	8.5	8
B	8.5	9
C	7	6
D	6	5
E	5	7
F	4	4
G	3	2
H	2	1
I	1	3
$r_s = .871$		$df = 9$
		$P < .01$

Conclusions and Implications

The findings of this study indicate that farmers participating in IFPP did make major changes over a three-year period in the use of USDA agencies and in gross farm income. In addition, these changes were significantly related to Extension staff judgments of the personal and character traits of the aides employed in IFPP to work with the farmers in the program.

The selection of nonprofessionals as Extension aides seems to be

one of the most important aspects of an intensified farm planning approach. Results of this study indicate that Extension staff members can contribute significantly to the appraisal of characteristics associated with aide effectiveness.

Although the sample size in this study limits the generality of the findings, the construction of a personal and character trait rating does serve an exploratory function. Because no lists of personal and character traits are readily available as guidelines for Extension staff

members when interviewing applicants for possible employment as aides in Extension agricultural education programs.

It's recommended that additional studies of a comparative nature on a larger scale be formulated to list these and other personal characteristics associated with nonprofessional effectiveness in working with hard-to-reach audiences. If Extension Service is to have a more consistently effective program, it needs a more uniform method for interviewing and employing nonprofessionals as program aides in working with hard-to-reach audiences.

Footnotes

1. USDA-National Association of State Universities and Land-Grant Colleges Study Committee on Cooperative Extension, *A People and a Spirit* (Fort Collins, Colorado: Colorado State University, Printing and Publications Service, 1968).
2. J. Gerald Feaster, *Impact of the Expanded Nutrition Education Program on Low-Income Families: An Indepth Analysis*, Agricultural Economic Report No. 220 (Washington, D.C.: USDA Economic Research Service, 1972).
3. Other obligations caused the aide to terminate after six months of employment.
4. Kendall's coefficient of concordance (W) was tabulated to measure the consistency of the judges' ratings of the leadership traits of the program aides. The computed W was .89, indicating a relatively consistent ranking by the judges of leadership traits of the program aides.
5. For a detailed discussion of this statistical technique, see Dean Champion, *Basic Statistics for Social Research* (Scranton, Pennsylvania: Chandler Publishing Company, 1970).
6. For a more thorough analysis of variations in changes in farm income, see Howard Ladewig and Vance W. Edmondson, *The Effectiveness of Nonprofessionals in Cooperative Extension Education for Low-Income Farmers*, B-1122 (College Station, Texas: Texas A & M University, Texas Agricultural Extension Service and Texas Agricultural Experiment Station, 1972).