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Risk Management Education for Kentucky Farm Women

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This article describes how an agricultural and farm risk management education program, known as Annie's Project, was adapted from a midwestern focus to meet the diversity of Kentucky agriculture and shares the results of a longer-term evaluation of the Kentucky program. The Annie's Project program is geared specifically to the needs of farm women. The program adaption process, which began in late 2006, is detailed from inception through pilot testing to the full launch of the program. Over a four year period, the Kentucky Annie's Project program reached 425 farm women in 41 of Kentucky's 120 counties. The evaluation draws on the results of a questionnaire mailed to program participants 18 months to 5 years after programming. Participants reported statistically significant gains in all topical areas representing agricultural risk management education, including production, human resources, marketing, legal, and financial. Key actions which occurred as a result of participating in the program included increasing confidence in management abilities, reviewing personal/farm insurances policies, developing a network of peers and professionals, and using financial statements.

Keywords: risk management education, Annie's Project, farm women, program evaluation, program adaption

Historically, women have played a key, but often unrecognized, part in the success of family farm operations, serving numerous roles. Women become part of a farming operation for many reasons. For some, it may be their chosen occupation; however, for many others, women become actively involved in the operation through marriage and inheritance. According to the 2002 Census of Agriculture, Kentucky (KY) had over 8,000 farms with women serving as the primary operator and over 28,000 farms with women listed as an operator. At the time, this ranked Kentucky sixth in top states for women as principal farm operators. Although a woman was running one in ten farms in Kentucky, either by herself or with a partner, the Kentucky Cooperative Extension Service (CES) had not historically targeted the needs of this audience with educational programming.

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The 2007 Census of Agriculture (U.S. Department of Agriculture/USDA, 2009) documented a 19% increase in women as farm operators between 2002 and 2007. As the number of women involved in farming increased, it was also recognized that traditional roles played by the “farm-wife” or “farm-daughter” were also changing (Barbercheck et al., 2009). Based on the 2002 Census of Agriculture (USDA, 2004), a 2006 local needs-based assessment conducted by county Extension agents and the changing face of Kentucky agriculture as the state transitioned into a post-tobacco era farm economy, farm women were identified as an underserved audience in the state. It should be noted that the elimination of the government tobacco quota program resulted in a significant redefinition of roles for many farm families as they explored new enterprises and searched for tobacco income replacement opportunities, while tobacco production expanded to nontraditional areas of the state. Therefore, in 2006, a project team was assembled comprised of Extension specialists, Extension agents, industry professionals, and a representative from both Kentucky Women in Agriculture and the Farm Service Agency. The project team received a \$6,500 award from the Kentucky Governor’s Office of Agricultural Policy to specifically explore Extension educational programs targeting farm women.

In early 2007, the Kentucky CES became the first southern region state to adopt the Annie’s Project program. The Annie’s Project program, developed by Illinois and Iowa Extension Services, is an Extension risk management education program geared to the needs of farm women (Dill & Rhodes, 2012). In general, risk management education provides clientele with the tools, knowledge, and skill to fully evaluate the consequences associated with a decision. The U.S. Department of Agriculture Risk Management Agency (1997) identifies five general types of risks associated with agriculture and farm management, including production, marketing, financial, legal, and human resources; these areas are the key focus of the Annie’s Project program. The initial impetus for the development of the Annie’s Project program was the lessons learned by the Annie’s Project founder, Ruth Hambleton, growing up watching her mother experience the challenges and joys associated with operating a family farm. The Annie’s Project program is named in honor of Hambleton’s mother, Annette Fleck (Annie’s Story, 2013).

Annie’s Project was selected for use in Kentucky due to the comprehensive nature of the program, the core values and philosophies of the program, as well as the support and leadership provided by what is now known as the National Annie’s Project Leadership Team. The Annie’s Project core values focus on providing a safe and welcoming atmosphere for questions and discussions, helping participants develop a connection with other women in similar circumstances, and creating an environment of shared learning where participants learn from other participant experiences and subject-matter experts (Eggers, 2013).

Although the Annie’s Project format of multi-session, multi-county programming was not unique to the Kentucky CES, the all-female audience and the intensive risk management focus (as opposed to production focus) were unprecedented within the state. Modeling Annie’s Project

after successful programs in the midwestern United States allowed the Kentucky CES to benefit from their experiences; however, it was also clear that extensive modification of the program was needed to convert the curriculum from the midwestern corn belt focus to the diversity of Kentucky agriculture. Therefore, the goal of the Kentucky CES was to develop a risk management education program that incorporated the mission and core concepts of the Annie's Project program, while meeting the needs of Kentucky farm women.

This article describes the adoption/adaption process, as well as insights into the success of the program documented from a long-term impact assessment of the Kentucky Annie's Project program.

Conceptual Framework

The assumptions and propositions of the theory of problem-based learning were utilized in the process of adapting Annie's Project to Kentucky. Problem-based learning focuses on learning as a function of content, context, and participant engagement. Furthermore, the participants understand the value of the training and recognize their purpose for attending. The social environment is critical; group interaction allows the participants to test their level of understanding, as well as learn from others (Savery & Duffy, 2001). A core group of Extension specialists, associates, and agents were identified to develop the KY Annie's Project program based on the tenets of the problem-based learning approach.

Program Implementation

Kentucky Annie's Project adopted the central focus of the initial Illinois and Iowa programs and kept the primary objective of Annie's Project mission: "to empower farm women to be better business partners through networks and by managing and organizing critical information" (Eggers, 2013, paragraph 2). The Kentucky program retained the Illinois/Iowa focus on the five key areas of risk management. However, the significant diversity of farm size, enterprise, and farm income levels within the state justified giving autonomy to craft local programs to match local needs. For example, the Illinois/Iowa program tended to focus market risk examples on grain crops, while the Kentucky program would incorporate grain, tobacco, alternative enterprises, beef cattle, etc., into its marketing discussion.

Kentucky adopted the six-week (18-hour) class format where farm women received hands-on training in the five areas of agriculture and farm risk management. The pilot program was launched in early 2007 in three sites. The western KY location offered farm demographics very similar to Illinois; therefore, the curriculum required limited adaptation and allowed the implementation team to focus the unique demographic of an all-female audience. The central KY location was targeted due to the diversity of enterprises and small operations prevalent in the

region. The central region allowed the team to focus on programmatic and content changes necessary to meet the diversity of KY agriculture. Finally, the third location was chosen for its historically male-focused agriculture Extension programs. In essence, the implementation team realized that for the Kentucky Annie's Project program to be successful statewide, buy-in was needed at all levels, including participants, spouses, county Extension agents, community partners, and state-level Extension specialists and administrators. The ability to "sell" the program in this area of the state would test the resiliency of the program. Each pilot location presented a unique set of challenges that ultimately allowed for the development of a comprehensive program that met the needs of diverse audiences.

Kentucky's Annie's Project was fully launched in Fall 2007. The initial goal was to reach 200 farm women. At the conclusion of 2011, 12 Annie's Project programs had reached 41 of Kentucky's 120 counties and 425 participants. From 2007 to 2010, the Kentucky Annie's Project team received \$88,000 in grant funding from the Southern Risk Management Education Center. The average cost per participant was \$200. Examples of program-related expenditures included one half-time master's level position, Extension Specialists' travel, participant materials (notebook, jump drive, FINPAK, etc.), and county programming support (copies, room rental, etc.). All locations served a sponsored meal at each session.

Program Content

The pilot program, through participant and instructor evaluation, confirmed the need to develop a "cafeteria-style" menu approach to programming. In other words, the local county planning team, including Extension agents, selected from a menu of topics to cover. All programs received a set core curriculum embodying the mission, core values, and teaching methodologies of the Annie's Project program. Examples of topics included in the core curriculum are goals and missions and farm record keeping. Additionally, state Extension specialists and county Extension agents worked to develop a series of independent modules that local groups could use to supplement the core curriculum. Examples of topics included in the supplemental curriculum include evaluating a new farm enterprise, forages, and small ruminants. Three sample syllabi are included in Figure 1 on the following page, representing the diversity of programming offerings as the program transitioned between geographic regions.

Figure 1. Sample Syllabi by Geographic Region

	Western Kentucky	Central Kentucky	Eastern Kentucky
Session 1			
Topic 1	Introductions	Introductions	Introductions
Topic 2	Risk Assessment Survey	Risk Assessment Survey	Risk Assessment Survey
Topic 3	Intro to Annie's Project	Intro to Annie's Project	Intro to Annie's Project
Topic 4	True Colors	True Colors	True Colors
Topic 5	Goals & Missions	What is Management?	What is Management?
Session 2			
Topic 1	Goals & Missions II	Women and Money	Goal Setting & Missions
Topic 2	How Property is Titled	Family Financial Mgmt	How Property is Titled
Topic 3	Retirement Planning	Goal Setting & Missions	Retirement Planning
Topic 4	Estate Planning	How Property is Titled	Estate Planning
Topic 5		Farm Leasing	Financial Terminology
Session 3			
Topic 1	Financial Documentation	Financial Documentation	Farm Leasing
Topic 2	Buisness Plans	KY Farm Business Analysis	NRCS Programs
Topic 3	FINPAK	Using Spreadsheets	USDA/NAP Programs
Topic 4	Fast Tools	Estate Planning	Timber Demonstration
Topic 5		Insurance	
Session 4			
Topic 1	Crop Insurance	Grain Marketing	Financial Documentation
Topic 2	Farm Leasing	Livestock Marketing	Farm Business Plans
Topic 3	Insurance	Crop Insurance	Excel
Topic 4	USDA Programs	Ten Habits of Profitable	
Topic 5		Farmers	
Session 5			
Topic 1	Price Risk Management	Business Plans	Livestock Marketing
Topic 2	Future Market	Farm Finances	Alternative Enterprises
Topic 3	Business Plans II	Interpret Financial Records	Forages
Topic 4			Small Ruminants
Topic 5			
Session 6			
Topic 1	Business Plans III	USDA Farm Program	Insurance
Topic 2	Participants Choice	Alternative Enterprises	Farm Business Plans
Topic 3	Evaluation	Participants Choice	Participants Choice
Topic 4	Graduation	Evaluation	Evaluation
Topic 5		Graduation	Graduation

Methods

A study was conducted to measure the longer-term outcomes for the Kentucky Annie's Project program. Data were collected in spring 2012 using a mailed questionnaire via a modified Dillman Total Design Survey Method for distribution (Dillman, 1978, 1991). The time lapse between participant completion of the program and survey mailing ranged from 18 months to five years. The Annie's Project team had conducted two prior evaluations of the program. Participants were evaluated at the conclusion of each session to assess immediate impression of knowledge gained and then again at the conclusion of the six-week course. Findings from previous evaluation efforts were used to inform and refine the Kentucky program. The longer-term evaluation was designed to measure program impact after the participants had experienced a time lapse of more than one full production year to allow the opportunity to utilize the skills and knowledge gained from the program.

The survey instrument consisted of 58 questions and included a mix of closed-ended and open-ended response questions. Due to the diversity of educational programming, questions were asked about broad subject matter categories, such as business goals and missions, financial documents, and marketing, as opposed to enterprise-specific topics. Furthermore, the outcome evaluation was based on the principles of problem-based learning, the Annie's Project logic model, and the KOSA assessment model (knowledge gained, opinions changed, skills acquired, and aspiration heightened) (Rennekamp, nd).

Sample

All 425 participants were included in the survey mailing. There were 142 completed surveys returned, with responses from all 41 counties that participated in Kentucky's Annie's Project, a 33.4% response rate. Based on the sample size and population, a +/- 6.72 confidence interval is calculated for a 95% confidence level. Table 1 on the following page displays detailed demographic characteristics, including age, acres farmed, farming experience (years), geographic region, and gross farm income of respondents. The population/sample is 100% female.

Table 1. Respondent Demographics

Measure and Variable	Sample	
	N	%
Age		
Under 30	6	4
30 to 45	29	21
46 to 60	63	45
61 to 75	34	24
76 and older	8	6
Acres Farmed		
Under 50	15	11
50 to 100	13	10
101 to 500	53	40
501 to 1,000	20	15
1,000+	33	25
Farming Experience (years)		
Less than 5	17	13
5 to 10	16	12
11 to 20	23	17
21 to 30	30	22
More than 30	48	36
Gross Farm Income		
Under \$50,000	59	47
\$50,001 to \$150,000	26	21
\$150,001 to \$300,000	14	11
Over \$300,000	26	21
Geographic Region		
Western KY	54	39
Central KY	52	37
Eastern KY	33	24

Results

Ninety-four percent of respondents found the Kentucky Annie's Project program to be useful to them. Knowledge gained represents the most basic indicator of impact on both the logic model and KOSA assessment. The initial goal of the Kentucky Annie's Project program was for participants to increase knowledge and skills in the five previously identified areas of risk management. To assess knowledge acquired, participants were asked to rate their knowledge on a list of practices that were covered at each location. A retrospective pretest-then-posttest instrument was used to assess self-reported knowledge gained as a result of participation in the Annie's Project program (Davis, 2003; Rockwell & Kohn, 1989). The retrospective pretest-then-posttest design was used to eliminate response bias which may occur as a result of program

participants initially overestimating their level of knowledge in a standard pretest-posttest (Pratt, 2000). Table 2 displays the preprogram and postprogram assessment of knowledge level. Participants responded to two statements which read: “Below is a list of practices that were discussed as part of the Annie’s Project program. Please indicate your level of knowledge BEFORE/AFTER participating in the program.” Responses were presented in a Likert fashion ranging from 1 = No Knowledge to 5 = Expert. Paired sample *t*-tests were calculated to compare the mean pretest score to the mean posttest score for each topic. A statistically significant increase in knowledge gained was found from preprogram to postprogram for all measures.

Table 2. Paired *t*-Tests for Retrospective Pretest (*N* = 138)

Variable	Preprogram		Postprogram		<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Business Goals and Missions	2.38	0.74	3.07	0.57	<.05
Estate Planning Documents	2.35	0.71	3.01	0.47	<.05
Financial Documents	2.58	0.68	3.01	0.55	<.05
Farm Business Plans	2.18	0.74	2.92	0.57	<.05
Farm Leasing	1.96	0.83	2.81	0.63	<.05
Crop Insurance	1.94	0.82	2.75	0.66	<.05
Farm Service Agency	2.38	0.77	2.92	0.56	<.05
Natural Resource Conservation Service	2.24	0.77	2.79	0.62	<.05
Marketing	2.14	0.75	2.83	0.61	<.05
Selecting a Farm Enterprise	1.74	0.61	2.67	0.6	<.05

In addition to measuring a change in knowledge, a longer-term evaluation provides the opportunity to measure the change in action which occurred as a direct result of programming (Hachfeld, Bau, Holcomb, & Craig, 2013). Participants were asked to respond to a series of 15 action statements. The response matrix is presented in Table 3. Key actions which occurred include: increased confidence in management abilities, reviewed personal insurance policies, used financial statements, developed a network of peers and professionals, and reviewed farm insurance policies. At least 70% of respondents agreed an action occurred in these areas as a result of participating in the program.

Table 3. Action Which Occurred as a Result of Educational Program

Measure	Strongly				Strongly	M
	Disagree	Disagree	Neutral	Agree	Agree	
	(%)	(%)	(%)	(%)	(%)	
Increased Confidence in Management Abilities	1	2	15	53	28	4.04
Reviewed Insurance Personal Policies	1	5	17	51	26	3.96
Used Financial Statement	2	4	21	58	16	3.81
Developed a Network of Peers and Professionals	2	5	24	51	19	3.79
Reviewed Farm Insurance Policies	1	10	21	50	19	3.76
Wrote Farm Mission Statement & Goals	1	10	31	37	20	3.64
Improved Relationship w/Members of Farm Business	2	4	35	46	13	3.64
Increased Business Productivity	1	6	40	45	8	3.51
Organized My Business to Limit Liability	1	10	41	37	11	3.47
Established/Reviewed My Estate Plan	1	15	39	26	18	3.44
Increased Business Revenue	1	8	54	32	5	3.31
Wrote a Farm Business Plan	2	15	46	28	9	3.27
Implemented a New Enterprise	4	19	43	27	8	3.14
Wrote a Marketing Plan	3	18	57	21	2	2.99
Eliminated an Enterprise	7	31	51	10	2	2.68

Note: Percentages may not add to 100% due to rounding

Conclusion

In this article, we detailed the early adoption/adaption of a national Cooperative Extension program to the state-level and reported findings from a research project designed to measure the effectiveness of the program through a knowledge and skills assessment. The Kentucky Annie's Project program increased participants' knowledge in the five areas of agricultural and farm risk management. We found participants experienced the most substantial knowledge gains in the areas of selecting a farm enterprise and farm leasing, with both measures increasing on average nearly 140%. The knowledge gained in these two categories most likely represents the participant's interest in reevaluating/developing a plan for their farming operation in the absence of the government tobacco quota program. Although all measures of knowledge gained were statistically significant, participants experienced the least amount of gain in the areas of financial documentation and USDA programs. The mean retrospective pretest scores for these categories ranked relatively high compared to other measures; therefore, it is assumed that participants had acquired this type of knowledge from other sources prior to participation. A recommendation of the project team would be to increase the level of materials presented in the financial documentation session; for example, instead of focusing on types of farm records, possibly consider demonstrating specific farm record-keeping tools and software. The time allotted to the USDA program should be reevaluated.

Annie's Project was implemented at a cost of \$200 per participant, including all of the variable costs of program support, materials, speaker transportation, and meals, but excluding Extension agent and specialist salaries. While this is clearly not a formal cost/benefit analysis, initial indications suggest that the Kentucky Annie's Project is a winning Extension program. The Kentucky Annie's Project program has been viewed as a model state program by administrators, specialists, county agents, and participants, from which additional Extension programs have been developed in the state. A key example would be the KyFarmStart program, which has received over \$1.2 million in funding from the USDA Beginning Farmer Rancher Program.

Limitations and Future Research

Although the results of this program evaluation are positive, it should be noted that all actions which occurred cannot be entirely contributed to the Annie's Project program. Second, it should be acknowledged that just because a participant took action, we do not know if that action made a positive impact or was successful. For example, it can be assumed that reviewing personal and farm insurance policies or developing a network of peers and professionals should result in a positive benefit; however, the same assumption cannot be made for a participant that indicated writing a business plan or implementing a new enterprise. Although the intention or hope would be for participants to have experienced success with these endeavors, the survey made no attempt to measure positive or negative outcomes associated with actions.

A more detailed analysis of the evaluation data presented should be conducted for different group demographics, such as a comparison of knowledge gained and action taken across geographic locations. Future researchers should also consider a survey mechanism that allows for more detailed findings in regards to actions which occurred as a result of participating.

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