

Extension Education Drives Economic Stimulus Through Trade Adjustment Assistance for Farmers

Abstract

Trade Adjustment Assistance for Farmers (TAAF) is a national multifaceted USDA program that provided technical and financial assistance to farmers and fishermen adversely affected by import competition. This article describes how Extension was successfully mobilized to deliver the TAAF program to 10,983 producers across the nation using innovative education technologies to achieve program objectives and improve the economic well-being of participating farmers and fisherman. The innovative technologies included online curricula and business planning, the use of personal business planning consultants, and linking Extension education outcomes to financial assistance payments that producers used primarily to invest in their business.

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Introduction

Trade Adjustment Assistance for Farmers (TAAF) was a USDA program that provided training and technical assistance along with a financial incentive to farmers and fishermen adversely affected by import competition. The Cooperative Extension System provided a minimum of 12 hours of education, followed by individual consultation with a business planning expert, to help eligible farmers and fishermen increase profitability, improve production efficiency, develop marketing strategies, and evaluate alternative enterprises. In the final phase of the program, producers developed a long-term business adjustment plan to make them more competitive and resilient to import competition.

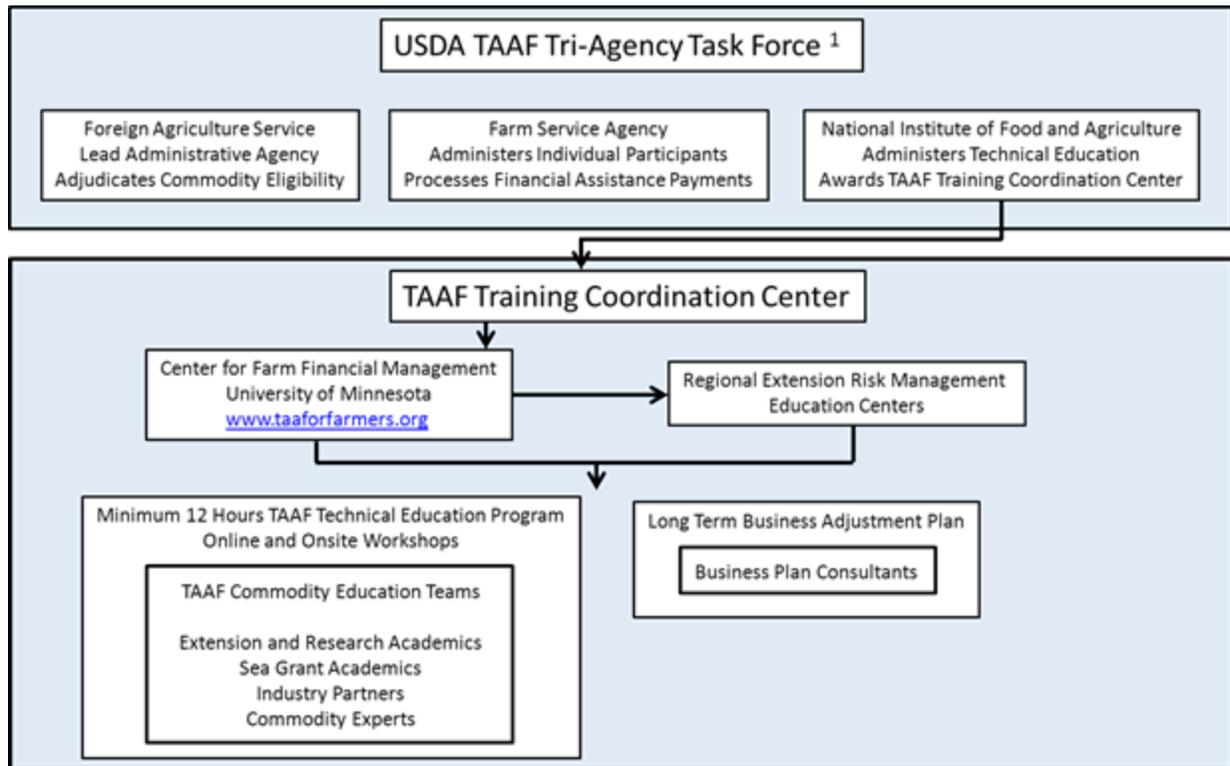
This article describes how Extension delivered the TAAF program to 10,983 farmer and fishermen across the country using innovative education and economic stimulus strategies. The article first provides an overview of the TAAF program objectives, administration, and funding for eligible commodities. Next, the education program is described, followed by a discussion of the outcomes, results, and assessment of program effectiveness. Throughout, the article describes how the Extension system was used to develop and deliver nationwide programming quickly and effectively, and how Extension leveraged economic stimulus to achieve program outcomes.

TAAF History and Administrative Overview

Trade adjustment assistance was originally authorized under the Trade Expansion Act of 1962 when President John F. Kennedy proposed it as part of a total package to enhance free trade. President Kennedy said, "When considerations of national policy make it desirable to avoid higher tariffs, those injured by that competition should not be required to bear the full brunt of the impact. Rather, the burden of economic adjustment should be borne in part by the Federal Government" (Kennedy, 1963). The Trade Adjustment Assistance Reform Act of 2002 established TAAF, and then TAAF was reauthorized and modified by the American Recovery and Reinvestment Act (ARRA) of 2009 (Pub. L. 111-5, 2009). The purpose of the ARRA was to stimulate the economy through direct financial investment that would spur job creation and retention (Hornbeck & Rover, 2011). TAAF was one mechanism to accomplish this in food and agriculture. Producer surplus loss is an economic concept that describes the negative impacts on producers of international trade policy that increases import competition (Krugman & Wells, 2005). The costs of TAAF are justified to offset producer surplus loss.

Reaching the thousands of potentially eligible farmers and fishermen required an extensive administrative structure for TAAF within and beyond the U.S. Department of Agriculture (Figure 1). TAAF was administered through a tri-agency task force comprised of the Foreign Agricultural Service (FAS), Farm Service Agency (FSA), and the National Institute of Food and Agriculture (NIFA). The FAS was the lead agency responsible for overall program administration and adjudicating commodity eligibility. The FSA handled applications, determined individual producer eligibility, and distributed the financial assistance payments. NIFA administered the technical education program through the National TAAF Coordination Center competitively awarded to the Center for Farm Financial Management (CFFM) at the University of Minnesota. CFFM partnered with the regional Extension Risk Management Education (ERME) Centers <<http://www.extensionrme.org>> to coordinate and deliver TAAF nationally.

Figure 1.
TAAF Administrative Flowchart



¹ USDA's Economic Research Service, Agricultural Marketing Service, National Agricultural Statistics Service, and the Chief Economist's Office, as well as the Office of General Counsel, play a significant ad hoc role to the Tri-Agency Task Force, in certifying eligibility and interpreting legislation and administrative rules.

Extension has long been recognized for its role in providing education programs that help producers implement production efficiency technologies (Gustafson, 2002). CFFM and the regional ERME Centers have an established record providing high-quality risk management education programs and decision tools for agricultural producers through the Cooperative Extension System, so they were well-positioned for the additional challenges of TAAF. TAAF expanded Extension's educational role to include spurring economic stimulus and job creation and retention.

For each TAAF-eligible commodity, CFFM and the ERME Centers developed Education Teams of Extension and Sea Grant academic scholars, industry partners, and commodity experts to develop and deliver the technical education program. CFFM and the ERME Centers coordinated with Extension and Sea Grant Educators at 21 land-grant universities to deliver TAAF training. To assist participants to develop their long-term business adjustment plans, 168 business planning consultants were recruited, trained, and deployed. TAAF program effectiveness and impacts were assessed by the Social and Economic Sciences Research Center at Washington State University (SESRC, WSU).

Congress appropriated \$220 million for TAAF over a 3-year period. The annual appropriations were \$90 million for 2009 and 2010 and \$40 million for 2011. Protracted federal rule-making, public notification requirements, and commodity certification meant that \$65 million of the 2009 budget could not be used for program benefits. The balance, however, along with the 2010 budget of \$90M and the 2011 budget of \$40M, were fully-available.

Commodity and Producer Eligibility

A commodity was eligible if import competition contributed to more than a 15% decline in its national

average price or value of production in the most recent marketing year compared to the previous three years. Commodity groups submitted a state, regional or national petition to FAS for certification. FAS received 35 petitions, but only five commodities met the eligibility requirements. Producers of eligible commodities became individually eligible if they could document they had been adversely affected by import competition. Table 1 presents TAAF eligible commodities, their geographic extent, and the number of commodity producers, as well as the maximum financial assistance per producer.

For the five certified commodities there were 10,983 eligible producers. Shrimp were certified as an eligible commodity in both 2010 and 2011, but an individual producer was eligible for one year only. A total of 5,453 shrimp producers participated in the TAAF program.

Table 1.
TAAF Certified Commodities and Eligible Producers

Commodity	Year Certified	Geographic Area	Number of Eligible Producers	Maximum Financial Assistance¹
Asparagus	2010	Nationwide	283	\$12,000
Catfish	2010	Nationwide	786	\$12,000
Shrimp	2010	Alabama, Alaska, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, and Texas	3,900	\$12,000
Shrimp	2011	Same as 2010	1,553	\$4,303
Lobster	2011	Connecticut, Main, Massachusetts, New Hampshire, and Rhode Island	4,183	\$4,303
Wild Blueberries	2011	Maine	278	\$4,303
		Total	10,983	
<p>¹ The 2010 budget, divided by the number of eligible producers provided each participant with the maximum financial assistance payment of \$12,000. The reduced 2011 budget, divided by an even larger number of eligible producers provided producers approximately \$4,300 in financial assistance.</p>				

Table 2 illustrates TAAF participant diversity. Older producers outnumber younger. About 41% of the participants were older than 50; 67% were older than 40. The majority of participants were male (68%); females—either as producers or spouses who shared in the risk of producing and marketing the commodity—were 32% of participants. English was the primary language of 79% of the

participants, but nearly 1,300 participants (16%) identified Vietnamese or Spanish as their primary language. There was a notable range in average annual household income, with 14% subsisting on less than \$10,000 a year, 50% earning less than \$50,000, 21% above \$100,000, and 7% with household income exceeding \$250,000.

Producer demographics are important for a number of reasons. 1) Considering the plan to use online education and communication methods, the preponderance of program participants over 50 was a concern. Would older participants use computer technology for training and technical assistance? 2) Because more than 16% of program participants did not use English as their primary language, all instructional and evaluation material would need to be translated. 3) The substantial disparity in household income of producers, ranging from less than \$10,000 to more than \$250,000 annually, meant that the financial incentive might have dramatically different significance and impact on program completion and future success.

Table 2.
TAAF Producer Demographics

Demographic	Number of Responses	Measure
Age	8,634	Younger than 30 years 14% 30 to 39 years 16% 40 to 49 years 26% 50 to 60 years 26% Older than 60 15% Missing 3%
Gender	8,368	Male 68%; Female 32%
Primary Language	8,634	English 79% Vietnamese 15% Spanish 1% Other 1% Missing 4%
Education	5,139	Less than 12th grade 27% High school graduate 35% Some college, no degree 15% College degree 20% Graduate degree 3%
Average Annual Household Income over the Past 3 Years	8,634	Under \$10,000 14% \$10,001 to \$50,000 36% \$50,001 to \$100,000 22% \$100,001 to \$250,000 14% Over \$250,000 7% Missing 5%

TAAF Training Components and Education Program

TAAF training and technical education occurred in four stages. 1) An initial technical assistance program had to be completed within 90 days of commodity certification. 2) Then a minimum of 12 hours of intensive technical training was required. 3) Successful completion of an initial business plan qualified the producer to receive up to \$4,000. 4) Then, upon approval of the initial business plan, producers were coached by business planning consultant to develop a long-term business adjustment plan. This fourth stage incorporated the online business planning software, AgPlan <<https://www.agplan.umn.edu>>. The ERME Centers reviewed each initial and long-term business adjustment plan for acceptability. Following acceptance of the long-term plan, producers received up to \$8,000 for plan implementation.

TAAF-eligible commodities and their geographic extent were unknown prior to FAS approval, but the legislation required a short 90-day window to deliver the initial technical assistance once a commodity was certified. CFFM and the ERME Centers developed eight national common courses applicable to any commodity and organized TAAF Education Teams to assist in the quick promotion, development, and delivery of commodity-specific training anywhere in the nation. These Education Teams were tasked with identifying topics critical to each commodity and developing relevant training curriculum. Each Education Team developed four to eight courses that were delivered at onsite workshops. Many of these were developed into online courses. A total of 74 onsite workshops and 37 online courses were delivered. Although 12 hours of training was the minimum requirement, many producers took 13 or more hours, and at least one participant took as many as 42 hours of training.

Online Program Management and Delivery

The CFFM maintained two complementary websites to manage and deliver TAAF. The ERME Centers, Education Teams, and Business Planning Consultants completed reporting and administrative activities on the limited-access website <<https://taareporting.cffm.umn.edu>>. Educators entered scheduled workshops and recorded workshop participation, and business planning consultants recorded each contact with producers and tracked each producer's progress on this site. Pertinent data collected via this website was communicated daily to FSA so that financial assistance payments could be made to program participants as they completed required stages of the program. The database also generated a variety of reports needed by the team and USDA to manage the program and provide customer service.

The TAAF online education delivery system was designed and developed from the onset of the TAAF program in anticipation that many producers, especially fishermen, would have difficulty attending onsite workshops. Furthermore, an online system would be needed to help producers develop their long-term business adjustment plans. Program participants were given instruction to use www.taaforfarmers.org as a portal for online access to training curriculum and AgPlan. Each online course included a post-test that had to be passed to earn credit toward the 12-hour training requirement.

TAAF Business Planning Consultants

Upon completion of the intensive technical education and initial business plan, producers who chose to move forward with a long-term business adjustment plan were assigned a business planning

consultant for expert support in developing their business plan. Business plans have been widely used as an outcome in Extension programs, and studies note the importance of specialist support in developing plans (Bennett & Bevers, 2003; Cheah, 2012). Business planning consultants met in person with their assigned participants at least once and followed-up using email and telephone communication.

Program Challenges

There were significant "unknowns" at the outset of TAAF that challenged planning and delivery. How many and which commodities would be certified? How many producers would qualify for program participation? What was the geographic extent of certified commodities and eligible producers? What are the logistical challenges of providing training to such dispersed participants? Could educators and business planning consultants be sufficiently mobilized to meet program demands? Would the shift from a direct cash subsidy to an incentivized training and technical assistance be accepted by producers? Would the financial assistance be enough to incentivize participation?

Extension scholarship suggested additional challenges (Diem, Hino, Martin, & Meisenbach, 2011; Seger, 2011). Extension clientele's disinterest or inability to use Internet technology, misperceptions regarding online training delivery, faculty resistance to change in providing virtual program delivery, and constraints in Extension's organizational structure that hinder new technology approaches all presented potential barriers.

Challenges presented by producer diversity were discussed previously. Furthermore, shrimp and lobster fishermen were unfamiliar with USDA education programs and were a new audience for the FSA and Extension. With fishermen often out at sea, could the program overcome the logistical barriers to program delivery? Would older participants access and use computer technology for training and technical assistance? Would instructional and evaluation material translated for more than 16% of non-English speaking participants affect their program participation and success? Would the big difference in financial incentives have an impact on program completion and future success? Answers to these questions, among others, became the indicators of TAAF program effectiveness.

Indicators of Program Effectiveness

Judging from a number of indicators, including program completion rates and strong evaluation responses, the program was highly effective in training and supporting producers. Table 3 shows completion rates for each stage of the program and overall. Of the 10,983 eligible producers, 90% completed the initial orientation and 93% completed intensive training. Of these, almost all (100%) submitted an acceptable initial business plan. Then 95% of participating producers worked with business planning consultants to complete a business adjustment plan. Overall, 88% of the producers initially approved for TAAF completed all program requirements. This is a prodigious completion rate considering the large number of eligible producers, their diverse demographics, and the big difference in financial incentives between 2010 and 2011.

Table 3.

TAAF Completion by Program Step and Overall

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Commodity	Initial Orientation	Intensive Training		Initial Business Plan		Term Business Plan		Overall Completion
		#	% 1	#	% 1	#	% 1	% 2
2010								
Asparagus	263	259	98%	259	100%	250	97%	95%
Catfish	744	740	99%	738	100%	722	98%	97%
Shrimp	3407	3377	99%	3373	100%	3336	99%	98%
2011								
Shrimp	1334	1281	96%	1279	100%	1198	94%	90%
Lobster	3834	3220	84%	3203	99%	2966	93%	77%
Wild Blueberries	253	239	94%	239	100%	195	82%	77%
Total	9835	9116	93%	9091	100%	8669	95%	88%
Notes: 1 The completion percent is calculated based on the number of producers completing the previous program step. 2 The overall completion percent is based on the number of producers completing initial orientation.								

Evaluations were conducted following each TAAF workshop and online course and after each program component and 1-year post-program completion, using on-site, online, and mail surveys, and no-response follow-up telephone interviews. Participants were assured that their responses were voluntary and confidential, and would not impact TAAF services or financial assistance. This ensured an environment where producers could provide unbiased evaluations of training, business planning, and overall program performance. This produced high response rates and an extensive database of evaluation results. (Public access to anonymous TAAF evaluation data is available as a resource for program evaluation research at <<http://www.sesrc.wsu.edu>>).

Overall, 64% of TAAF participants rated their experience as favorable or extremely favorable. The online curriculum proved particularly popular. Fifty-eight percent of the completed courses were taken online. In the pre-training evaluation only 39% responded that they would like to receive training online, but when producers were asked in the post-training evaluation survey, 54% responded they would prefer to receive additional training in an online format. Post-program evaluations identified that interactions with business planning consultants were among the most valued aspects of TAAF.

TAAF clearly establishes, through significant participation and high satisfaction ratings, that online delivery of Extension programs can be highly successful. The rapid response of the TAAF educational team demonstrates that organizational structures that inhibit quick delivery can be overcome to

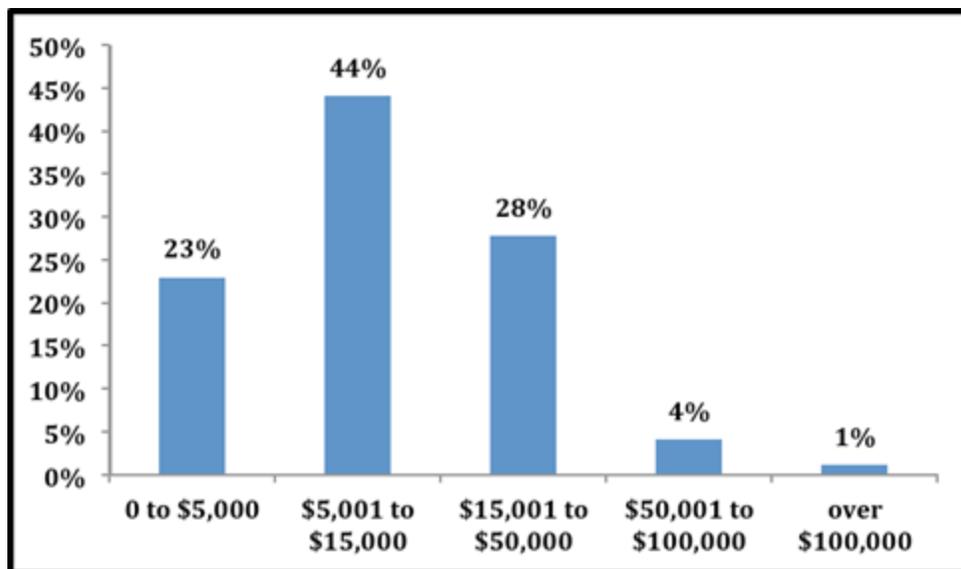
provide quality Extension programming delivered in an online environment. TAAF overcame the perceived barriers to delivering Extension education programs online.

In the 1-year follow up evaluation, about 90% of the producers reported they still participate in producing their commodity. About 74% of the producers indicated that their satisfaction with their business had improved, and 78% made their business more efficient as a result of participating in TAAF. While 64% of TAAF participants rated their experience as favorable or extremely favorable in initial evaluations, in the 1-year follow up, 95% rated the program worth their time, and 75% would participate in the program again if offered in the future.

The economic stimulus objectives of TAAF were unique for an Extension program. TAAF financial assistance payments had multiple objectives: to entice producer participation, to offset producer surplus loss, to provide financial assistance for producers to invest in their business, and to use TAAF as an economic stimulus program to meet ARRA objectives. When evaluating government spending economics, a simple transfer payment does not generate additional economic activity because it is a spending substitute from tax payers to those receiving the simple transfer payment. However, if that government spending results in business investment, the economy receives a stimulus effect. The majority of the TAAF participants indicated that they used the financial assistance to invest in needed changes in business operations, purchase equipment to make their business more efficient, or expand their business operations. Figure 2 presents the estimated TAAF program financial impact one-year after producers received financial assistance. For the 3,339 producers who responded, the average estimated financial impact is \$17,151, with a standard deviation of \$20,531.

Figure 2.

Producer Estimated TAAF Program Financial Impact
One-year Post Financial Assistance Receipt



The ARRA also had the objective to increase employment. Table 4 shows that 1,448 producers (45%) who hire workers were able to retain workers they might have had to furlough, and 424 producers hired additional workers as a result of the TAAF program. In Table 5, 1,425 producers reported that they were able to retain 3,430 workers or 2.41 on average, and 418 producers reported hiring 1,085

additional workers or 2.6 on average. Furthermore, TAAF supported the retention and hiring of Extension educators and business planning consultants.

Table 4.

Ability to Retain or Hire Workers by TAAF Producer Participants

	Were you able to retain workers as a result of the TAAF program?		Were you able to hire workers as a result of the TAAF program?	
Response	Number of Respondents	Percentage	Number of Respondents	Percentage
Yes	1,448	45%	424	12%
No	1,752	55%	3,010	88%
Not Applicable	1,931		1,743	
Total	5,313		5,177	

Table 5.

Number of Workers Retained or Hired by TAAF Producer Participants

	How many workers were you able to retain as a result of the TAAF program?	How many workers were you able to hire as a result of the TAAF program?
Number reporting	1,425	418
Number of workers	3,430	1,085
Average per response	2.41	2.60
Median response	2.0	2.0
Mode response	1.0	1.0
Range	0 to 42	0 to 40

Conclusions

Extension programs are increasingly being challenged to deliver high impact programs across

ethnically and socially diverse audiences using a multitude of education technologies with competitive grant funding. The TAAF program presents a model for future Extension program delivery. Not only did it successfully achieve typical Extension outcomes at a national scale, it also provided a positive example that linking program payments to education is more economically efficient than direct payments alone. TAAF may be the first Extension program that directly linked education achievement to government program payments. TAAF provided over \$65 million in financial assistance to help producers adjust to import competition. This financial assistance was tied to business education that targeted improved production efficiency and profitability, and was used by participants primarily to invest in their businesses.

By using the Extension education system as a policy tool tied to producer financial assistance, we anticipate the gains from this economic stimulus will have greater longer-term impacts compared to a simple spending transfer payment. Overall, TAAF was highly effective in meeting its legislative objectives of educating producers to adjust to import competition and to provide economic and employment stimulus. TAAF demonstrates that the Extension system can have major impacts in a rapidly changing economy and can deliver a major outreach program at a national level.

The TAAF program as designed was dependent on the Extension system of Risk Management Education Centers and Extension specialists across the nation to provide curriculum development and delivery. During the planning phase there was great uncertainty which commodities would be TAAF eligible. The Extension system was essential to design and deliver commodity-specific curriculum within the legislatively mandated time constraints. TAAF provided a unique opportunity to evaluate Extension delivery methods. The effectiveness of online program delivery was a major unknown, but the program demonstrated a 58% online completion rate, with 54% highly rating AgPlan, and an increase from 37% to 55% in preference for receiving training online. Despite the relatively older age, lower educational attainment, and potential language barriers of participants, online delivery was highly effective. As Extension enters a new era of multi-faceted program delivery, the TAAF program provides strong evidence that reaching diverse audiences can be done effectively using online tools for education, communication and business planning. Additionally, it demonstrates team-building and working across state and regional boundaries can effectively overcome organizational and institutional barriers.

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