

Usefulness of Delivery Methods for Climate Change Programming: Perspectives of Extension and Research Faculty

Abstract

Extension is responding to climate change through programming intended to encourage adaptation and mitigation in agricultural production and natural resources management. However, effectively engaging target audiences requires identifying appropriate delivery methods. We conducted a study to identify delivery methods researchers and Extension professionals at land-grant universities in the northeastern United States perceive as useful for climate change outreach. Respondents viewed all delivery methods as only slightly useful, though traditional options, including face-to-face interactions and the use of videos and websites, were perceived as slightly more useful than other delivery methods. Therefore, we in Extension must experiment with various delivery methods to identify those most likely to effect the adoption of adaptation and mitigation practices.

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Introduction

As climate change ticks temperatures upward, intensifies extreme precipitation events, and makes weather increasingly unpredictable (Horton et al., 2014), the Cooperative Extension System has begun responding through programming intended to encourage adaptation and mitigation in agricultural production and natural resources management (Bartels et al., 2013; Brugger & Crimmins 2015; Jones & Lenart, 2014; Layman, Doll, & Peters, 2013; Pathak, Bernadt, & Umphlett, 2014). As with all regions across the United States, the Northeast demands tailored adaptation and mitigation strategies, particularly considering the region's diversity in landscapes, land uses, and variability in farm size (U.S. Department of Agriculture National Agricultural

Face-to-face outreach	5	.62	.74
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Data Collection and Analysis

Guided by the tailored design method (Dillman, Smyth, & Christian, 2009), we collected data over a 6-week period in April and May 2015. Deans from each university signed a letter encouraging their faculty and Extension personnel to complete the survey, and a representative from each university in the USDA Northeast Climate Hub land-grant partnership emailed this letter to assist with recruitment. However, the distribution of the survey and all follow-up contact was centralized at one university to streamline the process. We used descriptive and inferential statistics to analyze the data. Bivariate analysis addressed relationships among those in the three types of university appointments (research faculty, Extension specialist, Extension educator) as the independent variable and usefulness of delivery methods as the dependent variable. Although administrator/director was a category measured for university appointment and is reported in the demographic profile, as seen in Table 2, it was excluded from bivariate analysis because of a lack of representation in the sample. Given that analysis included only specific colleges and programmatic areas within land-grant universities in the Northeast, the findings should be interpreted carefully, for they do not represent each university in its entirety or all regions across the country.

Results

Objective 1: Demographic Profile

The demographic profile of respondents is presented in Table 2. A plurality of the respondents were research faculty (44.2%), followed by Extension educators (26.3%) and Extension specialists (22.4%). Percentage of time dedicated to climate change varied among the respondents, with a majority (70.9%) dedicating only 1%–20% of their time to climate change–related activities. The highest climate change focus area occurred in the natural resources disciplinary area (38.8%), followed by cropping systems (30.7%), social sciences (22.9%), and plants (22.0%). It should be noted that the number of individuals representing disciplinary areas collectively exceeded the total number of respondents because each respondent was permitted to select up to three areas. A majority of respondents were male (59.4%). Additionally, 453 respondents reported their ages, and the mean age was 52.4 years ($SD = 11.3$).

Table 2.
Demographic Profile of Respondents Having at Least
1% Time Dedicated to Climate Change Activities

Characteristic	No.	%
University appointment ($n = 550$)		
Research faculty (no Extension appointment)	243	44.2
Extension agent/educator	145	26.4
Faculty with Extension appointment	123	22.4

