Teaching Climate Change:
An Assessment of Available Educational Materials

Introduction

The 2014 International Panel on Climate Change (IPCC) report findings indicate the agricultural industry contributes a significant amount of greenhouse gases (GHG). In turn, agriculture is also affected by GHG emissions and climate change (Field et al., 2014). Mitigation and adaptation strategies are necessary to ensure agricultural production remains sustainable to meet increasing global food demand as climate change impacts production capabilities (Edenhofer et al., 2014; Field et al., 2014). Education and communication has been identified as a barrier to implementation of climate-change mitigation and adaptation strategies. However, better educational materials and extension communication networks have been identified as ways to overcome educational barriers (Edenhofer et al., 2014). Local managers, public works officials, local and state agencies, elected officials, and community development specialists are at the forefront of making community based decisions in the face of climate change (Tribbia & Moser, 2008).

Research Purpose

The purpose of this study was to determine available curriculum and materials for adult learners on climate change.

Research Objective

Identify and categorize climate change communication material, curriculum, and educational information currently available.

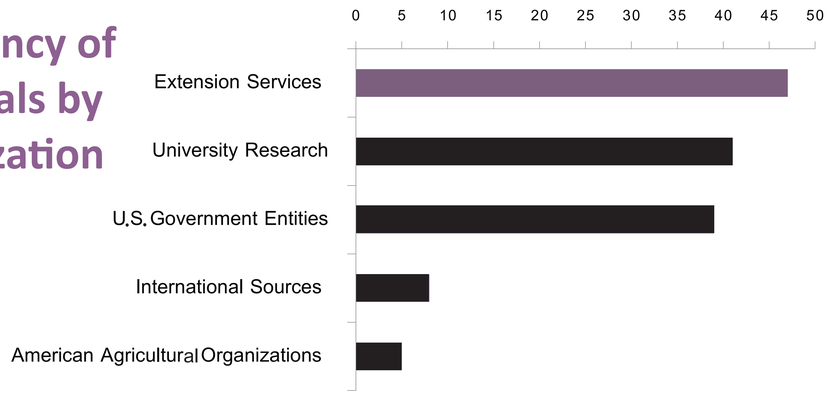
Methodology

- A quantitative communications audit was conducted to determine the amount of climate-change communication and educational material currently available to the public (Riffe et al., 2005).
- The population for the communications audit consisted of government agencies, agricultural organizations, extension, and universities that published climate-change communication and educational material online.
- This study used an Internet search to identify a variety of climate change communication and educational materials published online.
- A code book was used to sort materials by type, authorship, and topics (Riffe et al., 2005).
- Cross-tab calculations were used to analyze the frequency and percentages of results by each variable (type, authorship, and topics) (Ary, Jacobs, Razavieh, & Sorensen, 2006).

Findings

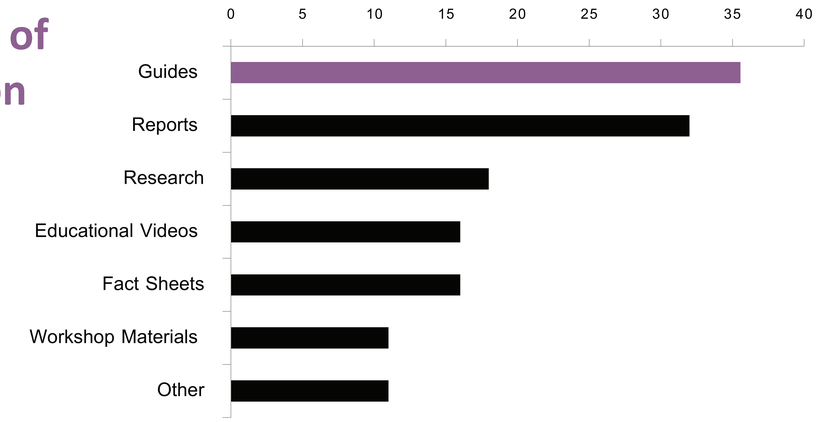
Researchers identified a total of 140 individual materials from various types of organizations that were publically available. Five major sources for climate-change information, curriculum, and communication materials were identified. Extension services had the highest frequency of materials included in the sample (n = 47).

Frequency of materials by organization type



The material type was also reviewed and sorted into seven type categories. Material types with 10 or fewer instances were grouped into an “other” category. Management, planning, and communications guides (n = 36) were the most frequent type of information.

Frequency of information sources



Conclusions

The amount and type of communication and educational material available on climate-change topics are limited to a small portion of organizations that are affected by the impacts of climate change. The agricultural industry has been identified as being significantly impacted by climate change (Field et al., 2014). Management, planning, and communications guides constitute the largest type of information available. Materials assessed through the content analysis revealed that no single source provided a complete set of communication materials or curriculum for adult education in climate change.

Recommendations

Communication professionals relaying climate-change information to agricultural producers should seek out information from extension services, university research, and U.S. government entities.

Researchers identified a need to develop a cohesive curriculum using the best information that is currently available based on scientific research (Tribbia & Moser, 2008) given the vast number of topic areas covered and the medium through which information is presented.

Future research should investigate the quality of information provided, the instructional delivery techniques, and the overall quality of the material.

References

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