Research Poster

Creating Climate Change and Adaptation Awareness through International Agricultural Study Tours

Andrew Waaswa
North Carolina State University
NCSU Campus Box 7607
Raleigh, NC 27695
awaaswa@ncsu.edu
(919)515-6077

Joy Morgan
North Carolina State University
NCSU Campus Box 7607
Raleigh, NC 27695
jemorga2@ncsu.edu

Introduction/Need for Research

The North Carolina Agricultural Leadership Development Program is a College of Agriculture and Life Sciences leadership program at NC State University that develops personal and civic leadership skills in early and mid-career farmers and agricultural professionals (Radford, 2020). The program involves in-depth leadership training, executive coaching, advocacy and policy development, and agricultural-based learning opportunities throughout the state, United States, and in a global agriculture component. As the program seeks to empower NC farmers and agricultural professionals, many misconceptions about agriculture require informed leaders to avoid diverting from the agricultural development agendas and calmly handling conflicting views (Earthscan, 2011). One misconception with conflicting views surrounds climate change awareness, how it affects agriculture, and the different adaptation strategies. The program employs an international agricultural study tour to allow participants to gain a better understanding of another country's agriculture and impact. During the latest study tour to Brazil, climate change was discussed throughout the study tour specifically how climate change affects agricultural productivity. and the adaptation strategies used by farmers and other agricultural professionals elsewhere in the world.

Conceptual Framework

This study was based on the International Agricultural Study Tour (IAST) concept, which is one of the ways the program develops its participants' awareness of global challenges affecting agriculture and strong leadership competencies for successful agricultural and community development programs in their respective organizations (NC Cooperative Extension, n.d). The future of agriculture depends on local leaders directing advocacy efforts connected to change; thus, agricultural leaders must be able to work despite the challenges and advance the communities (Diem & Nikola, 2005). According to Kelsey and Wall (2003), agricultural leadership programs have existed in the United States for over 75 years. However, the Kellogg Farmers Study Program (KFSP), which started at Michigan State University in 1965, is where most of the material currently available on contemporary agricultural leadership programs finds its inspiration (Carter & Rudd, 2000). The KFSP's founders saw that agriculture was becoming more complex and that strong leadership was required to safeguard and direct the industry's future. Workshops and travel seminars designed to provide participants with a better understanding of the social, economic, cultural, and political elements of public problems were the foundation of the KFSP from the start (Black, 2006), and continue to serve as a solid foundation for the existing agricultural leadership programs today. As current programs strive to provide agricultural leaders with an increased skillset to lead in their communities, careers, and organizations, program leaders must also assist these future leaders with developing the skills needed to advocate and address challenging issues impacting agriculture.

Methodology

Following the international study tour, an online survey was created and distributed to the NCTTFC ALDP cohort who participated in the international agricultural study tour to Brazil in January 2023. A census sampling technique was used, and all 23 participants were contacted electronically and invited to participate in the study voluntarily. The survey instrument contained 20 questions that centered around the participant's increase in knowledge and skills as a result of the study tour. Questions were designed based on the study tour's objectives and a literature review based on study abroad impacts. Because of the researcher's specific interest in climate

change, five out of the 20 questions were directly focused on climate change. Each participant's identity was kept confidential because their responses were entered into an online electronic survey in an anonymous form. The survey received a response rate of 50% from 12 respondents. The responses were analyzed using descriptive statistics to yield major conclusions.

Results/Findings

Engagement with the international agricultural study tour gave the participants a better understanding of how climate change affects people globally. Participants (55.6%) selected an emphasis on seeing or hearing about climate change through hotter temperatures, followed by decreased soil fertility (44.4%) and unpredictable weather patterns (44.4%). While 33.3% stated that they perceived Brazil's farmers discussing reduced crop yields, and 22.2% noticed more discussion on health risks. In addition, reduced ground and surface water, increased drought, loss of valuable plant and animal species, and reduced food availability were each reported by 11.1% of the participants. No participant acknowledged lowered livestock productivity and increased poverty and displacements in an attempt to open up more land for agriculture. The survey results revealed some additional interesting insights. For example, when asked to compare the climate change adaptation strategies that Brazilian farmers use to adapt to climate change to what participants use on their farms, 60% of the respondents rated their adaptive strategies as 3, 30% rated 4, and 10% rated 2 on a scale of 5. This was based on a scale of 1 to 5 with 1 being less effective and 5 most effective climate change adaptation strategies.

Conclusion

As climate change continues to be at the forefront, agriculturalists are and will continue to be tasked with adapting practices to combat climate change. Agricultural leadership development program leaders should include this major topic in their programs to provide participants with knowledge and opportunities to experience strategies that are being used by others that can be implemented on their farms and operations. The NCTTFC ALDP participants observed different ways climate change manifests and learned about the adaptive strategies used by the Brazilian farmers, giving them a global perspective. Participants could compare climate change adaptation strategies used on their farms with what the Brazilian farmers use to adjust their agricultural production systems from climate change shock. Engagement in the IASTs gives participants an understanding of the snares imposed by climate change on the agricultural production systems and teaches them about new adaptation strategies. The IAST showcased innovative ideas that could also be profitable in addressing climate change.

Implications

It is essential to carefully prepare and include learning through IASTs in the agricultural leadership programs. Intentional planning allows the participants to see and absorb information from various contexts that are related to participant needs and global issues. The IAST helped the NCTTFC ALDP participants observe climate change effects in Brazil. By seeing and talking with the farmers in Brazil who have implemented climate change adaption practices, United States farmers can ask questions related to profits and productivity which are important components of their livelihood. Visiting farmers during the IAST was key to providing an opportunity for increased discussions that provided a stronger understanding of climate change globally.

References

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