



The importance of needs assessment surveys from the stakeholders in the agricultural extension and outreach programs

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The Cooperative Extension system is vital in promoting sustainable agricultural development across the United States. As part of a national partnership with USDA-NIFA, Extension programs are administered primarily through land-grant universities and share research-based knowledge with the public. Extension faculty and staff offer valuable support for alternative food networks and sustainable agriculture, provide technical assistance to enhance knowledge of agricultural production systems, facilitate collaborations to establish new community markets, and educate stakeholders on profitability and business management strategies. As unbiased evaluators of agricultural systems and trainers of current and future agricultural workers, Extension scientists have many opportunities for program development in sustainable food systems. However, before designing new programs, it is essential to assess stakeholder needs to ensure adequate resource allocation and prioritize efforts accordingly.

Needs assessment surveys are key tools in agricultural extension work, particularly from the perspective of Extension agents in the United States. Surveys are used as part of a systematic process to identify and analyze gaps in knowledge and limitations in production by comparing current common practice with optimally desired practice. Often, survey questions are designed to identify the unique needs and challenges that individuals, organizations, communities, or programs face. The information enables extension agents to tailor their educational programs and services effectively. Conducting needs assessments is recognized as a foundational component of program development in extension work, helping to ensure that the educational offerings are timely, relevant, and beneficial (Benge & Warner, 2019). This process informs the curriculum and resource allocation necessary for effective outreach (Diori, 2021).

Extension agents, as well as other university faculty and staff, serve as frontline educators and resource providers in their communities, sharing targeted information and resources with farmers. This task demands a thorough understanding of farmers' needs, which is precisely what needs assessment surveys facilitate. For instance, by capitalizing on surveys, Extension agents can gather data on specific areas where farmers need assistance, such as integrated pest management, crop rotation practices, soil health management, or climate change adaptation strategies (Arora et al., 2020; Richardson et al., 2024). Such data collection is essential for driving educational initiatives that respond directly to the identified gaps and opportunities within the farming community (Alotaibi et al., 2021).

Needs assessments have uncovered significant insights into various agricultural domains, such as organic farming, urban agriculture, and mainstream rural practices. For example, recent studies have highlighted that Extension agents may need to provide additional training to effectively support organic farming, showcasing a critical gap in knowledge that can be filled through targeted extension efforts. As a result of the expansion of urban agriculture, the need for specialists with this expertise has emerged, necessitating distinct outreach strategies and resources (Campbell et al., 2023). The evolving landscape of agriculture, coupled with demographic changes among farmers, emphasizes the need for Extension agents to adopt ongoing assessment practices to remain effective and relevant.

Moreover, the methodologies employed in needs assessments can vary significantly from structured surveys distributed at agricultural events (Arora et al., 2020) to qualitative interviews that provide deeper insight into the challenges diverse agricultural stakeholders face (Surls et

al., 2014). The use of multiple method approaches enables a more comprehensive understanding of the agricultural sector's needs, allowing agents to develop nuanced and effective programming. Additionally, the advancement of digital technologies has enhanced the effectiveness and efficiency of needs assessments in extension work. Modern tools, such as GIS, online dashboards, and data analytics software, enable agents to collect, analyze, and utilize data more efficiently and accurately.

Effective extension work relies not only on the provision of technical expertise but also on the ability of Extension agents to engage with the community and validate the identified needs through active communication channels. Through needs assessment surveys, Extension agents can establish stronger relationships with farmers by directly addressing their concerns and demonstrating a commitment to their success (Diori, 2021; Reis et al., 2023). This aspect is particularly vital in fostering trust and ensuring participation in subsequent educational programs.

Implementing needs assessment surveys serves as a critical mechanism to identify and respond to the evolving needs of the agricultural community with measurable improvement in program outcomes. Through systematic data gathering and analysis, Extension personnel can develop targeted educational programs and research endeavors that enhance agricultural productivity and sustainability, ultimately contributing to the broader goal of food security. As agricultural practices continue to evolve, the role of needs assessments will remain central to the effectiveness of Extension services, which serve as a critical bridge between research and practice. This empowers producers to adopt sustainable strategies that support long-term environmental health, economic resilience, and community well-being.

References

- Alotaibi, B. A., Yoder, E., & Kassem, H. S. (2021). Extension agents' perceptions of the role of extension services in organic agriculture: A case study from Saudi Arabia. *Sustainability*, 13(9), 4880. <https://doi.org/10.3390/su13094880>
- Arora, K., Cheyney, M., Gerr, F., Bhagianadh, D., Gibbs, J., & Anthony, T. R. (2020). Assessing health and safety concerns and psychological stressors among agricultural workers in the US Midwest. *Journal of agricultural safety and health*, 26(1), 45-58. <https://doi.org/10.13031/jash.13660>.
- Benge, M., & Warner, L. (2019). Conducting the Needs Assessment# 2: Using Needs Assessments in Extension Programming: AEC684/WC347, 12/2019. *EDIS*, 2019(6). <https://doi.org/10.32473/edis-wc347-2019>.
- Campbell, C. G., DeLong, A. N., & Diaz, J. M. (2023). Commercial urban agriculture in Florida: a qualitative needs assessment. *Renewable Agriculture and Food Systems*, 38, e4. <https://doi.org/10.1017/s1742170522000370>.
- Diori, H. I. (2021). A critical insight into needs assessment technique and the way social needs are actually assessed. *Advanced Journal of Social Science*, 8(1), 3-9. <https://doi.org/10.21467/ajss.8.1.3-9>.
- Reis, J. A. V. D., Hoshide, A. K., Vreyens, J. R., Oliveira, A. S. D., Barros, V. A. M. D., Silva, W. M. D., & Oliveira, R. A. D. (2023). Training Sources and Preferences for Agricultural Producers and Professionals in Middle-North Mato Grosso, Brazil. *Sustainability*, 15(6), 4712. <https://doi.org/10.3390/su15064712>.
- Richardson, M. L., Taylor, J. R., Thompson, M. J., Rangarajan, A., Hanumappa, M., & Little, N. G. (2024). A profile of urban agricultural growers, organizations, their needs, and challenges in the Northeastern United States. *Plos one*, 19(4), e0298831. <https://doi.org/10.1371/journal.pone.0298831>.
- Surls, R., Feenstra, G., Golden, S., Galt, R. E., Hardesty, S., Napawan, C., & Wilen, C. A. (2014). Gearing up to support urban farming in California: preliminary results of a needs assessment. *Renewable Agriculture and Food Systems*, 30(1), 33-42. <https://doi.org/10.1017/s1742170514000052>.



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