Milestones and the Future for Cooperative Extension

Abstract
Milestones like the centennial of the Cooperative Extension system are significant in any organization. Milestones measure progress along a path, but can also give reassurances that travelers are on the right track. As Extension moves into the next century, we must continuously ask ourselves if it is focused and on the right path. What are some guiding principles that we need to follow? What are the grand societal challenges that need to be addressed now and as we move forward?

Introduction
Milestones, such as the centennial of the Cooperative Extension system, are significant in any organization, but even more so for this unique outreach arm of America's land-grant universities, with its rich history of transformative education. Milestones measure progress along a path, but may also ensure that travelers are on the right track. As such, the centennial of the signing of the Smith-Lever Act is a fitting occasion to galvanize and reinvigorate the intent of the Morrill Act so as to bring the full
benefits of the land-grant effort to America. In doing so, however, a number of questions need to be addressed: Is Extension appropriately focused and on the right path? What are some guiding principles for Extension in order to navigate the road ahead? Finally, how will Extension address the grand societal challenges that will have an impact on our nation's future?

**Guiding Principles**

There is not a single, prescriptive path for correctly navigating the different routes to a successful future for Extension. Success will depend on following guiding principles and priorities within the context of the institution and the individual state and its needs. These principles will set the trajectory for Extension in the future.

A primary guiding principle for Extension is the continued reliance on a strong foundation in research and its application to seek to create a better America. Enshrined in the Smith-Lever act is the idea that Extension will "aid in diffusing among the people of the United States useful and practical information on subjects relating to agriculture and home economics, and to encourage the application of the same..." Starting with Seaman Knapp's first demonstration farms, it was the application of existing research and "learning by doing" that resulted in the significant improvement in profitability of farms and quality of life for everyone.

A second guiding principle is Extension's continued relevance and connection to the local community, as evidenced by the programming and education efforts of Extension professionals in every county, parish, and borough in the United States. To wit, an average of 79.7 million contacts were made from 2008 to 2013 (Measuring Excellence in Extension database, 2014, [http://landgrantimpacts.tamu.edu/dbapp/](http://landgrantimpacts.tamu.edu/dbapp/)). Similarly, just in 2013, 4-H youth development programs reached 5.9 million youth ages six to 17 (USDA, 2014, [http://www.reeis.usda.gov/reports-and-documents/4-h-reports](http://www.reeis.usda.gov/reports-and-documents/4-h-reports)). Extension personnel build trusted relationships, use advisory councils, and empower volunteers to deliver transformative programs in their communities. Extension's Citizen Councils must have an integral role in needs identification, program prioritization, development, implementation, and evaluation. Our nation's demographics have changed immensely during last century, but the charge to serve all audiences remains a constant.

The last, but not least, guiding principle is Extension's commitment to innovative educational approaches, including the use of new and evolving digital technologies. From George Washington Carver's Jesup Wagon and the demonstration farms of Seaman Knapp to the multi-faceted programs of today, Extension is committed to lowering the barriers to adoption of research-based information by innovation in communication and program delivery.

Extension derives its programmatic funding from federal, state, county, and non-governmental sources, which facilitates innovation. Unfortunately, justifying funding to fully support Extension capacity at the local and state levels is an ongoing challenge in today's competitive budgetary environment, especially at the federal level. Yet numerous studies have demonstrated the significant return on investment afforded by Extension, including the dissemination and adoption of new technologies, changes in practices on the farm as a result of the adoption of research-based information, and enhancing the return on research funding (for example, Alston, Anderson, James, & Pardey, 2011; Wang, 2014). Indeed, Alston et al. (2011) have demonstrated that Extension...
accounted for 7.3% of annual productivity growth directly for the period 1949-2002. Rasmussen (1989) identified the strength of Extension as being in this very cooperative funding model where no one partner (federal, state, or local) was completely dominant. He went further to state that in the new century, Extension will need to "call upon a broader range of resources than is now available."

The Future: Meeting the Grand Challenges

Evolving Agricultural and Food Safety Practices

From the first days fighting the boll weevil in Texas, Extension was forged as a problem-solving resource applied to local problems. According to Rasmussen (1989), the relevance of issues and programs and the manner in which they are delivered will determine the future of Extension. Extension in the future must address the following grand contemporary challenges with research-based solutions, delivered in a local context, and using innovative educational methods that extend to all audiences.

Extension must find new and innovative approaches to sustainable intensification of agricultural and food production systems providing for abundant, safe, and nutritious food in the context of climate change, diminishing land and water resources, and the expectation of better health outcomes. At the same time, this intensification must be economically viable, environmentally sound, and socially responsible. Extension will be supported in this effort by land-grant research, such as advances in adaptive crop varieties for drought and pests, improved nitrogen and water use efficiencies, or improved production practices that minimize inputs to protect or increase yields to feed the growing population. Similarly, adoption of best practices in the livestock industry will ensure grazing and feed conversion efficiency while conserving and protecting natural resources.

Extension efforts will need to ensure a safe and nutritious food supply, such as by providing Good Agricultural Practices/Good Handling Practices (GAP/GHP) training for producers of fruits and vegetables to reduce the risk of contamination of fresh produce by microbial organisms. (USDA Agricultural Marketing Service, 2014, [http://www.ams.usda.gov/AMSv1.0/gapghp](http://www.ams.usda.gov/AMSv1.0/gapghp)). Further, Extension must build on its history in community nutrition education. This effort should be expanded in the future to help deal with the critical health issues stemming from poor diet and lack of exercise.

Serving Urban Clientele

According to the USDA Economic Research Service, only 15% of America's population resides in non-metropolitan counties. (USDA Economic Research Service, 2014, [http://www.ers.usda.gov/topics/rural-economy-population/population-migration.aspx#.VE2D8BZWirE](http://www.ers.usda.gov/topics/rural-economy-population/population-migration.aspx#.VE2D8BZWirE)). Additionally, the national demographic projections over the next few decades suggest that America will be an older and more diverse population (Anonymous, 2012). Extension must adapt to this shift in population demographics by being open to changes in its programming and the methodology and approaches it uses to reach non-traditional populations. Extension must adapt its very successful rural model to meet the challenges of the urban, poorer, and more ethnically diverse audience. These changes certainly will include expanding volunteer development, expanding partnerships, and leveraging the power of the digital environment. A
renewed emphasis on safe, nutritious food from local sources can be an easy and well-understood common ground upon which to building stronger urban programming. Further, programs on nutrition, family development, and financial security remain relevant independent of population demographic. Extension will need to hire and train individuals who can speak Spanish and other languages to reach the more ethnically diverse populations.

Finally, extrapolating the arguments of Bull, Cote, Warner, and McKinnie (2004) and previous ECOP reports (2002), the diverse context of the urban audience will accentuate the need of Extension to engage with more parts of the land-grant university outside of colleges of agriculture in order to meet future needs of our society.

**Addressing the National Health Crisis**

Extension in the future must have the vision and the commitment to do for the nation's health what it did for American agriculture. At $8,600 per capita, the United States continues to spend more on health care than any other nation, despite which, our nation has some of the worst health outcomes of any developed nation. Research undertaken by the Centers for Disease Control and Prevention has shown that 75% of our nation's health care costs are attributable to completely preventable chronic diseases such as Type II diabetes, cardiovascular disease, hypertension, and metabolic disorders, which are the result of consumption of excessive amounts of calories, combined with sedentary lifestyles and behaviors (Bauer, Briss, Goodman, & Bowman, 2014).

Extension has a critical role to play in helping reverse the health crisis in America by helping inculcate through applied research and educational programs better food choices, active lifestyles, and better behavior choices. Local Extension offices, working in collaboration with community health professionals and local and state health departments, have the community presence and local credibility to extend the university expertise needed to influence the social, economic, and environmental determinants of health. Singly or in partnerships, Extension must continue to advance evidence-based interventions, deployed in ways that are respectful of community individual and family norms, beliefs, and current practice to keep people healthy in all stages of life.

**Being Integral to Community Vitality**

Extension is also seen as a constant resource in a changing landscape of NGOs, non-profits, for-profits, etc. Extension continues to be a national, dynamic network able to mobilize people, resources, and ideas driven by the local needs, while supported by state, regional, and national framework. All of the mission areas of Extension must contribute to the economic and social well-being of their local communities. Community development must be viewed as an extension of the basic disciplines of agriculture, family and consumer sciences, and 4-H youth development.

**Contributing to Natural Resource Resilience**

Extension must use its educational network to lead society to preserve and protect our natural resources, air, water, and land in the context of climate change. Extension can and should lead in broad, inclusive discussions of critical natural resource issues such as been done recently with water
Efforts like this can demonstrate the power, relevance, and responsiveness of the integrated, federal cooperative model that engages government, universities, and society to find consensus solutions to resource issues.

**Fully Leverage the Power of the Land-Grant University**

Extension in the future must be fully integrated into the land-grant university mission. This integration should expand beyond the conventional relationship to the problem solving research mission to the formal academic education effort. Our 4-H program now produces individuals who have participated in service learning opportunities. Extension should expand this understanding of service learning and can work together with the academic community to produce individuals with more work-ready skills who are more ready to have a positive impact on their future communities.

**Conclusion**

Extension has enjoyed unprecedented success in its first century. Through research-based, locally connected, innovative educators, Extension will be relevant and effective, and will provide a positive return on society's investment as it moves forward toward the second century milestone. Extension's guiding principles will provide the roadmap for navigating the turns and adapting to roadblocks that will inevitably appear.

As Extension extends knowledge to provide locally relevant solutions, it will be called on to meet the grand challenges of the future, including agricultural and food security, urban programming, health and wellness, resource resilience, and community vitality. The successes of the first century will be the building blocks for the future as Extension helps people help themselves. The "learn by doing" principle of Extension is a timeless model for transformative education. In the words of Seaman Knapp, "What a man hears, he may doubt; what he sees, he may possibly doubt; but what he does himself, he cannot doubt."

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**References**


**The Discussion Forum for this Commentary can be found at:**  

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