2014 marks the centennial of the passage of the Smith-Lever legislation, which created the Cooperative Extension Service. The centennial provides an important opportunity to look back, but also requires us to look forward and to actively chart a future that reflects changed circumstances.

As we stand on the threshold of a second century of work, urgent and complex challenges face us, including the need to feed a world population projected to reach 8 billion by 2025; limited environmental resources; climate variability; declining public investment in scientific and agricultural research; and the social, cultural and geopolitical conditions peculiar to our time.

First: A look back
On a warm Friday - May 8, 1914 - in Washington D.C., two pieces of new legislation awaited President Woodrow Wilson’s signature: a proclamation establishing the second Sunday each May as Mother’s Day, and the Smith-Lever Act. The honoring of mothers dominated the news that day, but Wilson recognized the importance of the Smith-Lever Act, calling it “one of the most significant and far-reaching measures for the education of adults ever adopted by government.”

Sponsored by Sen. Hoke K. Smith and Rep. Asbury F. Lever, the bill was the result of national efforts to create a new educational model for U.S. agriculture. At that time, land-grant universities ran farmers institutes and short courses taught by lecturers, and the U.S. Department of Agriculture (USDA) offered its own form of Extension work that focused on pest control field demonstrations in the South and farm management in the North. Yet there was no consistent or efficient
way to deliver important knowledge from the university campuses to the communities that needed it. Passage of Smith-Lever launched a century of innovation in U.S. education that continues to this day. The educational model born out of the legislation was Cooperative Extension (“Extension”), which operates in each of the fifty states. For 100 years these statewide networks of land-grant researchers and educators have developed and provided science-based information to solve locally-relevant challenges in the areas of economics, agriculture, natural resources, youth development, and nutrition. The intent of the Smith-Lever Act, like earlier agricultural legislation, was broadly democratizing. Initially, Extension focused on improving and reforming rural life, partly in response to the findings of the Country Life Commission, created by President Theodore Roosevelt in 1908. The Smith-Lever Act was rooted in the Progressive philosophy of helping people help themselves, a philosophy that continues to inform Extension’s work today, and it demonstrated Progressive Era beliefs in the value of public-private partnerships and shared funding models. Extension became an integral part of American life during the 20th century as a location of national identification and purpose, of synthesis between competing spheres (urban and rural, domestic and public, consumer and producer, immigrant and native-born) during a period of national transition and transformation. We often forget that the birth of Extension was accompanied by a great sense of urgency, as the clouds of World War I loomed in Europe, and the need to create a more ordered food system informed by scientific research became a paramount national goal in America. And again, we face that same sense of urgency today, as we contemplate the need to feed a projected global population of 8 billion in 2025, and as we try to determine how to meet the new and evolving needs of communities, while we struggle with limited resources and capacity. Our organization was conceptualized and conceived during a period of rapid change and transformation; we begin our second century during another period of rapid change and transformation, not only in our nation, but globally.

Extension “agents” or “farm” and “home” advisors as we have been called throughout the years, initially worked together with rural families and producers. The work was participatory and personal, the research and results co-created (bringing to mind contemporary research in social network analysis and information hubs), but it was also prescriptive in the way Progressive Era programs were. Urban needs – identified through the work of the Country Life Commission – actually informed the shape of Extension programs for rural audiences in the early years.

The Shifting Location of Our Work
The location of our work, at first in rural areas, has increasingly shifted to urban areas; there are more youth from urban areas than rural dwellers enrolled in Extension’s 4-H program. Urban audiences currently clamor for support for school, home and community gardening projects, Master Gardener programs, urban agriculture and community food systems projects, and food preservation education. In some ways, what urbanites want goes back to the roots of our work.
in rural homes one hundred years ago. The social and cultural impulses driving this today are varied, but certainly include a desire for increased self-sufficiency; improved health; increased access to food; a longing to create a stronger sense of community; economic reasons; and also, perhaps, a yearning for what many perceive to be a simpler past, a past that was more linked to the cycles of nature, and an American agrarian ideal.

The Challenge of Defining Terms
One of our biggest challenges as an organization will be finding common understanding of the term “sustainability,” and what the characteristics and components of “sustainability” and a “sustainable food system” are. I would argue that as an Extension organization in a national sense, we haven’t yet had that discussion. The term is somewhat elastic, depending on the perspective of the person defining it. It will be challenging. “Sustainability” is a difficult term to define and discuss, because it’s not contained to a single set of best practices, and the term is laden with values, as well. A discussion of scale is vital to any conversation about sustainability. Sustainability is not a characteristic of any single scale of production, but that is probably not a belief held by the general public. I believe – and the lightning sessions at the 2013 Extension Sustainability Summit in Park City, Utah, also revealed – that creating resiliency in food systems and natural ecosystems might actually be a more meaningful goal to strive for.

Public Investment in Research and Education
The USDA has provided funding through its Community Food Security Grant program to support local food projects, including urban agriculture, which we all know is a growing trend in the United States. More is needed, including education among school-aged children about the “growing” opportunities available in agriculture. Funding to land grant universities - where much of the nation’s agricultural research and knowledge is centered - is being drastically cut in many states, which seems counterintuitive given the many challenges facing national and global food systems. The nation ought to be investing more in agricultural and food systems education at all levels. Research about food systems issues ought to be a national priority as well. Unfortunately, public research dollars to agriculture - which truly serve a public good - have declined in recent years. What is the role of Extension in advocating for this? How can we be more effective in securing the resources we need to serve the public good?

Social Technologies
There is consensus that social technologies are vital – and will be increasingly important – in our work. Social technologies have the ability to not only disseminate information but also to engage, provide opportunities to participate, and to create social movements. This plays into the larger theme that there is a more social and civic aspect to our work. Social technologies will also enable us to reach new audiences, including those that are younger, and more diverse. Our work in food systems should incorporate these technologies, and we must equip ourselves to use them effectively.

The University of California Cooperative Extension (UCCE) is attempting its first “citizen science” day (http://ucanr.edu/sites/100brand/Day_of_Science_and_Service/) using social technologies on May 8, 2014, the centennial of the Smith-
Lever legislation. “Citizen Science,” (also known as crowd science, crowd-sourced science, networked science, or public participation in science research), is a form of participatory scientific research conducted, in whole or in part, by amateur or nonprofessional scientists. Through citizen science projects, community members can engage and participate in scientific research by contributing their own knowledge, observations, and intellectual efforts. An example of an international citizen science project is the Audubon Society’s annual Christmas Day Bird Count. Increasingly, data for these projects are collected via social, web-based technologies, or even via mobile applications. A good example of this is the iNaturalist smartphone application, which is used by a number of organizations, including the University of California Naturalist Program. I would argue that Extension has been crowd-sourcing knowledge for a century; this second century will enable us to harness technology to assist in that process.

This May, UCCE will crowd-source data for three citizen science projects throughout the state of California. There are three areas of focus: where food is produced in communities; pollinators; and water conservation. Each UCCE Office, Research and Extension Center (REC), and UC campus has been asked to participate in the Day of Science and Service and recruit their community members, clients, volunteers, partners, colleagues, and students to participate through outreach and educational workshops and activities. The UC ANR Informatics and GIS Statewide Program (IGIS) is developing data collection maps. Individuals will be able to access data maps through their computers or smartphones and add their data directly to the map. Maps will be updated in real-time, and anyone will be able to see the data points on the map as soon as they are added. An initial basic presentation of the data will be provided in real-time as well. Once individuals add their data to the map, they will be taken to a landing page with more information about why the questions are important and links to additional research in these three areas. After the Day of Science and Service, the data will be tabulated and analyzed, and the results will be shared with participants.

This may become an annual event, and its broad use of social technologies (Twitter, Facebook, Instagram, smart and mobile devices, etc.) will likely attract new and younger audiences. We could use this model in communities, using open source technologies.

The Next Generation of Farmers and Ranchers
There is uniform concern about finding and equipping the next generation of farmers and ranchers for success. This is a legitimate concern in a nation that conducts a census of agriculture every five years, while conducting a census of population only once a decade. When President Lincoln signed the Morrill Land Grant Act in 1862, 58 percent of Americans were engaged in agriculture. In the first census conducted after the adoption of Smith-Lever (the 1920 census), the majority of Americans lived in urban areas, and only 27 percent were engaged in agriculture. Today, fewer than three percent of Americans work in agriculture.

There are some promising models that link beginning farmers and ranchers to the growing interest in local and regional food systems and urban agriculture, and that also promote
diversity. The University of California Agriculture and Natural Resources division (UC ANR), which operates that state’s Extension organization, has received funding to train small-scale farmers – many of them from communities of color and immigrant populations – to meet the safety requirements to sell their crops to farm-to-school programs in their communities. This program meets multiple needs in the community and food system.

UC ANR is also working with a community-based faith organization, the Abundant Table, which provides internships for beginning farmers at the UC’s Hansen Agriculture Research and Extension Center in Southern California. The interns – mostly college-aged students – are taught by a farmer (formerly a farmworker), and produce food for a local school district’s farm-to-school project. This is an exciting model that Extension and Research Centers might consider.

Youth Programs and Community Food Systems
In 1893, a financial panic hit America, creating mass unemployment and civil strife in urban areas. A relief model of what we might consider urban agriculture emerged in Detroit. Created by Mayor Hazen Pingree, and called the Potato Patch experiment, the successful model was quickly adopted by other cities. More than a century later, urban agriculture in Detroit continues to make news, as a crisis created by depopulation, unemployment, and poverty has led to the development of a number of successful models in urban agriculture. And more than one hundred years after Hazen Pingree introduced the potato patch model to Detroit, a new generation of residents is seeking to transform and revitalize the city through a network of innovative gardening and urban agricultural work.

Today, Michigan State University’s C.S. Mott Group supports some of these efforts. The group has multiple food systems projects, but has initiated a youth community food initiative that is a wonderful model for other Extension organizations. It is multi-purposed, and meets many goals, including positive youth development, diversity, improving community food systems, and fostering the next generation of farmers. The statewide initiative provides technical assistance, networking, participatory

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research and outreach, and peer-to-peer educational opportunities. Projects include community and school gardens; programs involving youth in local food production, processing, and retailing, such as youth farm stands (there are currently 16) and 4H; urban agriculture initiatives; youth livestock projects, (from urban chickens to traditional animal husbandry); culturally appropriate food tradition gardening and preservation projects; and rural and urban youth development programs/projects that share an interest in sustainable food systems for food security and health.

The youth farm stands program is particularly notable for its success in integrating work across nutrition education, gardening and vegetable production, as well as skills in entrepreneurship, such as business planning and marketing. Team members stand by to help local Extension staff with project adoption and evaluation. There is also a website to provide resources and support the work.

In California, UC ANR has partnered with Ventura Unified School District (Nutrition Services), Food Corps (the newest AmeriCorps program), and Balboa Middle School (which represents a diverse neighborhood) to create a student-run farm at the University’s Hansen Agriculture and Research Extension Center in Santa Paula. The students work the farm one afternoon a week, and produce food for Ventura Unified School District’s farm-to-school program. In its first year of operation, there are already 17-20 participants each week, and the future looks bright.

New Organizational Models to Promote Programmatic Integration
UC ANR, home of California’s Cooperative Extension, has reorganized its Extension organization around five strategic initiatives (SIs), including one in Sustainable Food Systems. The SFS SI, as it is referred to, serves as an umbrella or hub for agricultural projects and statewide programs covering the full range of scales and production locations. UC ANR has also funded, through its internal grants program, proposals focusing on work in urban agriculture, CSAs, edible landscape, and small farms. Through this internal grants program, UC ANR has allocated nearly $12M in grants to projects.

The organization is rethinking Extension advisor/agent positions, and is currently hiring academics to work as food systems advisors.
and metropolitan agricultural specialists. These positions incorporate components of agricultural production, community and youth development, integrated pest management, and nutrition, depending on the local need. Will these positions end up looking more like the multi-purposed (less specialized) advisor/agent of early years? It will be interesting to see. UC ANR is also trying something novel: locating specialists at “non-agricultural” land-grant campuses to address the complex issues surrounding food, food access, and obesity. While much of UC’s work remains focused on what some term “industrialized” agriculture, in fact, the institution supports all scales and modes of agricultural production, including school, home, and community gardeners.

Rachel Surls from UC ANR is leading an interdisciplinary urban agriculture team (comprised of academics and educators from throughout the state) that is addressing, among other things, issues of production, beginning farmers, youth, diversity, food access, and public policy. Surls sits on the Los Angeles Food Policy Council, and brings vital Extension expertise to bear on public policy issues relating to zoning, cottage food legislation, food access, backyard chickens, food safety, bee keeping, etc.

Good policy is needed, and informing public policy should be a key component of Extension work in urban agriculture and local and regional food systems (or community food systems, as some refer to the field of practice). As interest in urban agriculture grows, there will be more disputes over land access and zoning. Land is wealth, even in what we might consider blighted urban areas. How we move forward in finding ways to produce food on urban lands in a sustainable and equitable fashion will determine how well we deal with the challenges facing us on the food front, and in other areas of social concern. Despite the successful efforts in many urban areas, much work remains to be done.

One thing is clear: there will be no going back, and the local and regional food movement is revitalizing the food system in many ways.

Food Access and Social Justice
We are a hungry nation. The United States Department of Agriculture estimates that 15 percent of American households are food insecure. This includes 50.2 million homes, where nearly 1 in 4 of the nation’s children live (approximately 17 million youngsters, and 9.6 million of them under the age of 6).

A six-state, federally funded research project called “Voices for Food” has been recently launched. It will address food security in isolated communities who some refer to as “food deserts.” “Food deserts” are defined as communities located more than 10 miles from a supermarket or other source of fresh, healthy, and affordable food. The project will seek community-based strategies to increase the availability of and access to nutritious food in rural communities with high poverty rates.

The $4 million, five-year grant was awarded to South Dakota State University, as the lead institution for the multi-state collaborative project, led by Suzanne Stluka, Food and Families Program Director with SDSU Extension, serving as principal investigator. The project and funding will also include university researchers
Conclusion

It is difficult to know where the next century will lead us. Extension has always evolved, innovated, co-created, and survived.

There are challenges. With agricultural research investment declining, agricultural productivity threatened by a number of factors (including limited water and climate variability), and the world’s population expected to increase at a dramatic pace, what we can help others produce is desperately needed.

We tend to take for granted a safe, plentiful, and inexpensive food supply, which helps to assure our nation’s social and political security. But continued investment is required to sustain the vision of the Morrill Act and Smith-Lever, to help all Americans reap the promise of abundance our physical geography offers. How will we choose to support the land-grant mission in the next 150 years?

The mission of Extension and the land-grant institutions, from which we were born, both at home and abroad, remains larger than our collective imagination. We were a nation of farmers at origin: we are still a nation of farmers at heart. The frontier as once envisioned may be gone, but the real frontier — the pursuit of knowledge, the continued opportunity to serve communities, to respond to new challenges — awaits our further exploration.

Author’s Picks for Suggested Reading


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