The Economic and Functional Impact of University of Illinois Extension



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TEConomy Partners, LLC is a global leader in research, analysis, and strategy for innovation-based economic development. Today, we're helping nations, states, regions, universities, and industries blueprint their future and translate knowledge into prosperity.

Executive Summary

Knowledge-The Driver of Economic and Societal Progress

In today's economy, complexity is the defining characteristic of the world in which people live. Complex global supply chains, wide-ranging social and business networks, rapidly expanding data resources, web-enabled real-time information access, the ongoing march of technological advancement, and a wide variety of additional factors each contribute to a seemingly overwhelmingly complicated economic and societal environment.

At a time when knowledge is ever more critical to advanced economies, sources of information are rapidly expanding. Today, there are nearly 2 billion websites on the Internet, expanding at a pace exceeding two new websites per second. Google is used to perform over 3.3 billion searches each day, or over 38,000 searches per second. As a result, having access to trusted, validated sources of reliable information and know-how is extraordinarily important and valuable.

Against such a background of rapid and dramatic change, can the Cooperative Extension Service (Extension) model, established over 100 years ago, be relevant? The answer is that Extension may well be more necessary and relevant today than ever before.

The Mission of Extension-To Deploy Knowledge

All of Illinois' universities engage in research and teaching; but, the University of Illinois at Urbana-Champaign (UIUC), as one of the nation's premier land-grant universities, has a third critical mission—Extension. "Extension" means "reaching out," and UIUC "extends" its academic and research resources, solving public needs with university-based intellectual capital through a myriad of activities. University of Illinois Extension (Illinois Extension) has the pragmatic, purposefully designed mission to ensure that research-based knowledge is not confined to academic circles but is deliberately and professionally provided to individuals and organizations, enabling them to solve problems, adapt to changes and new opportunities, make informed decisions, develop new skills, and carry innovations forward into practice.

Today, Illinois Extension serves as the following:

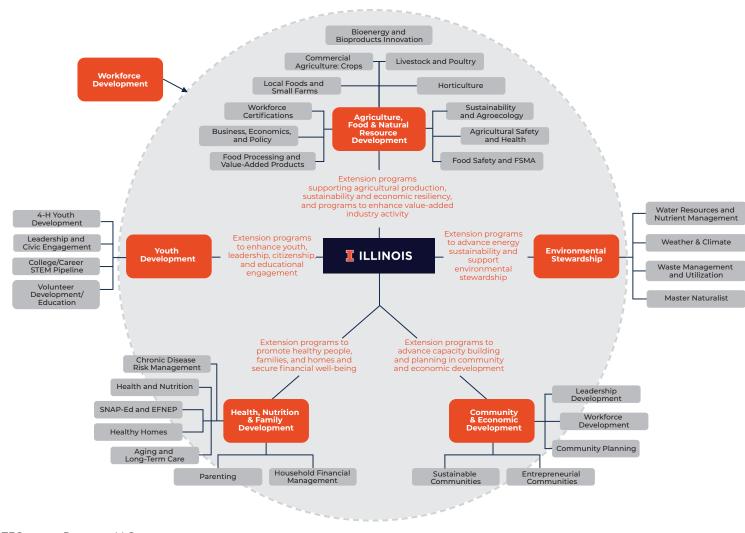
- An innovation engine, relaying needs and challenges from the field to university
 researchers and research teams; and testing new practices, technologies, and innovations
 to sustain and advance the economy, social progress, and individual capacity.
- A transformational educator working to provide continuous, noncredit education to audiences statewide—education that improves recipients' personal and working lives.
 Illinois Extension is a teaching organization that works to significantly enhance human capital, generate well-prepared practitioners, and promote lifelong learning across the State of Illinois.

- A **regional network**—with a presence in every Illinois county—linking communities, businesses, and the general population to the intensive research and development and technical resources of the university and its partners.
- A **transdisciplinary entity** able to adopt holistic, integrated approaches to tackle complex problems in scientific, economic, technological, and social areas of importance to the citizens of the state.
- A catalyst for the improvement of natural resource management practices, enhancing the environment, and sustaining Illinois' quality of place, ensuring the attractiveness of the state and its communities for human capital, new ventures, and industry retention and expansion.
- A **deliverer** of research, teaching, and Extension efforts to bolster food safety, ensure a secure food supply, and protect and promote the health of the state's citizens.
- A **strengthener** of the quality of life of individuals and families, thereby contributing to community sustainability and vitality.
- A **provider** of 4-H Youth Development and leadership services, helping to provide the next generation of workers, leaders, and responsible citizens.

The Functional Impacts of Illinois Extension

The work of Illinois Extension can be understood as taking place under five major thematic areas, which are highlighted in Figure ES-1.

FIGURE ES-1: KEY THEMES FOR ILLINOIS EXTENSION PROGRAMMING AND ACTIVITIES



Source: TEConomy Partners, LLC.

WORKFORCE DEVELOPMENT— A CROSSCUTTING THEME FOR EXTENSION

In today's workplace, the pace of change dictates a need for ongoing learning and professional development. The reality is that few careers are static, and most require lifelong learning to stay abreast of change and to maintain personal productivity, competitiveness, and effectiveness.

As industries and professions evolve, continuing education is required for workers to stay current with the latest skills, knowledge, and new technologies required within their field. To help meet this need, Illinois Extension Educators work to deploy knowledge to those who utilize this knowhow through a myriad of professions across the State of Illinois.

Illinois Extension's workforce development programs and initiatives span its five thematic programmatic areas, creating a sixth crosscutting functional thematic impact area—workforce development. Illinois Extension activities that serve workforce development needs are diverse and include the following:

- Career exploration and work readiness for youth—providing 4-H participants with skills in communication, leadership, teamwork, and problem-solving and introducing them to career pathways in science, technology, engineering, and mathematics (STEM) and other highdemand opportunity areas.
- Job skills for frontline workers—improving productivity in agriculture through provision of new knowledge, skills, and best practices for the agricultural production workforce, and frontline customer service skills in other industry sectors.
- Provision of formal training programs—serving workers who require specific training courses and certifications to perform their work (e.g., pesticide applicator training, Food Safety Modernization Act training, etc.).
- Building work skills for at-risk populations (e.g., horticulture and green industry training for persons in the Illinois correctional system) and helping workers to adjust to health or disability challenges (e.g., AgrAbility).
- Leadership and management training (e.g., Livestock Management Training, Farm Business Management Training, Local Government leadership training, etc.).
- Building the volunteer workforce—using a train-the-trainer approach to build widespread volunteer capacity across Illinois (e.g., Master Urban Farmers, Master Gardeners, and Master Naturalists).

Through these varied programs, Illinois Extension is helping Illinois residents become ready for work, qualified to work, and more skilled in their work. Workforce development programs meet multiple individual and societal needs, and hold numerous advantages for participants:

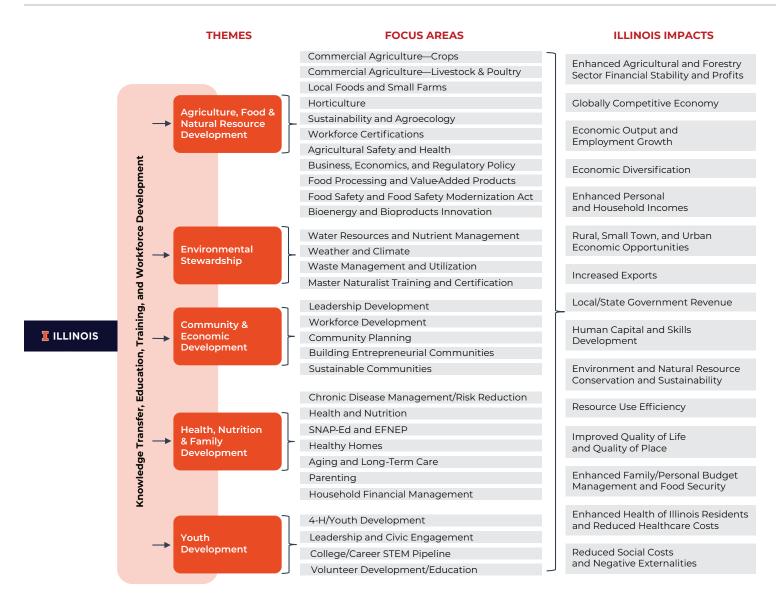
- Ensuring individual capabilities keep pace with the current standards of others in the same field.
- · Providing a competitive edge for career advancement, job mobility, and increased earnings.
- Increasing job security, with higher levels of education tending to link to better job security, and credentials earned staying with individuals for life.
- Enhancing confidence and satisfaction in the workplace.

The impacts that are generated from the programs and initiatives delivered by Illinois Extension are categorized as "forward-linkage impacts" or "functional impacts" and are related to institutional mission and function. The forward-linkage impacts of Illinois Extension are delivered through five primary functional areas of service:

- · Agriculture, food, and natural resource development
- Environmental stewardship
- · Economic and community development
- · Health, nutrition, and family development
- · Youth development.

In addition, incorporated across all five of these functional areas is a sixth theme—workforce development (see text box). As industries and professions evolve, continuing education is required for workers to stay current with the latest skills, knowledge, and new technologies required within their field. To help meet this need, Illinois Extension Educators work to deploy knowledge to those who utilize this know-how through a myriad of professions across the State of Illinois.

Each of these primary areas of activity contain multiple programs and initiatives that build and sustain Illinois' economic and social well-being. Services and programs under these Illinois Extension themes reach across all 102 Illinois counties. They are made available by Illinois Extension to Illinoisans young and old, in rural and urban environments, and at home and in the workplace. The principal functions and associated impact benefits of each of the themes are illustrated in Figure ES-2 and are discussed in detail in the report that follows.



Source: TEConomy Partners, LLC.

The Expenditure-Based Economic Impacts of Illinois Extension

In addition to the mission-based functional impacts of Illinois Extension, there are additional economic impacts generated via the operational expenditures of Illinois Extension. While Illinois Extension does not exist to simply generate economic stimulus through its expenditures, given its total operating expenditures of \$60.9 million and direct employment of 655 full-time equivalents (FTE) employed across all 102 counties of Illinois, the stimulus effect is not insignificant.

To measure the impact of Illinois Extension expenditures, TEConomy Partners LLC used input/output (I/O) analysis. The analysis calculates the direct, indirect, and induced impacts as shown in Figure ES-3.

FIGURE ES-3: COMPONENTS OF EXPENDITURE-BASED (BACKWARD-LINKAGE) ECONOMIC IMPACTS



Source: TEConomy Partners, LLC.

The results of the I/O analysis of Illinois Extension operational expenditures are shown in Table ES 1. The analysis finds that the expenditures generated a total output impact of \$126 million in the Illinois economy and supported 1,058 jobs with labor income totaling \$65.4 million. Because Illinois Extension is found across all 102 counties, these impacts are distributed across the entire State of Illinois.

TABLE ES-1: EXPENDITURE-BASED ECONOMIC IMPACT OF ILLINOIS EXTENSION

Impact Category	Employment (FTEs)	Labor Income (\$ millions)	Output (\$ millions)	State/Local Tax Revenue (\$ millions)
Direct Effect	655.0	\$43.1	\$60.9	\$1.0
Indirect Effect	97.3	\$6.1	\$18.0	\$0.9
Induced Effect	306.1	\$16.1	\$47.1	\$2.8
Total Impacts	1,058.5	\$65.4	\$126.0	\$4.8
Multiplier	1.62	1.51	2.07	N/A

Source: TEConomy analysis using data provided by the University of Illinois, College of Agricultural, Consumer, and Environmental Sciences and an IMPLAN State of Illinois Impact Model.

Conclusion

Illinois Extension is a significant economic catalyst for the State of Illinois. Simply in terms of expenditure impacts, Illinois Extension generates a total output impact of \$126 million in the Illinois economy on an annual basis. These expenditure impacts are, however, eclipsed in their importance by the benefits accruing to the state through the wide array of services provided through Illinois Extension's network of programs and initiatives. As Figure ES-4 highlights, case studies and estimations used to assess the functional impact find positive benefits for the Illinois economy that total \$477.3 million on an annual basis.

FIGURE ES-4: EXAMPLES OF ILLINOIS EXTENSION'S FUNCTIONAL IMPACTS

SUPPORTING ECONOMIC OUTPUT IN ILLINOIS' LARGEST INDUSTRY—AGRICULTURE

Illinois Extension's intensive work with the agriculture and natural resource economy helps to improve yields, prevent losses, reduce costs, enhance product quality, and improve the sustainability of Illinois' largest economic sector. While it is impossible to quantify every impact of Extension's wide-ranging work, if Extension's work supports and sustains just 1 percent of the output of Illinois agricultural production, that would have a total impact value in Illinois of \$323.5 million.

ENHANCING HEALTH THROUGH NUTRITION

Illinois Extension is working to improve healthy nutrition and exercise choices with at-risk populations, helping to reduce the development of several chronic disease conditions. Modeling a conservative 3 percent decrease in severe nutrition-associated chronic disease events requiring hospital inpatient care, it is found that \$99.6 million in healthcare cost savings would occur.

COMBATTING CANCER

The Illinois Extension Cook County Community Health team has been highly proactive in work to boost breast cancer awareness and early detection. Targeting socioeconomically disadvantaged populations, Extension's work is encouraging testing and reducing healthcare costs via detection of cancers at an early stage when they are far less costly to treat. Savings associated with the Extension program are estimated at \$2.9 million annually.

REDUCING RISK BEHAVIOR

Illinois Extension undertakes many programs designed to encourage positive personal decision-making and life choices. Supporting the cessation of smoking is just one example, but it demonstrates the scale of savings that can be achieved through positive lifestyle choices. By providing proactive education on the risks of smoking and access to tools to help smokers quit smoking, it is estimated that helping to change the smoking behaviors of 9,300 individuals generates savings of \$34.8 million in healthcare costs and other associated burdens.

ENHANCING EARNING POWER

Achieving formal higher education credentials is increasingly important for success in the modern job market, which increasingly requires educated and skilled personnel. Illinois Extension's 4-H program is well-proven as a program that enhances positive youth outcomes, including engendering better rates of engagement in school and on into higher education. Quantifying a conservative 5 percent increase in 4-H youth gaining a bachelor's degree, versus only a high school diploma, it is found that annual earnings upon graduation would increase by \$16.5 million.

Estimated
impact of these
five examples =
\$477.3 million
(combined output
support, cost
savings, and
earnings)

Source: TEConomy Partners, LLC.

Overall, the funding for Illinois Extension clearly provides strong benefits and positive impacts in return for the investment. For an annual total investment of \$60.9 million (all sources of funding in fiscal year 2019), Illinois Extension programs are generating wide-ranging returns. The total output impacts of Extension expenditures (\$126 million), when combined with just the agricultural output support, cost savings, and income benefits examples shown on Figure ES-4, combine for \$603.3 million (both expenditure impacts and functional impacts combined) in an average year, an amount nearly tenfold higher than annual investment in the system.

