

Example IMPACT STATEMENTS

Updated 10/31/2021

The following selections are from the 2020 reporting year. Impact Statements have been updated to include the new narrative format:

- Issue (Who Cares and Why)
- What Has Been Done (Describe the program)
- Who Were the Participants (Describe the program learners/attendees by roles, numbers and demographics.)
- Results

There are two tables showing example impact statements for:

- Educators, and
- Faculty and Extension Specialists.

Example Impact Statements for Educators

(These have edits from the initial submissions)

Title

Critical Forage Testing for Healthy Cattle and Cost-Effective Operations

Team

Nick Minton, Beef Systems Specialists

Keith Johnson, Professor of Agronomy

Forage Analysis Testing Cost-Share Program

Ophelia Davis, Agriculture & Natural Resources Educator, Lawrence County

Soil and Water Conservation District, Lawrence County

Twilight Tour Area Field Day

Ophelia Davis, Agriculture & Natural Resources Educator, Lawrence County

Danielle Walker, Agriculture & Natural Resources Educator, Washington County

Brad Shelton, Superintendent, Feldun-Purdue Agricultural Center

Forage Quality Testing – A Wakeup Call for Clark County Ranchers

Simon Kafari, Agriculture & Natural Resources Educator, Clark County

Grazing 102

Kenneth Eck, Agriculture & Natural Resources Educator, Dubois County

Jason Tower, Superintendent, Southern Indiana Purdue Agricultural Center

Brad Shelton, Superintendent, Feldun-Purdue Agricultural Center

Grant Burcham, Veterinary Diagnostician, Animal Disease Diagnostic Laboratory /

Heeke Animal Disease Diagnostic Laboratory

Brooke Stefancik, Agriculture & Natural Resources and 4-H Youth Development Educator, Sullivan County

Mark Carter, Agriculture & Natural Resources Educator, Blackford County

Issue

Quality of forage is important to cattle nutrition. Extreme weather and rains in 2019 created weeks of delays in harvesting. Under those conditions, shortage of hay during the following winter and earlier use of stored feed was expected, contributing to poor quality of feed for cattle. Unless supplemental feeding was combined with winter feeding, the result was going to be poor nutrition for these animals for an extended period. Testing of forages is done to determine the nutritional value. It involves using a probe to take a sample, giving it to a lab to run a chemical analysis, and then working with a nutritionist to use the results to plan feed regimens. Unfortunately, not all producers do quality tests after harvesting forages and before starting the winter-feeding regimen.

What Has Been Done

Because of the extreme conditions and expected poor quality nutrition of forages, several Purdue Extension programs were implemented across southern Indiana to provide instruction on nutrition quality of forages and to encourage forage testing for accurate feed supplementing over the winter. In one event, the cost for forage testing was covered, encouraging participants to get it done. In the other three events, a few producers volunteered to provide forage samples which were tested and used as demonstrations during instruction.

Who Were the Participants

“Forage Analysis Testing Cost-Share” involved Soil and Water Conservation District (SWCD) and Natural Resources Conservation Service (NRCS) partners and free forage tests for producers. Among the 30 producers, 66 forage samples were tested. “Twilight Tour Field Day” at the Feldun-Purdue Agricultural Center (FPAC) focused on pasture renovations needed as a result of the wet weather and late harvest, importance of harvest forage samples and nutritional analysis before feeding, and supplementing the cow herd strategically with stored forages and other products. There were 52 participants of the field day. “Forage Quality and Testing Workshop” focused on how to conduct physical hay quality analysis, and demonstrated chemical analysis results of hay samples to draw attention to quality issues and address nutrition recommendations. Some 21 participants attended the training. “Grazing 102” at the Southern Indiana Purdue Agricultural Center (SIPAC) featured lectures, wagon tours, hands-on demonstrations, and pasture walks. Presentations covered plant growth under grazing, pasture fertility, forage-induced animal disorders, pasture species selection, tall fescue use, animal nutrition, and more. There were 27 participants in the grazing workshop. To expand

the reach of forage information in this critical time, instructional materials and a video were created and shared across Purdue Extension. An updated video was shown at the Indiana Beef Cattle Association-Purdue University Regional meetings.

Results

In the Cost-Share Program, survey respondents (n=12) were asked about collecting forage samples and submitting them for analysis. Most (91.7%) indicated it was easy to do and two-thirds adjusted their feeding regimen based on the results. Nine (75%) sought input from a trained nutritionist and eight implemented suggestions given. Most (91.7%) indicated that in the future, it was “likely” or “extremely likely” they would conduct forage analysis, and half indicated they would adjust how they harvest or purchase forages. “Twilight Tour Field Day” survey respondents (n=44) reported, as a result of attending, they had a better understanding of using supplements to meet nutrient deficiencies in harvested forages. They felt the visual demonstration of poor vs. high quality hay was impactful, convincing them to match hay resources on the farm to the daily nutrient needs of cows. Most (88%) planned to submit a forage sample for nutritional analysis. As a result of “Forage Quality and Testing Workshop” all participants, in follow-up conversations with the educator, said their knowledge increased and indicated the most influential was attention on the impossible amount of poor-quality hay an animal would need to eat to maintain a healthy weight. One participant said, “considering the volume of hay an animal will need to eat to maintain balance, clearly, I have been giving my animals inadequate nutrients in the winter months all this time.” Another said they knew hay analysis was a good thing to do, but didn’t know it was such a big deal until this program. In a follow-up with producers who had given hay samples for chemical analysis during the event, most had used the results, or planned to use the results, to create an appropriate supplemental feeding program. After the event, participants followed up with extension for resources. The hay probe that extension loans out to producers for hay samples was requested three times more than previous years. Several producers also sought hay sample bags to ship their samples to the laboratories for analysis. “Grazing 102” survey respondents (n=14) were asked to report their level of forage knowledge before and after. Before the workshop, 18% rated their knowledge as high or very high. At the end, that had increased to 65%. They report increased knowledge of plant growth under grazing, pasture fertility, forage-induced animal disorders, extending grazing seasons, and animal nutrition. Nearly all participants (97%) reported they would, were currently, or had made changes related to plant growth management under grazing, pasture fertility, and forage-induced animal disorders. They planned to follow recommended practices including extend grazing year, use of clover, and identify/eradicate toxic plant species. A few (14%) attended in previous years and estimated financial improvements up to \$50 per acre as a result of adopting recommended practices, including increased dollar return per acre, reduced costs per acre, and drastic reduction in hay/feed costs. Six-months after the workshop, respondents (N=7) reported adopting at least one recommended practice, increased dollar returns, and reduced cost per acre due to adopting recommended practices. Two-thirds reported a financial per acre improvement of \$0-\$50 and one-third reported \$51 - \$100. Cattle producers in southern Indiana learned about poor quality forages resulting from extreme weather and late harvests. They completed forage tests to check quality and worked with nutritionists for guidance on developing appropriate nutrition regimens for cattle health, which resulted in improved finances related to reduced costs and increased returns per acre, and reduction in feed costs.

Title

Management Advances and Increased Revenue for Midwest Women in Agriculture

Team

Kelly Heckaman, Area Director, County Extension Director, Kosciusko County
Jenna Nees, Agriculture & Natural Resources Educator, Putnam County
Nicole Witkowski, Agriculture & Natural Resources Educator, Porter County
Danielle Walker, Agriculture & Natural Resources Educator, Washington County
Ophelia Davis, Agriculture & Natural Resources Educator, Lawrence County
Elysia Rodgers, County Extension Director, Agriculture & Natural Resources Educator, DeKalb County
Denise Schroeder, Health & Human Sciences Educator, White County
Beth Vansickle, Agriculture & Natural Resources Educator, Madison County
Annetta Jones, County Extension Director, Health & Human Sciences Educator, Porter County
Abigail Creigh, Health & Human Sciences Educator, Noble County
Marguerite Bolt, Hemp Production Specialist
Angela Sorg, Health & Human Sciences Educator, DeKalb County
Mark Carter, Agriculture & Natural Resources Educator, Blackford County
Krishna Nemali, Assistant Professor, Controlled Environment Agriculture
Edward Farris, County Extension Director, Agriculture & Natural Resources Educator, Huntington County
Krista Pullen, Agriculture & Natural Resources Educator, Community Development Educator, Cass County
Marisa Erasmus, Assistant Professor of Animal Sciences
Keith Johnson, Professor of Agronomy
Tanya Hall, Regional Community Development Educator, Southeast District
Patricia Keating, Community Development Educator, Porter County
Laurynn Thieme, Agriculture & Natural Resources Educator, Delaware County

Issue

In the U.S., there were more than 1.1 million farms with women listed as one of the producers. In Indiana, even with farm numbers declining and average age of farmers increasing, the number of beginning farmers and women farmers is increasing. These census data show a total of 31,225 female producers, a 30 percent increase since 2012. Indiana farm women are continuing to take a larger role in managing and owning farming operations and diversified agriculture enterprises.

What Has Been Done

Purdue Extension leads the annual Midwest Women in Agriculture conference to address educational needs of women employed in or involved with the agriculture industry. At the 19th annual two-day conference nearly 140 attendees, speakers, and sponsors gathered to learn about

succession planning, farm management, leadership, managing livestock, and health and well-being. Purdue Extension delivered, “Becoming the Employer of Choice,” developed by the University of Wisconsin Extension, as a pre-conference session, a day-long program for current and future farm manager/ owners looking to improve their human resource management skills. Sessions were: 1) from managers to leaders, 2) developing a motivated workforce, 3) hiring the right people, 4) farm business culture, 5) strategic leadership and on-boarding, 6) reviews and feedback, and 7) managing conflict. During the conference, the 7th Young Ladies in Agriculture Forum was held as a networking opportunity for 78 high schoolers to learn more about careers and opportunities in agriculture.

Who Were the Participants

Nearly 140 attendees, speakers, and sponsors attended the conference. Pre-conference “Becoming the Employer of Choice” attracted 6 participants from 5 counties. During the 7th Young Ladies in Agriculture Forum, 78 high schoolers attended. There were 111 participants who completed the post-survey.

Results

Conference attendees (n=111) responded on the post-evaluation. Most gained resource materials they could use (77%), increased their motivation (76%) and gained names of contacts (74%). More than half (62%) shared that the conference was very important to their operation, business or future career choices. As a result of participating, most (71%) expressed plans to do things differently: getting ideas in place to make transitions easier as farms grow and expand and do a better job at succession planning, working with the farmers especially with land leasing options, doing research, speaking up more, advocating more for agriculture, putting management skills in place in hiring, and using skills learned to work with 3rd, 4th and 5th generations on the farm. Some 14 attendees reported actions they had taken since last year’s conference. One-third had updated their succession or estate plan. Others started a new business to add income, increased advocacy efforts for agriculture, implemented changes in farm business to increase profitability, and volunteered for a new leadership role in their community. One attendee shared that their farm business increased revenue potential by over \$10,000 as a result of their participation in the conference.

For the Pre-conference Becoming the Employer of Choice, participants (n=6) increased their knowledge in strategic leadership and onboarding (66% increase) and developing a motivated workforce (31% increase). Other important things learned were being more mindful of which leadership strategy to use based on situation and employee, listening to input, getting employee ideas, figuring out extrinsic motivation, working on goals, being intentional on creating an onboarding procedure, and when conflict arises, assessing attitudes and ability to think through the situation before responding. Young Ladies of Ag high school participants reported they received at least one helpful piece of advice to motivate them in working toward their goals (100%), had options available for careers in agriculture (99%), felt more informed about options available to them for college majors in agriculture (98%) and met contacts they may reach out to with future questions or for guidance (86%).

The annual Women in Ag Conference is extremely important to Indiana farm women and young ladies in high school for their operations, businesses or future career choices. Conference activities create a place for women to learn and make connections with others, which leads to management advances and increased revenue for their operations.

Title

Soccer & 4-H @ Home Keeps Youth Active

Team

Xiomara Diaz-Vargas, 4-H Youth Development Extension Specialist - New Audience Initiatives
Rachel Rawls, County Extension Director, 4-H Youth Development Educator, St. Joseph County
Gayle O'Connor, 4-H Youth Development Educator, LaPorte County
Laura Valencia, Extension Agent II 4-H, Osceola County, UF/IFAS Extension

Issue

CDC data on the health status of youth show 20.6% of adolescents and 18.4% of children are obese. Only 1 in 5 high school students meet the recommended physical activity guidelines. Low levels of physical activity can contribute to heart disease, type 2 diabetes, some kinds of cancer, and obesity.

What Has Been Done

As part of Soccer for Success, a collaboration between 4-H and the U.S. Soccer Foundation, and at the invitation of Indianapolis Indians (minor league baseball team) Charities, Purdue Extension created a research-based curriculum that integrated soccer play with nutrition and youth development through mentoring. RightFit, an afterschool program funded by the Indians Foundation, provided funding and school sites, and Metropolitan Soccer supplied 44 college-aged coach mentors. These partnerships gave Purdue Extension a chance to connect with underserved youth, welcoming new audiences. Due to COVID-19, the 13-week program, with just some weeks delivered in-person, had to be adapted to a virtual experience. "Soccer & 4-H @ Home" in Spanish and English, for youth in grades 3-10, was created by Purdue Extension Specialists and Educators as a summer program for the 500 youth from Indianapolis who had started the program prior to pandemic restrictions. The online program was opened to youth in Florida and Missouri, too. The re-built "at your own-pace" 10-week summer program posted weekly activities and videos. Topics were soccer fundamentals, learn and earn, home challenges, do and serve others, and eat well. Some activities were picture your food, which highlighted where food comes from, soccer fun fact videos illustrating history and relevance worldwide, a well-being focus on actions to be physically and mentally healthy, and an exploration of sports-related careers in business, medicine, engineering, agriculture, education, communication, and many others. Youth completed ten weekly reports on their engagement, use of program resources, and knowledge gained.

Who Were the Participants

Purdue, Florida and Missouri 4-H programs reported 4,117 active online users from May to July. A total of 611 youth completed at least one weekly report, with responses ranging from 77 to 115 weekly.

Results

Youth reported they had learned ten facts related to soccer sports history (99%), at least eight new opportunities available in the 4-H program (92%), at least seven techniques that promote well-being (92%), how to prepare eight new healthy recipes (91%), at least eight careers related to the sports industry (89%), and ten facts related to food production and agriculture (87%). Soccer & 4-H @ Home was selected to be available on the National 4-H Council site and is the only bilingual program. Participating youth benefited from this program that kept them physically active and helped them learn healthy eating and cooking skills during pandemic social restrictions.

Title

Get WalkIN' Participants Increase Their Physical Activity for Health

Team

Stephanie Woodcox, Assistant Program Leader for Purdue Extension, College of Health & Human Sciences
Elizabeth Richards, Associate Professor, School of Nursing, College of Health & Human Sciences
Health & Human Sciences Educators

Issue

CDC data indicate most Americans are not meeting physical activity guidelines. Physical inactivity is directly related to prevalence of obesity in adults and youth. In 2017, Indiana adults (68%) were considered overweight or obese and 46% self-reported not meeting physical activity guidelines. Walking is an easy way to start and maintain a physically active lifestyle. Walking is accessible to almost anyone, does not require specific skills or abilities to perform, can be performed alone or with others, and is adaptable (i.e., can be performed at any chosen intensity, and is inexpensive). Participation in regular physical activity decreases the risk of coronary heart disease, hypertension, type 2 diabetes, osteoporosis, depression, obesity, breast and colon cancers, and falls in older adults.

What Has Been Done

Purdue Extension provides physical activity education for adults and ways to increase walking behaviors with Get WalkIN'. This program is a twelve-week series delivered via e-mails sent twice weekly for weeks 1-4 and once a week for the last 8 weeks. Topics are benefits of exercise, how to overcome barriers, principles of self-efficacy, social support, goal setting, walking locations, and relapse prevention. During Get WalkIN', Extension educators help motivate participants to make simple changes to their daily routine that can improve their physical activity and overall health and well-being.

Who Were the Participants

Get WalkIN' was delivered 26 times reaching 682 individuals. Participants were female (92%), middle age (50+ years), and white (95%).

Results

At baseline, participants reported walking an average of 146.2 minutes per week, and this increased to 310.3 minutes at post-program. At baseline, 28% met national physical activity guidelines and this increased to 92% at post-program. Participants reported an average of 297.0 minutes of walking per week during the program and 73% reported meeting physical activity guidelines. At baseline, participants reported a 5-point self-efficacy score of 2.96 which increased to 3.44 post-program. Social support from friends and family on a 5-point scale was 2.48 at baseline and increased to 3.05 post-program. Participant feedback indicated intervention emails were easy to read and understand (4.5 out of 5). Participants reported email frequency was acceptable and receipt of emails encouraged an increase in walking. Half of participants reported always reading the emails. Participants reported being highly likely to continue to use the information they learned from the program. Results show that as a result of Get WalkIN®, participating adults increased their walking and overall physical activity behavior, which are positive factors for their health and weight.

Title

North Central Climate Collaborative (NC3): Intention to Act to Address Climate Change for Farm, Operation, Family, or Community

Team

Hans Schmitz, Agriculture & Natural Resources Educator, Posey County
Austin Pearson, County Extension Director, Agriculture & Natural Resources Educator, Tipton County
Melissa Widhalm, Operations Manager, Purdue Climate Change Research Center
Beth Hall, Director, Indiana State Climate Office
Jeffrey Dukes, Director, Purdue Climate Change Research Center, Professor of Forestry & Natural Resources and Biological Sciences
Laura Edwards, State Climatologist, South Dakota State University
Aaron Wilson, Climate Specialist, Ohio State University Extension
Monica Jean, Extension Educator, Michigan State University Extension
Peter Tomlinson, Associate Professor, Kansas State University

Issue

Climate dictates what crops grow where, how water resources are distributed, and how storm water infrastructure is built. Climate change threatens communities and farms accustomed to a certain amount of annual precipitation, sunny days, or winter snowpack. Extension is uniquely positioned to educate our clientele on potential adjustments needed for climate changes, but many colleagues lack the education needed to teach about climate change. As a result, Extension has very little climate change training available.

What Has Been Done

North Central Climate Collaborative (NC3), included Extension professionals from the 12-state region to increase the flow and usability of climate information for Extension, farmers, natural resource managers, communities, families, and youth. A white paper was produced on the status of

climate programs. Nine training webinars were presented in the first years, then bi-monthly webinars were started to build available climate change training. In addition, NC3 members presented climate topics to legislators, consumers, and clientele in their states. Two professional development trainings were provided for Extension professionals and partners. A website, <https://northcentralclimate.org/>, was created to house educational content for anyone wanting to learn more about climate issues.

In Indiana, a needs assessment by Purdue Extension, Purdue Climate Change Research Center, and Indiana State Climate Office determined interest in understanding science behind climate change, tips for finding and interpreting trusted climate data, understanding Indiana-specific climate change trends and impacts, and best practices for effective climate change communication/dealing with science skeptics.

As a result, a six-session webinar series was implemented virtually. Educators, Indiana agency representatives, and the general public were invited to attend. Sessions were: 1) What does climate change mean for Indiana? 2) Back to Basics – The Science Behind Climate Change, 3) What Do Historical Observations Tell Us About Indiana’s Climate? 4) Climate Change Myth-Busters, 5) Tips for Tough Conversations, and 6) The Climate is Changing – Now What?

Who Were the Participants

The NC3 website averages 220 views per month. NC3 webinars have had over 1,000 participants with 680 additional views on the website or YouTube. This Indiana series was attended by 967 participants and recorded videos were accessed by 420. Of the 62 educators, 37 were interested in providing training and 25 were not comfortable presenting climate-related material.

Results

NC3 webinar participants (99%) reported learning something new and two-thirds reported an interest in sharing the information. The gain in confidence in speaking about climate change result showed as the lowest measure across all sessions. Some 380 participants increased knowledge, skills or attitudes about sustainable agriculture topics, practices, and strategies, and 356 agriculture professionals intend to use the knowledge they learned. Nearly all Indiana professional development participants (86%) reported that as a result of their training, they were more comfortable providing programs on climate and climate change issues. A majority (60%) reported intention to offer more climate education programs and 40% will recommend changes to agricultural operations. For individual session post-surveys (ranging from 35-96 respondents), results showed three-fourths or more had gained climate change information, felt more confident implementing or sharing, or planned to use it. In the end-of-series survey (n=30), participants (87%) would recommend to others “Talking Confidently About Climate Change in Indiana and Beyond”, and two-thirds felt the series increased their confidence discussing climate change. A participant wrote, “Framing discussion is so important in talking confidently, and making the discussion relate to the audience seems effect[ive]”. Another respondent felt all topics and speakers were extremely valuable, but “Tips for Tough Conversations” was the most valuable, “I find it hard to know how to correctly approach someone who may have a different opinion, especially on a topic that is so polarizing. I appreciated the techniques and advice on how to talk to others about tough topics.” Collaboratively building climate change resources and making them available to Extension professionals, partnering agencies, and the public has been a successful approach to ramping up what people know about climate change. Via professional development, Extension professionals and partners gained knowledge and confidence to share information and instructional programs with the public. And,

public participants gained knowledge, confidence to discuss, and intended to act regarding climate change for their farm, operation, family, or community.

Title

Indiana 4-H Teens Grow in Leadership

Team

Steve McKinley, 4-H Youth Development Specialist - Leadership and Volunteerism

Jennifer Monarch McGuire, 4-H Youth Development Educator, Tippecanoe County

Sthele Greybar, 4-H Youth Development Educator, Elkhart County

Rachel Rawls, County Extension Director, 4-H Youth Development Educator, St. Joseph County

Kelsey Guadarrama, 4-H Youth Development Educator, Marshall County

Karin Gilbert, 4-H Youth Development Educator, St. Joseph County

Issue

For positive youth development, opportunities for growth are needed in personal mindset (character, growth mindset, persistence, decision-making and ethics), social and leadership skills (ability to communicate through multiple methods, value and respect for other cultures), and universal skills (social, emotional, character and leadership skills). Many essential elements needed are positive relationship with a caring adult, inclusive environment, safe environment, engagement in learning, opportunity for mastery, opportunity to see oneself as an active participant in the future, opportunity for self-determination, and opportunity to value and practice service for others.

What Has Been Done

At the 4-H Junior Leader Conference, held virtually over three afternoons, for nine instruction hours. The 16-member Indiana 4-H Junior Leader Council worked with Purdue Extension to plan and implement opportunities for youth to grow personal skills and gain experience for future education and career paths. From the keynote, "Leadership and Laughter," youth learned techniques to overcome challenging situations, stay connected virtually or in person, and build personal leadership skills. Council member pairs prepared and led skill sessions where youth learned about personal leadership, team building, understanding different cultures, and healthy lifestyles. Youth learned from business and industry professionals via online networking. Professionals shared tips about educational and professional development encouraging youth to interact and learn skills to succeed in the workplace. A service project was held one afternoon where youth used an old t-shirt or pair of jeans to create a dog toy to serve as a prototype to share with other youth in their communities to provide toys for local animal shelters.

Who Were the Participants

There were 86 high school youth from across Indiana who joined the Conference.

Results

Youth completed an online survey and shared something they had learned and could use in the future. Youth shared comments about maximizing their 4-H experience. “One thing I learned is how to use my 4-H experience to its fullest potential to serve my community.” “I learned how being in 4-H can help you grow into the career you want in the future.” “One thing I learned is how to use my 4-H experience to its fullest potential to serve my community.” Youth shared how to make better work habits that will benefit them in their future, better plan and prepare for the future and to incorporate teamwork into their club, lead and leadership types to use, and understand differences and work together. Youth shared about interacting and connecting with people. “One thing I learned is how to communicate with people you don’t know that well.” “I enjoyed the networking event because we got to learn tricks of the trade and fascinating little tidbits of life advice from each of the sponsors.” “I learned how to get people engaged. I will be using the icebreakers that I learned about with my campers next summer!”

Youth wrote thank-you notes to conference sponsors and organizers. “Thank you for giving me this opportunity to learn and grow. This conference gave me a lot of information and tips that I will be able to use in my life.” “I would like to sincerely thank all the sponsors for this wonderful and educational experience and talking to us about your careers in agriculture.” “I have learned a lot and plan to use this new knowledge in my everyday life. Thank you.” Youth wrote thanks for making it a virtual conference. “This was a wonderful experience. It was nice to still be part of 4-H and Jr. Leaders even though it was not in person. Thank you for making sure this happened. It was nice to learn and have fun.” As a result of this event, Indiana 4-H Junior Leader Council members and high school youth participants across Indiana developed knowledge and skills for leadership, teambuilding, and interacting with other cultures, and explored opportunities for future education and careers.

Title

Navigating Difference and Cultural Awareness Workshops Build Cultural Competence for Indiana Residents

Team

Kris Parker, Community Development Regional Educator, Northwest District

Xiomara Diaz-Vargas, 4-H New Audiences Specialist

Samuel Johnson, 4-H Youth Development Educator, Allen County

William Horan, County Extension Director, Agriculture & Natural Resources Educator, Community Development Educator, Wells County

Marcia Parcell, Health & Human Sciences Educator, Dearborn County

Steve Yoder, Community Development Regional Educator, Central District

Amy Nierman, District Director, Southeast District

Heather VonDielingen, County Extension Director, 4-H Youth Development Educator, Jackson County

Bob Bruner, Agriculture & Natural Resources Educator, Clay & Owen counties

Tamara Ogle, Community Development Regional Educator, East District

Luis Santiago, County Extension Director, Agriculture & Natural Resources Educator, Daviess County
Brittney Schori, Health & Human Sciences Educator, LaGrange County
Laurynn Thieme, Agriculture & Natural Resources Educator, Delaware County
Amanda Dickson, International Extension Specialist

Issue

The U.S. has an ethnically diverse population. Dramatic shifts in population have occurred. By 2045, the Census Bureau estimates the U.S. will become a “majority minority” country.

What Has Been Done

Navigating Difference is a cultural competency training developed by Washington State University. Purdue Extension provides the program across Indiana for those who want to deepen their knowledge, skills and appreciation for connecting across diversity with clientele, coworkers and community members. Its five modules include elements from social justice, intercultural communication and organizational development. Purdue Extension also offers a half-day interactive workshop on the first module, cultural awareness. When Indianapolis Public Library System’s (IPLS) director of human resources attended, she knew it would help IPLS improve outreach and service to underserved and vulnerable populations, homeless patrons, new immigrants and refugees, low-income families and individuals, and people with disabilities, including mental illnesses. Over three years, all 600+ staff completed the program.

Who Were the Participants

All managers and supervisors (108) completed three-day intensive training and 500 staff built cultural awareness skills in a half-day workshop. Other groups across Indiana completing the training were community leadership programs in seven counties, Retired Senior Volunteer Program (RSVP) and Community School staff.

Results

On post-surveys after the three-day training, 75% of IPLS managers reported increased confidence taking steps to effectively navigate cultural competence. In the last year, 336 cultural competence workshop participants reported increases from before to after the workshop: 78% improved their recognition of how power, privilege, and oppression may affect their work with people from cultures other than theirs, 76% improved how motivated they feel to act to build their cultural competence and 69% improved their understanding of the barriers to intercultural communication. Representatives of these organizations improved their cultural competence, which they may apply in interactions with clients, customers and residents in their communities across Indiana.

Title

On Local Government COVID-19 Response

Team

Tamara Ogle, Community Development Regional Educator
Mary Foell, Community Development and 4-H Youth Development Educator, LaPorte County
Lupe Valtierra, Community Development Educator, Lake County
Janet Reed, former County Extension Director, Lake County
Kristi Whitacre, Community Development Educator, Vigo County
Amanda Mosiman, Agriculture & Natural Resources Educator, Warrick County
Cynthia Barber, Community Development Educator, Daviess County
Molly Hunt, Interim East District Director, Health & Human Sciences Educator, Delaware County
Cheri Brown, County Extension Director, Blackford County
Krista Pullen, Community Development and Agriculture & Natural Resources Educator, Cass County

Issue

In March 2020, over a few days, local governments in Indiana had to quickly respond to COVID-19, including closing buildings, providing services in a modified/virtual way, communicating with communities about the crisis and forecasting how revenues would be impacted. This situation was completely different than anything local officials had dealt with in the past, and it seemed like overnight they needed a whole new skill set to serve their communities. And, social distancing made local officials more isolated and siloed in their town/city, department or county, adding to the difficulty to collaborate with other units/agencies to identify best practices to resolve challenges raised.

What Has Been Done

Purdue Extension provided a central location for local governments as they worked to keep their constituents healthy, safe and well informed. Extension collaborated with Indiana local government associations to provide a website for webinars and resources, to offer seven webinars to fill skill and knowledge gaps in economic outlook, State Board of Account (SBOA) updates, Department of Local Government Finance (DLGF) and SBOA Q&A sessions for townships, crisis communication, programming with online platforms, and navigating grant opportunities.

Purdue Extension hosted weekly COVID-19 roundtable discussions where collaborations and networking opportunities were created among participants. These one-hour roundtables offered a time for regional leaders to meet virtually to share information, questions, and ideas about COVID-19 impacts and responses. Meetings focused on the current operation status of the “Indiana Back on Track” plan, challenges, helpful tips, what to do differently, current county needs, and next big steps. Each week Purdue Extension facilitated discussion between libraries, townships trustees, State Representatives, cities, towns, and others. In some, a state perspective of pandemic impact on local units was provided by State Representatives and to help participants generate ideas about how to address community issues.

Who Were the Participants

Nearly 1,300 local government officials and community leaders participated in the webinars.

Results

Participants gained knowledge about topics that helped them address the pandemic. One library participant was particularly grateful for our walk virtually. She planned to quickly implement to continue programs for patrons. Purdue Extension forged new relationships with the DLGF and SBOA providing advice for virtual Q&A sessions and budget workshops. Over 60 participants increased their knowledge on where to get personal protective equipment (PPE) and shared methods to help reduce pandemic spread in public buildings and services. In Northwest Indiana, the group wanted to continue conversations and collaborated with Purdue Extension to restructure. A new forum resulted on leadership development and non-duplicative collaboration opportunities for communities in transition to post-pandemic. In Eastern Indiana, Purdue Extension partnered with Blackford County Economic Development (BCED) to gather information from business owners concerning COVID-19 impacts. Of 21 reporting, 71% reported financial difficulty due to COVID-19 shutdown and half had to furlough employees and/or close temporarily. Also, an assessment was conducted with local officials who identified needs for funding for PPE and other COVID-related expenses. Based on needs, grant applications were submitted to the Indiana Office of Community and Rural Affairs (OCRA) for COVID-19 Relief Funds. OCRA awarded over \$426,000 for PPE, COVID-19 testing, for the local food pantry, and BCED for job retention to assist hardest-hit manufacturers and closed businesses. Purdue Extension provided opportunities for local governments to learn and connect during the pandemic. These efforts helped communities and businesses with information, collaboration and funding during challenging times and economic hardships.

Title

Facing Mental Health and Building Support in Indiana Communities

Team

Tonya Short, Health & Human Sciences Educator, Knox County

Curt Emanuel, County Extension Director, Agriculture & Natural Resources Educator, Boone County

Stephanie Woodcox, Assistant Program Leader for Purdue Extension, College of Health & Human Sciences

Abigail Heidenreich, County Extension Director, Agriculture & Natural Resources Educator, Orange County

Andrew Hays, Health & Human Sciences Educator, Gibson County

Angela Sorg, Health & Human Sciences Educator, DeKalb County

Britt Copeland, 4-H Youth Development Educator, Brown County

Brittney Schori, Health & Human Sciences Educator, LaGrange County

Bryan Overstreet, County Extension Director, Agriculture & Natural Resources Educator, Jasper County

Elisa Worland, Health & Human Sciences Educator, Wayne County

Elysia Rodgers, County Extension Director, Agriculture & Natural Resources Educator, DeKalb County

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Kelly Heckaman, Interim East District Director, Agriculture & Natural Resources Educator, Kosciusko County

Kelsey Meyers, 4-H Youth Development Educator, Henry County

Marcia Parcell, Health & Human Sciences Educator, Dearborn County
Rachel Dillhoff, Health & Human Sciences Educator, Adams County
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Robert Kelly, County Extension Director, Agriculture & Natural Resources Educator, Elkhart County
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Issue

Mental health and substance use issues are widespread concerns and often perceived differently from physical health. This can perpetuate shame and stigma discouraging individuals to seek or accept help. This stigma also affects families and communities. Half of chronic mental health conditions develop by age 14 affecting youth. Farming is chronically plagued with stressors of weather, regulations, input costs, and market prices. Net farm income has declined 71% since 2013 and commodity prices have not exceeded the break-even point for over four years. This increasing financial strain results in chronic stress, anxiety, and depression for farm families and threatens the livelihood and heritage of family farms. The COVID-19 pandemic compounded emotional and financial trauma on farm families and operations.

What Has Been Done

Purdue Extension provided mental health education. “Youth Mental Health First Aid” is for adults interested in learning about mental health issues affecting youth (ages 12-17) and covers signs and symptoms of mental health and substance use issues, and tools for first-aid level assistance to adolescents experiencing crises. This eight-hour, in-person course includes topics on anxiety, depression, substance use (including opioids), trauma, and deliberate self-harm. Participants learn how to be a resource and provide support to youth at risk for mental health and/or substance-use issues.

Purdue Extension delivered two farm stress management workshops developed by Michigan State University. “Weathering the Storm in Agriculture,” a 60-minute workshop, helps farmers and families understand signs and symptoms of chronic stress, builds skills in recognizing and responding to mental health concerns in themselves and others, and shares where to go for more help and resources. “Communicating with Farmers Under Stress,” a four-hour workshop, is for agricultural organization representatives and others who work, or interact, with farmers. Lenders, vets, inspectors, breeders, those in seed/feed sales, Farm Bureaus, and many others may have first glimpse if something is amiss with farmers. Others could be health care workers, mental health professionals, and faith leaders, but they may not fully understand stress related to agriculture. Workshop participants learn to recognize signs of stress, and techniques for identifying, approaching and working with stressed farmers.

Who Were the Participants

Youth Mental Health First Aid was delivered 12 times reaching 193 adults. For those reporting (191), participants were female (74%), age 25-44 years old (48%), and Caucasian/White (85%).

Purdue Extension has delivered 52 farm stress management workshops reaching 1,550. Participants were ages 16 to 82, residing in 89 Indiana counties, including farmers, family members, agribusiness representatives, health professionals, and government agency workers.

Results

“Youth Mental Health First Aid” participants (96%) were confident they could reach out to youth having mental health problems, substance-use challenges or crises, and 94% were confident in recognizing signs of mental health problems, and in asking adolescents whether they are considering killing themselves. Participants indicated, “It is a course that is needed in all schools,” “Definitely useful training that will help me in my volunteer role,” and “Good info for first responders.”

For the farm stress workshops, there were 735 (98% white, 54% male) post-survey respondents. Participants reported an increase in understanding the impact of stress on the body (100%), confidence identifying signs and symptoms of stress in someone (99%), knowing where to send someone for help (99%), confidence communicating with someone experiencing stress (99%), understanding warning signs of suicide (98%) and understanding the current agricultural financial situation (97%). Participants reported learning about the physical impact of stress and the tips for managing stress: “All of the different ways (not just mental) that stress can affect our bodies.” “Pay more attention to how stress can affect my body and taking a negative thought and turning it in to a positive (self-talk).” Participants reported learning coping and communication skills. “I learned a good breathing technique that helps release tension and reduce stress.” “The suicide information was valuable, because just something not in my vocabulary, so I had no clue how to have that conversation.” “How to talk to someone and be positive and be empathetic.” “How to approach a stressed farmer and high stress situation on a farm setting.” These results affirm the value of training adults who care for and support the mental health of Indiana’s youth. As a result of the farm stress workshops, farmers, their families, those in agriculture-related businesses/organizations, and other professionals better understand the physical impact of stress, know tips to manage stress, recognize signs of stress, and know how to approach and talk with those in distress. These gained abilities create a support system for farmers in our Indiana communities.

Title

Indiana Adults Take Control of Their Personal Finances with Where Does Your Money Go?

Team

Naomi Bechtold, Extension Specialist, Family Resource Management
Harriet Armstrong, Health & Human Sciences Educator, Bartholomew County
Cindy Barnett, former Health & Human Sciences Educator, Whitley County
Lori Bouslog, Health & Human Sciences Educator, Vermillion County
Lisa Cangany, Health & Human Sciences Educator, Boone County
Jay Christiansen, Health & Human Sciences Educator, Vigo County
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Mindy Mayes, Health & Human Sciences Educator, Wabash County
Mandy Medbourn, Health & Human Sciences Associate Educator, Pulaski & Starke counties
Daron Monnin, Health & Human Sciences Educator, Randolph County
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Marcia Parcell, Health & Human Sciences Educator, Dearborn County
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Beth Switzer, County Extension Director, Health & Human Sciences Educator, Hendricks County
Gail Wright, Health & Human Sciences Educator, 4-H Youth Development Educator, Parke County

Issue

According to the Federal Reserve Bank, personal savings rates dramatically increased from 7.5% in April 2019 to 33.5% in April 2020. This dramatic increase is attributed to COVID-19 pandemic economy shut down. In 2018, American households spent 65% of their income for housing and health care. A 2017 survey from CareerBuilder found a large percentage of U.S. workers (78%) living paycheck to paycheck. Workers (25%) do not set aside money for savings and nearly 75% are in debt.

What Has Been Done

Extension Educators in 28 Indiana counties presented “Where Does Your Money Go?” Program modules were also available through Facebook Live and recorded videos. This financial program, delivered via one or two instructional sessions, covers how small purchases add up to large expenses over time and determining “needs” versus “wants.” Adults discover their spending leaks (repeatedly spending money in certain areas without thought) and identify financial priorities. They also develop skills to make spending plans (budget) tailored to financial needs and to achieve personal goals.

Who Were the Participants

A total of 260 adults attended virtually or in person.

Results

Most adults (n=243) responded on the session one post-evaluation survey. Results demonstrated an increase in intended behavior change of personal financial management. Over 90% reported they could have more money if they made different spending choices. Over 80% reported they are thinking differently about how they manage their money. Median amount for spending leaks was \$4,413, and adults indicated that money could be used to start saving or pay off bills. Participants stated, “Made me realize things like the fact that making coffee at home is a lot cheaper than purchasing a cup of coffee out every day,” and “Absolutely no more pay-day loans and rent-to-own items.” After session two, 113 survey respondents indicated they had written a financial goal (81%), found bills easier to pay because of new spending choices (80%), saved money since the first session (48%), and decreased debt since the last session (31%). Responses (n=15) to a three-month follow-up survey found adults had reduced their spending leaks, were managing their money better, and had developed a spending/savings plan. One stated, “I realized how much we were spending/wasting on eating out. We now limit to once a month and save at least \$200/month.” Indiana adults and their families are benefiting from the financial skills acquired to help them spend and save money more effectively.

Example Impact Statements for Faculty and Extension Specialists

(These have edits from the initial submissions)

Title

New Curriculum on Food Safety Training for High School Students Improves Food Safety and Handling Skills

Team

Yaohua Betty Feng, Assistant Professor of Food Science

Hui-Hui Wang, Assistant Professor of Agricultural Sciences Education and Communication

Issue

Focusing on integrating food safety and career-readiness in food and agriculture science into formal K-12 education programming, Purdue Extension hosted focus group sessions with over fifty science and agriculture high school teachers to identify the academic needs for food safety education, including 1) lack of curricula aligned with the state standards; 2) lack of student interest in such topics; 3) lack of instruction time and resources. In response to these needs, Purdue Extension created a comprehensive extension program called “Food Safety in The Classroom.”

What Has Been Done

The curriculum was designed to provide students with fundamental food safety concepts through experiential learning and incorporation of science, technology, engineering, agriculture, and mathematics (STEAM) activities in the context of different careers related to agriculture, especially in food science. Further, this study was conducted to evaluate the effectiveness of a food safety educational intervention for changing students' food handling behaviors, and the theory of planned behavior was used to construct factors that contribute to behavior change.

Who Were the Participants

High School students in Indiana participated in the curriculum.

Results

1) Food safety curriculum. Researchers developed a food-safety-focused curriculum for high school students aligned with Indiana Academic Standards for Agriculture, Advanced Life Science: Food. A panel of experts in the field of education evaluated the curriculum through three rounds of surveys containing questions related to six curriculum assessment topics. Experts rated the degree to which they agreed with statements about the curriculum using a 5-point Likert scale and multiple-choice questions. At the conclusion of the study, the cost to purchase materials for cooking labs was the only identified barrier to curriculum incorporation (62.5%). Experts agreed that the curriculum addressed academic standards (100%), was engaging for students (100.0%), was easy for teachers to use (89.5%), and successfully incorporated STEAM (100.0%), experiential learning (89.5%), and career-education (78.9%).

2) Observational evaluation of curricula on students' food safety and handling skills. A combination of stationary and wearable (GoPro) cameras was used to observe the food handling practices of high school students in key areas, including food thermometer use, hand washing and hand drying, glove changing, and environmental cleaning. The percentage of correct food handling techniques was measured categorically, and the number of groups who complied with thermometer use and environmental cleaning guidelines was recorded. The percentage of students using correct hand washing, hand drying, and glove changing techniques significantly increased in the post-observation cooking session. However, the percentage of correct hand washing and glove changing events remained <50% for certain subcategories: hand washing time (38%), hand washing after handling raw produce (36%) and touching skin (20%), changing gloves after gloves became contaminated or torn (47%), and washing hands between glove changes (15%). The food safety curriculum will enhance the health and wellbeing of our communities (e.g., homes, fast food, restaurants, etc.) while providing STEAM-incorporated educational content into high school classrooms.

Title

On-Farm Readiness Reviews and Mock Audits Keep Producers in Business

Team

Scott Monroe, Food Safety Extension Educator
Amanda Deering, Clinical Associate Professor of Food Science

Issue

Passage of the Food Safety Modernization Act (FSMA) and the Produce Safety Rule by FDA represents the first time produce growers have been subject to regulation. Growers covered by the Produce Safety Rule must demonstrate compliance with the regulation to produce fruits and vegetables without undue risk of product contamination. The Indiana State Department of Health (ISDH) began inspections of produce farms in 2019.

What Has Been Done

Responding to produce grower needs for guidance to insure farm compliance with regulation, Purdue Extension set up the On-Farm Readiness Review (OFRR), developed by the National Association of State Departments of Agriculture (NASDA). Program delivery was a collaborative effort of Purdue Extension, Indiana State Department of Agriculture (ISDA), and ISDH. The service is free and grower participation voluntary and confidential. Growers request an OFRR by contacting ISDH. A team of representatives from all three agencies (which includes the ISDH inspector who will be doing the farm's inspection) visits the farm for a two-hour interview and tour. The team observes growing conditions, harvesting practices, packinghouse operations, water sources, and discusses common food safety touch-points. At the end of the review, the team provides suggestions to improve food safety practices. Afterwards, educational materials and resources are provided to the grower to assist with solutions to achieve compliance.

A total of 17 OFRR's were conducted. For all reviews, growers received recommendations aimed at strengthening their food safety programs and/or bringing them into compliance. For producers who are moving into wholesale or increasing sales, Purdue Extension conducts Mock Audits to growers to prepare for third-party audits (a buyer-driven industry requirement). Helping growers pass audits assists them in gaining access to new or additional markets. Six Mock Audits were completed in 2020.

During the pandemic, OFRRs and Mock Audits did not resume until July. Precautions were taken with team members wearing face coverings, maintaining a distance of six feet, and meetings and discussions being held outside where adequate space for separation existed.

Who Were the Participants

There were 23 produce operations in Indiana that participated.

Results

Since ISDH produce farm inspections began in 2019, all inspected farms that had completed the OFRR were in compliance. All producers who had Mock Audits conducted passed their official industry-required audit and moved ahead with the expansion of their operations. Purdue Extension Readiness Reviews and Mock Audits help Indiana produce operations meet regulations and requirements for safe production.

Title

Family Forest Owners Reducing Invasive Plant Spread into Forest Ecosystems: Opportunities and Barriers in the Horticultural Sector

Team

Zhao Ma, Professor of Natural Resource Social Science
Stephanie Snyder, USDA Forest Service Northern Research Station
Kristin Floress, USDA Forest Service Northern Research Station
Mysha Clarke, University of Florida (former PhD student)

Issue

Previous studies have shown the majority of U.S. woody invasive plants were introduced by the horticultural sector for landscaping or conservation purposes. So far, limited research has been done to document how family forest owners (FFOs) perceive invasive plants and associated impacts on forest ecosystems, and what opportunities may exist to reduce spread of invasive plants.

What Has Been Done

The overall goal of this research was to improve understanding of “Family Forest Owner” (FFO) perspectives on invasive plants that affect U.S. forest ecosystems and to identify and assess potential strategies for reducing invasive plant spread in forest ecosystems. Activities completed were

to assess knowledge, attitudes, beliefs and behaviors of FFOs in the North Central Region regarding management of invasive plants; and to identify and evaluate opportunities for and barriers to reduce invasive plants and promoting native plants.

Who Were the Participants

Family Forest Owners in the North Central Regional participated.

Results

FFOs had moderate familiarity with, concern about, and interest in invasive plant control on and around their forest properties. 1) Despite lack of confidence in ability to manage invasive plants, FFOs had taken actions on the ground, including inspecting their woodlands, talking to their families and other landowners, and removing invasive plants, all without much input from natural resource professionals. 2) Most FFOs relied on self-directed learning and social networks for invasive plant-related information and advice. They had little or no experience, or interest in, interacting with natural resource professionals. 3) FFOs had greater intentions to manage invasive plants when they perceived the problem to be more severe and when they felt more vulnerable to invasive plant impacts, but also when they felt a stronger sense of self-efficacy to address the problem. 4) FFOs who had previous invasive plant management experience, had a Bachelor's degree or higher level of education, owned woodlands for recreational purposes, and were more subject to normative social influence and tended to have greater intentions to manage invasive plants. 5) Talking to others or working with neighbors to remove invasive plants were important predictors of landowner intentions to work collectively. 6) Perceived self-efficacy, perceived need for collective management, social norms, and concerns about invasive plants on neighboring or nearby properties were important predictors of landowner intentions to work collectively. Results suggest that there is a need for natural resource professionals to refocus efforts on developing communication strategies to target specific segments of FFOs, stronger online presence to facilitate self-directed learning, and partnerships with non-profit organizations trusted by FFOs to encourage self-organization and sharing of information and resources; perceived vulnerability, severity, and self-efficacy may be used to inform potential strategies, programs, and outreach for engaging family forest owners in invasive plant management; and building individual competence and shared concern may facilitate community-led collective action to manage invasive plants. The project produced new insight on FFO knowledge, attitudes, beliefs, and behaviors with respect to the management of invasive plants and shed light on future opportunities to reduce the spread of invasive plants into forest ecosystems.

Title

Green Infrastructure in the North Central Extension Region: Building an Equitable and Just Strategy and Workforce

Team

Kara Salazar, Assistant Program Leader and Extension Specialist for Sustainable Communities
Steve Yoder, Community Development Regional Educator, Central District

Issue

Midwest communities are adopting green infrastructure (GI) practices as low-cost ways to update aging stormwater infrastructure and generate social and environmental co-benefits. While community challenges are similar, practices vary considerably. This is particularly true for co-benefits, such as recreation and beautification, where best practices are not well defined. GI distribution throughout communities have major impacts on who benefits. When sited in disadvantaged communities, impacts on local property values lead to displacement of longtime residents. While experts project jobs within GI will grow, communities struggle to provide sustainable careers and build workforces matching population demographics.

What Has Been Done

GI practices restore or mimic natural hydrological processes. GI captures stormwater at or near where it naturally flows and pools and allows it to be absorbed by soil, plants, or other media. GI allows pollutants from roadways and rooftops to be absorbed in place, improving downstream water quality, and helping control flooding by reducing water volume and speed reaching rivers and streams. To residents, GI looks like parks, gardens, parking lots, and green roofs, and provides important community amenities like recreational spaces and pollinator habitats. Extension, Sea Grant, and other partners, with funding from the North Central Regional Water Network (NCRWN), identified the intersection of social justice, workforce development, and GI programs as a growth opportunity for the twelve-state region. The team completed a needs assessment gathering background data, conducting listening sessions in selected communities, and convening a summit to identify and prioritize successes, gaps, and opportunities. Eighteen listening sessions were led by facilitators with five discussion questions to guide conversations. In Indiana, the Northwest Equitable GI focus group met virtually. To synthesize all regional listening session results and prioritize next steps, the project team coordinated an Equitable GI Summit held virtually because of COVID-19. Presentations by Extension and Sea Grant Networks members, local government officials, and private and public sector subject matter experts provided overviews of work in the region and summarized results and themes from listening sessions. During breakout sessions, Summit participants identified and prioritized barriers and opportunities for communities to add socially just benefits to their GI practices.

Who Were the Participants

For the listening sessions, there were representatives from over 30 communities across nine states. Participants from Northwest Indiana participated in the focus group. Over 100 Summit attendees joined from Extension, Sea Grant, state and local government agencies, nonprofits, and private businesses.

Results

Needs assessment findings provided five recommendations for communities seeking to implement GI programs: 1) Keep it simple to lower installation costs and reduce burden of care over a project's lifetime. 2) Emphasize co-benefits as communities with multiple societal benefits were more successful implementing low-cost GI networks to enhance communities beyond stormwater management. 3) Design GI careers, not GI jobs, to create sustaining careers affording opportunities for advancement. 4) Provide education at every level for government staff, officials, and city planners to implement GI policies, contractors and crews for performance and maintenance, decision-makers for function and value, and K-12 students. 5) Build relationships and establish partnerships for sharing knowledge and resources and providing expanded opportunities.

Following the Summit, most attendees reported they would use information received at multiple events, and had increased understanding and awareness of social justice and workforce practices and challenges related to GI. From listening sessions and the Summit, it was found that including societal aspects for planning/designing GI resulted in greater community and internal support, greater ability to secure additional funding through grant programs, and greater integration of GI and other community-benefit programs. Making co-benefits and the economic costs and benefits explicitly part of decision-making helped communities address multiple needs deriving more value from money already going to stormwater capital improvements. As a result, communities now have a guide for building an equitable and just green infrastructure strategy and workforce.

Title

Indiana 4-H World Changers Online Hackathon

Team

Rachel Haselby, 4-H Youth Development Extension Specialist - Computer Science

Issue

International Student Assessment data on 15-year-old student math literacy show 21 countries with higher average scores than the U.S. National Inventors Hall of Fame indicated science, technology, engineering and mathematics (STEM) education puts an emphasis on preparing future generations to be successful. STEM skills prepare youth with varied interests for any industry.

What Has Been Done

Indiana 4-H Computer Science programs and educators were supported by a National 4-H Council and Google partnership to provide opportunities for rural and under-served populations. Google provided curricula and tools for 4-H to train youth and adult volunteers. 4-H staff from five states, Indiana, California, Illinois, New York and West Virginia gathered monthly to collaborate on initiatives, events and training. An Indiana 4-H in-person, on-campus computer science event, focused on STEM and agriculture, civic engagement, and healthy living, was in the works when coronavirus closed schools. Quickly changing gears, the Indiana World Changers 4-H Online Hackathon was created. Emails to principals and posts on National Computer Science teachers Facebook promoted the event to 4-H members and all youth ages 12 to 18 from Indiana and beyond. Youth were encouraged to propose a real-world solution using coding and other technology. Problems identified were for finding quality mental health services for adolescents, helping service organizations identify food deserts or creating a service project to help solve food insecurity locally, using digital tools to identify insects/weeds/diseases in fields or forests, or helping producers in grain sales and trucking identity and calculate elevator cash bids to determine highest return. Purdue Extension provided instruction videos, FAQs and links to resources. Participating youth created a mockup, decided the coding language(s), learned needed skills, and tested their project. Final projects included a short video, screencast of the working product, audio walk through of, and reasons for, the project, the code and app. Youth had four days to produce a video in which they discussed the selected problem and how it could be solved. Youth were encouraged to seek out a mentor, family

member, friend, teacher, or club leader to provide guidance to them on their projects. Projects were judged on technical aspects and on presentation skills describing the problem and why they selected it.

Who Were the Participants

In its first year, the Indiana World Changers 4-H Hackathon had 85 participants and seven mentors in the program.

Results

The grand prize winner created an Indiana county mental health resource for youth. The reserve grand prize winner created an app defining a food desert and helping users find places to volunteer. This first online event launched virtual computer science activities for the pandemic year reaching 3,278 youth with the help of 303 adult volunteers and collaborating partners via a total of nearly 300 hours of instruction. As a result of this hackathon, Indiana youth had opportunities during the pandemic to learn STEM skills for their futures.

Title

Turtle Mountain Reservation Community Development

Team

Michael Wilcox, Community Development Program Leader

Nicole Adams, Clinical Assistant Professor, School of Nursing

Aaron Thompson, Assistant Professor, Landscape Architecture Program, Director, Center for Community & Environmental Design, Department of Horticulture & Landscape Architecture

Issue

The dream for Turtle Mountain was to create a substance abuse disorder recovery center that would serve the reservation and region.

What Has Been Done

In partnership with the Purdue Center for Regional Development and the University of Kentucky, Purdue Extension secured a USDA Rural Economic Development Innovation (REDI) grant to foster rural development in nine communities in the North Central and Southern regions. For one of the nine, the Turtle Mountain Band of the Chippewa in North Dakota, their dream was to create a substance use disorder recovery center. Purdue Extension collaborated with Purdue School of Nursing on an innovative, community development effort using new tools (system mapping techniques and landscape architecture design tools), paradigms (merger between community and recovery capital) and culturally oriented approaches. Purdue generated a data snapshot of Turtle Mountain Reservation that showcased Quality of Life, Workforce Development, Economic Development, e-Connectivity and Technological Innovation as critical elements for the region. A two-day workshop shared information and tools for developing goals, objectives, strategies and a timetable. Monthly writing team calls, bi-monthly REDI support calls, quarterly USDA Rural Development webinars, and many virtual meetings with the local team were coordinated and conducted.

Who Were the Participants

Members of the Turtle Mountain Band of the Chippewa in North Dakota took part in this project.

Results

Purdue Extension, Nursing, and the Turtle Mountain team created a clinical plan outlining detailed service, staffing and building design needs, and a business plan incorporating a demand and supply analysis, staffing cost projections, revenue projections with information on workforce development needs, billing requirements, and USDA community facilities loan details.

Extension brought in Purdue Center for Community and Environmental Design for consultation to generate an outdoor site plan to enhance the natural environment and provide patients and families opportunities to interact with the land. A draft plan, detailed site designs, and computer visualizations were presented to tribal leaders and staff, whose enthusiastic response led to more comprehensive designs including a welcoming garden experience, therapeutic gardens and learning spaces, and separate spaces for reflection and solitude. Primary roadways and patient housing are already under construction, as the tribe finalizes funding for remaining facilities.

Ongoing work will further develop the recovery-oriented system of care, and create funding strategies and promote organizational and workforce development. The tribe will coordinate installation with local design, engineering, and construction firms. At completion, the 100-acre campus will integrate a new central facility, recovery residences, confidence course, equine therapy stables, sweat lodge, medicinal garden, and walking trails for the Turtle Mountain Band of Chippewa Indians community.