THE PARTS OF AN IMPACT STORY

Issue

WHAT WAS the ISSUE & WHY WAS IT an ISSUE?

- Connect to **hot topics**
- Make people **care**

Action

WHAT WAS DONE?

- Describe **major** research/Extension activities
- Be **brief** and **clear**
- Were **innovative** tools used?
- **Don't** go on and on about methods
- **Who** was involved?

Output

WHAT WAS LEARNED or PRODUCED?

- Share **major** findings
- Share **important** outputs

WHAT WERE the IMPACTS?

- **What kind** of impact?
- **How big** was the impact?
- **Where** did the impact occur?
- **Who** was impacted?
- Think about **public value**

IMPACT =

- ▲ condition*
- ▲ behavior
- ▲ knowledge

**economic, environmental or social*

Still having TROUBLE?

- Think about **potential impacts**
- Describe the **ripple effect** of small and/or early impacts over time
- Show how your work is **playing a part** in certain impacts
- Share interesting **anecdotes**

MULTISTATE projects:

- Describe the **benefits or importance** of multistate collaboration
- Keep activities and impacts **organized** by type, objective, or other scheme
- **Work together** on impact statements to strengthen and reduce duplication

Multistate Research Fund
IMPACTS

IDENTIFY THE PARTS OF YOUR IMPACT STORY.

What issue is being addressed? *(e.g., 15% of dairy cow population was lost to disease in 2016)*

Who cares about this issue? *(e.g., farmers; consumers)*

Why do they care about the issue? *(e.g., farmers are losing money; consumers want safe, steady dairy supply)*

What did the project do to address the issue? *(e.g., studied disease, hosted field days)*

Did the project use any unique or innovative methods or tools?

Who was involved?

What were the major results or outputs? *(e.g., a new vaccine is 10% effective than others)*

What kind of impact did the project have or could it have? *(e.g, changes in condition, behavior, or knowledge)*

Who was impacted? *(e.g., farmers, consumers, local businesses)*

Where did this impact occur?

How big was this impact?

USE THE INFORMATION ABOVE TO WRITE AN IMPACT STATEMENT.

REVIEW YOUR STATEMENT.

Did you remember to...

- ☐ talk about **all parts** of the impact story?
- ☐ NOT talk too much about **methods/theory**?
- ☐ NOT use **jargon**?
- ☐ use numbers to show **magnitude**?
- ☐ write with an **active** voice?
- ☐ use **descriptive language?**
- ☐ only share **meaningful** info?
- ☐ be **concise**?

SHARE YOUR STATEMENT.

Think about your audience.

Think about where to share your impact.

- databases
- social media
- department leadership
- communications team
- newspapers/magazines
- speeches
- interviews

IMPACT STATEMENT EXAMPLES: THE GOOD, THE BAD, THE UGLY

EXAMPLE 1: Public health officials want to know if their nutrition-related programs are leading to healthier diets, and people who invest in nutrition programs want to know how much bang they're getting for their buck. Assessing what foods people eat is difficult because people have a hard time remembering and accurately reporting what they eat. Nutrition and biomedical informatics researchers at the University of Utah addressed this problem by developing a new tool that doesn't rely on people reporting what they eat. Instead, the researchers used the barcodes of foods families purchase at stores to classify foods and created a scoring system to assess the healthiness of the foods. In a national sample of over 4,000 households, the new tool performed just as accurately as conventional diet quality assessment tools, but it's much easier to use, and it avoids the problems related to self-reporting. In the future, the new tool could make it easier to collect data needed to understand relationships between food choices and health outcomes, and it could be used to help determine whether or not nutrition programs and policies are working. These are key steps in creating interventions that promote health for people nationwide.

EXAMPLE 2: Water quality analyses showed that iris reduced PO4-P concentrations from tank 1 to tank 3 in aquaculture wastewater treatment systems.

EXAMPLE 3: Specialty crops include fruits, vegetables, tree nuts, dried fruits, and nursery plants. Faced with labor shortages, global competition, demand for higher quality, and concern about environmental impacts, the industry is urgently seeking automated devices to aid with growing, harvesting, handling, and processing. Researchers at land-grant universities in multiple states are working together to develop automated systems that work well for specialty crops. With this collaborative approach, the cost burden of research and development is lifted from a single specialty crop sector and major advances are being made. Over the last five years, researchers developed sensors to detect and measure key specialty crop production parameters, designed mechanized devices, and partnered with manufacturers and farmers to commercialize and implement new technologies. For example:

- University of Florida researchers designed an autonomous robot that counts and maps citrus fruits. Mapping and monitoring fruit yields shows researchers and farmers if and where there are issues, so that they can make targeted, effective management decisions.
- Automated disease detection and management technologies could mitigate losses of fruit crops. Washington State University developed unmanned aerial vehicles to deter birds that eat and damage fruit crops.
- Mechanized production and harvesting can prevent injuries due to manual labor and reduce harvest time and costs for farmers. For example, Penn State designed a harvest-assist device that eliminated ladder falls during apple harvest and reduced the time pickers spent in awkward, dangerous postures from 65% to 43% of picking time. The device also increased the number of apples harvested per second by 50%.

Altogether, these advances in automation are helping the specialty crop industry overcome labor shortages, make smart management decisions, and conserve resources, resulting in significant savings for growers and consumers, improved sustainability for the industry, and stable food production for a growing population.

EXAMPLE 4: The cropland in the Midwest is among the most productive in the world, but only if adequate drainage is provided. Much of the region uses underground pipes or "tiles" to channel excess water from the field, but nitrogen, phosphorous, and bacteria can make their way into tile drainage systems and enter lakes, rivers, and groundwater. This pollution can be harmful to humans and can create "dead zones" where aquatic life cannot survive. A team of 22 land-grant university researchers are working with USDA scientists and industry partners to develop new technologies and strategies that improve drainage. The project's strong Extension component has increased farmers' knowledge and confidence about drainage management and provided valuable information to industry professionals, educators, and policymakers. Using the group's recommendations, a U.S. EPA task force developed strategies for nutrient reduction in the Gulf of Mexico and helped farmers in 12 states implement drainage water management on more than 40,000 acres and install 32 denitrifying bioreactors, preventing over 300,000 pounds of nitrate from entering the Mississippi River between 2011 and 2017. This could significantly reduce water quality problems and related environmental and human health risks. Furthermore, improved drainage can boost crop yields and reduce variability from year to year, providing a stable source of food for consumers and predictable profits for farmers.

EXAMPLE 5: Five years ago, Jefferson County pork producers spent $17 more than the state average to raise a market hog, so Extension specialists hosted workshops to help them improve the efficiency of their production practices. These workshops had over 100 participants from 10 area farms. Every participant reported increased understanding and awareness of cost-saving practices and tools they could implement. Within one year following the workshops, 3 farms had adopted new practices. After adopting new practices, production costs for these producers dropped to $12 below the state average. The farms' profits increased 10% over five years, supporting economic prosperity and stability throughout the region.

EXAMPLE 6: In the U.S., about 29 million people have diabetes. Black, Hispanic, and American Indian/Alaska Native adults are about twice as likely to have diagnosed diabetes than non-Hispanic white adults. Diabetes can lead to a number of other health issues. In 2015, diabetes was the underlying cause listed on nearly 80,000 death certificates and a contributing cause listed on over 172,000 others. To date, $176 billion was spent for direct medical costs, and reduced productivity cost the U.S. economy another $69 billion. USDA's National Institute of Food and Agriculture is a leader in the fight against diabetes, with research and consumer education projects spanning all 50 states and U.S. territories. For example:

- The University of California implemented a multi-tiered food incentive and education program with a supermarket chain that has 41 stores in low-income, food-insecure areas of Southern California.
- Penn State Extension established "Dining with Diabetes," a series of nutrition and health classes, in 46 Pennsylvania counties. 2,880 people have attended so far. Half of the program participants reported improved blood sugar levels, 33 percent reported eating more produce, and 17 percent exercised more.

EXAMPLE 7: Colorado State University and other western land-grant university researchers are collaborating to examine the genes and molecular mechanisms involved in how plants respond to ozone in the atmosphere. Ozone is a gaseous air pollutant that can severely injure the leaves of sensitive plants and can reduce plant growth, quality, and tolerance to insects, pathogens, weather, and other stress factors. Current estimates suggest that ozone causes $3 billion to $5 billion dollars in crop loss annually. A better understanding of how plants respond to ozone is a major first step towards breeding ozone-tolerant plants and developing other strategies to protect plants from ozone, reduce economic losses, and ensure high crop yields.

EXAMPLE 8: The proper timing of peanut harvest is one of the most important aspects of peanut production. If harvest is too early or too late, farmers can lose yield and profits. The primary way to determine maturity is through the Peanut Pod Blasting Method developed by UGA scientists. Currently, county Extension agents look at 200 to 800 peanut maturity samples for growers using this method. University researchers are also working on other techniques and models to increase the accuracy of the Peanut Pod Blasting Method. Determining maturity and harvesting on time can save producers an average of 300 pounds of peanuts per acre and increase their gross returns by $60 per acre (based on the 2015 contract price of peanuts). With more than 577,500 acres evaluated by UGA Extension, the peanut maturity program has helped growers harvest an extra 173.25 million pounds of peanut at an estimated value of $34,650,000.

EXAMPLE 9a: Textiles serve many important uses, but producing them consumes a lot of water, energy, and chemicals and creates major waste and pollution. A team of researchers at land-grant universities across the U.S. is working to make the textile industry more sustainable. Some members of this team focused on finding ways to use less water and energy during textile production. Others focused on creating textiles that are recyclable or biodegradable and many contain chemicals that can harm the environment. For example, Georgia researchers developed a dyeing process that has long-lasting potency, uses less water, requires only one rinse, and allows unlimited recycling of the dyeing solution. In Nebraska, researchers produced natural, non-toxic dyes from crop residues. Researchers in Tennessee, Washington, New York, Wisconsin, and Montana developed bio-based fiber mulches, landscape fabrics, row covers, and insect control meshes that are chemical-free and biodegradable. Iowa scientists developed cellulose-based textiles that are strong, absorb less water, and are well suited for regular daily wear. At Ohio State University, researchers produced natural fiber composites for vehicle interiors that make vehicles easier to recycle and increase fuel efficiency. Texas researchers produced biodegradable polyester resin that can be used instead of plastics. These bio-based textiles introduce fewer harsh chemicals to the environment and either biodegrade or are easier to reuse, keeping waste from accumulating in landfills or elsewhere. In addition, developing textiles from agricultural residues adds value to agricultural byproducts and reduces agricultural waste, improving the sustainability of both crop production and textile industries, and increases income for farmers. Sustainable methods and novel technologies will not only help conserve resources and reduce pollution, but will also lower the cost of textile production and give a competitive edge to the U.S. textile industry. Finding bio-based alternatives to synthetic, petroleum-based textiles will reduce reliance on fossil fuels.

EXAMPLE 9b: Textiles serve many important uses, but producing them consumes a lot of water, energy, and chemicals and creates major waste and pollution. A team of researchers at land-grant universities across the U.S. is working to make the textile industry more sustainable. Some members of this team focused on finding ways to use less water and energy during textile production. Others focused on creating textiles that are recyclable or biodegradable and many contain chemicals that can harm the environment. In Nebraska, researchers produced natural, non-toxic dyes from crop residues. Researchers in Tennessee, Washington, New York, Wisconsin, and Montana developed bio-based fiber mulches, landscape fabrics, row covers, and insect control meshes that are chemical-free and biodegradable. At Ohio State University, researchers produced natural fiber composites for vehicle interiors that make vehicles easier to recycle. Texas researchers produced biodegradable polyester resin that can be used instead of plastics. These bio-based textiles introduce fewer harsh chemicals to the environment and either biodegrade or are easier to reuse, keeping waste from accumulating in landfills or elsewhere. In addition, developing textiles from agricultural residues adds value to agricultural byproducts and reduces agricultural waste, improving the sustainability of both crop production and textile industries.

EXAMPLE 10. Storage, shipping, and handling can lead to bruising, browning, rot, and deterioration of texture and flavor, making the fruit unappealing to consumers and causing major losses for the industry. After adopting a research-based storage strategy recommended by Washington State University scientists, a major pear packer in the Pacific Northwest documented a $2,000,000 annual increase in market value and almost $800,000 reduction in repacking costs for a single pear variety. Improved, consistent sales indicate buyer confidence in fruit quality also increased. Learn more: bit.ly/fresh-fruit-quality

EXAMPLE 11. Most of Louisiana's farms have limited resources and knowledge to meet the Food Safety Modernization Act requirements. In just the last four years, LSU AgCenter food safety experts have delivered Produce Safety Alliance growers training, Good Agricultural Practices workshops, and other hands-on food safety training to over 500 growers. 90% of workshop participants improved their on-farm food safety practices and saw an increase in sales after adopting on-farm food safety practices. These trainings have already resulted in 22 newly GAP-certified farms in Louisiana. Food safety advances reduce the likelihood of foodborne illness among consumers and decrease legal and financial risks for growers.

OTHER EXAMPLES:

- For examples of the Impact Statements developed by the MRF Impacts Program: *mrfimpacts.org*
- See how USDA NIFA writes about research activities and impacts on their blog and social media and in various e-newsletters and annual reports: *nifa.usda.gov/impacts*
- Check out your college's news stories, blog posts, and magazine articles and scroll through the social media of various colleges of agriculture to see how they write about research activities and impacts.

REVIEWING THE EXAMPLES.

EXAMPLE 1:
- Uses plain language
- Explains how new tools/methods are important to the field…and to society
- Could be clearer about the connection between what the tool does and how it helps create better nutrition programs/policies

EXAMPLE 2:
- This is just a result, not an impact
- This finding may be important, but a general audience can't tell the importance without additional info about the issue and the potential impact
- Uses technical jargon

EXAMPLE 3:
- Defines "specialty crops"
- Lists the challenges/issues
- Briefly states a benefit of doing the work as a multistate team
- Provides overview of main types of actions taken
- Breaks down different types of actions and their impacts
- Tells who is involved in the actions
- Uses a few numbers to show impact magnitude
- Sums up with overall impacts that tie back to the issues stated in the opening

EXAMPLE 4:
- Defines "tile" drainage in simpler terms
- Explains issue briefly
- Isn't very specific about what exactly the group did or their findings, but hits the basics
- Mentions Extension's impact
- Discusses impact in terms of change in behavior—explains who is using the research
- Indicates magnitude of impact on the environment
- Connects these impacts to society in a general way—impacts on consumers, farmers, human health, economy—but doesn't provide specific numbers here

EXAMPLE 5:
- Briefly states an issue —high production costs—but doesn't explain why production costs are high and how high costs affect the public
- Uses active voice, but isn't specific about which Extension team is doing the work
- States impact in terms of increased understanding/ awareness and changes in behavior and economic condition
- Includes numbers, but unclear how "bad" $17 is and how "good" $12 is
- Briefly alludes to public value as well as impact on farmers who participated in the workshops

EXAMPLE 6:
- This example attempts to highlight two separate projects as examples of impacts on a common issue
- The intro paragraph explains the issue, but uses too many numbers and feels overwhelming
- The Project 1 statement uses too much jargon to describe the action and does not explain the importance/impact of the action well; the issue and key stakeholders get lost
- The Project 2 statement tells who did what, indicates the scope of the work, and reports the magnitude of the impacts by reporting percent who changed behavior
- The statement as a whole needs a conclusion about how these projects could impact the social and economic issues mentioned in the intro

EXAMPLE 7:
- Ordered a bit differently, but still hits all parts of an impact story
- Starts with who is doing what—active voice
- Explains why the work is important by showing the magnitude of the issue
- For basic (as opposed to applied) science projects or early-stage projects, it's okay to allude to potential impact by stating the research a "major first step" toward changes
- Could point out how the issue and/or impacts are important to specific stakeholders

EXAMPLE 8:
- Briefly explains the issue
- Need to spell out University of Georgia if audience is external
- Briefly states the actions taken
- Connects action and impact back to the issue
- Focuses impact on change in economic condition, peanut farmers, peanut industry
- Uses numbers to show the magnitude of the action and impact; could remove a couple numbers to focus on the most meaningful ones

EXAMPLE 9a-b:
- 9a tries to cram a lot of activities and their impacts into one statement, which feels muddled
- 9b shows how to focus on just one aspect of the project and its impacts—here it's efforts to reduce waste and pollution from textiles and impacts on the environment
- Including a line that alludes to other aspects of the project makes it clear there's more to the project than the focus of this statement and shows how these examples fit into the overall scope of the project
- No numbers to show magnitude, so the impacts feel a little vague

EXAMPLE 10:
- Short, but hits all elements of an impact statement
- Not much detail about the actual research, but links to a report with more information
- The impacts stated are clearly linked to the issues/ stakeholders mentioned

EXAMPLE 11:
- States impacts on participant knowledge/behavior and sales
- Alludes to public value statement, but would be stronger if could mention the magnitude of those impacts, or at least how prevalent foodborne illnesses and legal/financial issues are
- Some numbers for the most part, but we can't really tell if 22 certified farms is a lot since we don't know total number of farms and would help to know the percent increase in sales

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