

Participants

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Purpose: This presentation is intended to give us insight into what NIFA would like to see in reports with regard to impacts and outcomes. The EIPM program RFA could be out any day; we will be applying for E IPM funds. As part of the application, we will be evaluating the past 3 years. Al will contact those involved in IPM programming for information on their impacts and outcomes. Measuring impacts and outcomes goes beyond reporting for grants. We want to have more effective IPM programs; measuring to better understand your progress and your stakeholders' needs will help you to be more effective. Nothing Al is presenting is specific to IPM. It will be helpful across the board.

Writing Meaningful Outcomes/Impacts Statements

What do NIFA leaders want?

- Want to know that an important issue was addressed by research and/or extension.
- NIFA usually sees *Outputs*, but they want to see *Outcomes*.

Differences between outputs and outcomes

- **Outputs-** lists of activities that were done: number of website hits, number of publications, etc. An output is usually tangible—you can see the **product**. Outputs can be indicated by counting things. We need to measure this, but we also need to measure outcomes.
- **Outcomes-** Defined by NIFA as “a story that demonstrates a **change** in something.” NIFA wants brevity. The “story” must do three things: state the issue that was addressed, what was done (Ext. program and all its parts), and the results.
 - * There are three types of **change** that NIFA wants to see:
 - Change in knowledge
 - Change in action
 - Change in condition

Logic Model:

Can help you to develop the narrative: What was the issue, what has been done, and what were the results.

Documenting Outcomes: 3 steps.

1. Evaluation objective: what change do you want to document?
2. Measurement indicator: what data will you use to document change? What will you measure?
3. Methodology: How will you collect the data? How will you analyze the data?

Al gave an example of how we are documenting outcomes from the WRIPM grant (Ellsworth, Naranjo, Fournier, Brown, Vandervoort). The new Western Region IPM (WRIPM) RFA is coming out late February

An **evaluation objective** is not the same as a project objective. The evaluation objectives will be explained in the evaluation section of the grant proposal.

Question: *Can you write a grant specifically to fund evaluation efforts?* Yes, you can—Peter wrote an entire WRIPM extension grant to measure change in behavior. This project was funded in 2005.

Question: *How could you evaluate a conference?* When 20 talks are presented and organizers don't have complete control, how can they measure change in knowledge? Peter and Al have talked about this issue before. At Extension meetings Ayman and Shawna have asked each presenter to develop a question or two to be included in clicker questions at the end of the program. Maybe at conferences, the organizers could solicit questions from the presenters and have an exit survey. *With a high diversity of presenters in multiple breakout sessions, how would they measure a change in knowledge?* If one person is giving a talk they can do it with clickers or a show of hands. At the conference, they could pick just a few talks that use survey/questions. The goal of the conference may not just be an increase in knowledge. For example, your goals could include networking. How would you measure that?

Telling the story

There are three things in a good outcome story: Issue, what's been done, and results. Make sure your story flows by connecting these three areas. In the "what has been done" section, mention what methodologies were used to collect and measure data. The results of the measured data that show a change in knowledge, action, or condition should be part of the results section. The narrative statement is what NIFA is looking for.

Results should show public value. NIFA wants to know that the money invested in a project had some value to the public. They don't want to hear about how a program impacted an individual participant, they want to hear about broader **public value**. Public value is the highest level of outcomes we can measure. An increase in knowledge is not at the same level as public value.

Question: *How do we know that just because something changed, it's a result of my program?* If an Extension specialist teaches people how to use roundup ready

cotton, was he really responsible for adoption? People may try to take too much credit (question in response to the teen entrepreneurship example).

When we make an impact statement how much can we claim as a result of our program? Example: impact of Bt cotton on reducing insecticide use.

Peter: We have never put a number on our involvement in the Bt example. We list the other factors that may have contributed to the outcome (e.g., new technologies) and let the reader decide.

When writing outcomes or reporting:

Make sure to include some quantitative outcome measures. Also include qualitative descriptions—integrate the quantitative elements. Overall, your story should combine the qualitative and quantitative elements.

Be direct and to the point. Use plain language, for non-scientific readers. Act like you're writing to a politician, not a scientist.

How to form the best qualitative discussion:

Make sure you are describing a clear progression between the three parts of an outcome statement. Good progression makes for a stronger story/impact.

1. Issue (general topic)
2. Specific action taken to address the general topic. (What has been done and how its impact was measured)
3. Results. What changes occurred as a result of #2, and how does this help the larger community? Report in specific quantitative terms and at least one specific qualitative sentence in order to show the public value.

Example of lack of progression/impact. (Youth community involvement and clearing invasive species)

This example doesn't show a logical, clear progression. Maybe this could be listed as two separate outcomes. 1. Self-worth and healthier choices, 2. Impact of this work on the environment.

Example of good progression/impact. (Colorado wheat varieties)

Question: Where did the CSU wheat group get the 18%? They are trying to claim 18% of credit for the impacts. This is related to an earlier question: just because something changed was it a result of your program? CSU researchers are assuming a 1 to 1 impact, but how could they do that? We don't know enough about the program/example to know.

The focus of your evaluation, for example, whether it's economic, environmental, or health focused, will depend on the environment. In agriculture IPM, NIFA would rate economic impacts highly. In school IPM, it would rate health/societal impacts highly; it would not be as economically focused as Ag IPM.

Additional Dialog:

How do we get there from here?

Bill states his #1 limitation is measurement of clientele behavior. The Pesticide Use Database lacks good information about herbicide use. How would you measure this? We've started with the Cotton Pest Losses surveys in 2012.

How would something agronomic like irrigation be measured? Measuring knowledge is one thing, but measuring behavioral change is different. There's not enough money, infrastructure to do this. AI can help Extension Specialists decide how best to measure outcomes and how and where to find the information.

In some situations, we can rely on self-reporting (such as through surveys). Maybe someone who works with irrigation would ask the irrigation districts for records or other information. To track use of Plant Growth Regulators, you could use pesticide use data. It's about mining existing data or finding other measurement sources.

How would you measure how people change in the horticulture industry? There is a lot of turnover. It's challenging to measure. For example, how would you measure a change in pruning practices?

Maybe you could look at replacement costs of plant material. It's not necessary to measure the entire industry. You could go to one major landscape company, that has records, and extrapolate.

Is there someone, other than AI or Peter, available to help with evaluation? This is a very stressful problem for many Extension scientists. They are expected to do it, but not supported.

There are a few resources available, but the college has not invested in evaluation in a big way. There is not one person or dedicated staff, but we do have people with some expertise and a working group.

Can we hire someone whose position is dedicated to measuring outcomes and impacts? Maybe we could hire a new Assistant in Extension with a background in social science who can help us evaluate our programs (possibly co-funded through Extension IPM program and Extension Administration?).