STAC Workshop Report-Out

Overcoming the Hurdle:
Addressing Implementation of Agricultural Best Management Practices (BMPs)
Through a *Social Science* Lens

July

13 ·14 · 20

2021

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Connecting the Dots…

2012: *Chesapeake Bay Goal Line 2025: Opportunities for Enhancing Agricultural Conservation Conference Report*.

- Did Not Address Socio-Economic Factors

2011: *Integrating the Social Sciences into the Chesapeake Bay Program*.

- Acknowledged Complexity of Human Behavior & Need for Consideration in CBP Goals

2015: *Exploring Applications of Behavioral Economics Research to Environmental Policy-Making in the Chesapeake Bay Watershed*.

- Catalyst for Center for Behavioral and Experimental Agri-Environmental Research (CBEAR)

2020: *Increasing Effectiveness and Reducing the Cost of Non-Point Sources Best Management Practice (BMP) Implementation: Is Targeting the Answer?*.

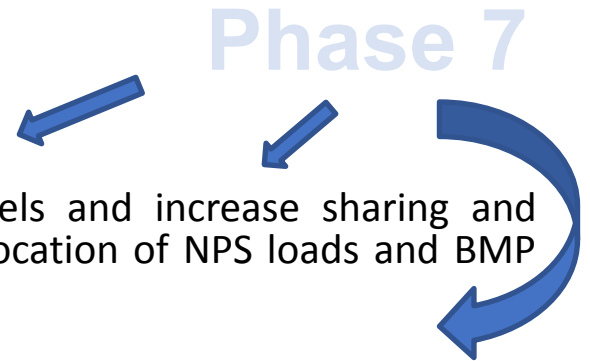- Opportunities to Improve Effectiveness of NPS BMPs via targeting of high loss areas

Connecting the Dots…

2020: [Increasing Effectiveness and Reducing the Cost of Non-Point Sources Best Management Practice (BMP) Implementation: Is Targeting the Answer?](#).

Purpose: Develop & Integrate Mechanisms to Target BMPs to Areas of Watershed Producing Disproportionate Nutrient & Sediment loads.

Recommendations:

1. **Improve the spatial prediction capability of the CBP TMDL accounting system by:**

   a. Develop finer scale modeling capacity to guide and inform targeting.

   b. Continue to improve spatial resolution of datasets that drive the CBP models and increase sharing and development of remote sensing and high-resolution data that can inform the location of NPS loads and BMP removal effectiveness.

   c. Allow for differential crediting of NPS BMPs.

   Phase 7

2. **Develop and test alternative incentive systems for targeting programs:**

   a. Develop and support small testbed watersheds to pilot and test targeting incentive designs and assessment of outcomes

   b. **Support development and testing of nonfinancial approaches to encourage wider program participation and improved land manager identification of NPS hotspots through behavioral "nudges", communication strategies, and feedback on NPS management performance.**

Why the Workshop?

<u>Behavioral Change</u>

Improve Engagement Among Hesitant BMP Adopters

Increase Adoption of Cost-Effective* BMPs

Let's Begin with a Closing Thought…

"…The incredible complexity of delivering resources to farms creates an unusual amount of waste of public resources and it is frustrating to farmers,

so I think focusing on how to **deliver those resources quicker and with less complexity is crucial**.

There needs to be a sense of urgency about that. There is a lot of talk, but how do we fix it? A sense of urgency would go a long way in getting people to engage and be willing to do things.

I hear all time, 'We had a farmer hooked and by the time the funding came in they had quit.' Not surprising. Their energy went somewhere else.

A very basic concept: **Everything has an opportunity cost. If you make being a responsible citizen too difficult or complicated, they'll go do something else.**"

--Day 3 Workshop Participant

What We Wanted To Know
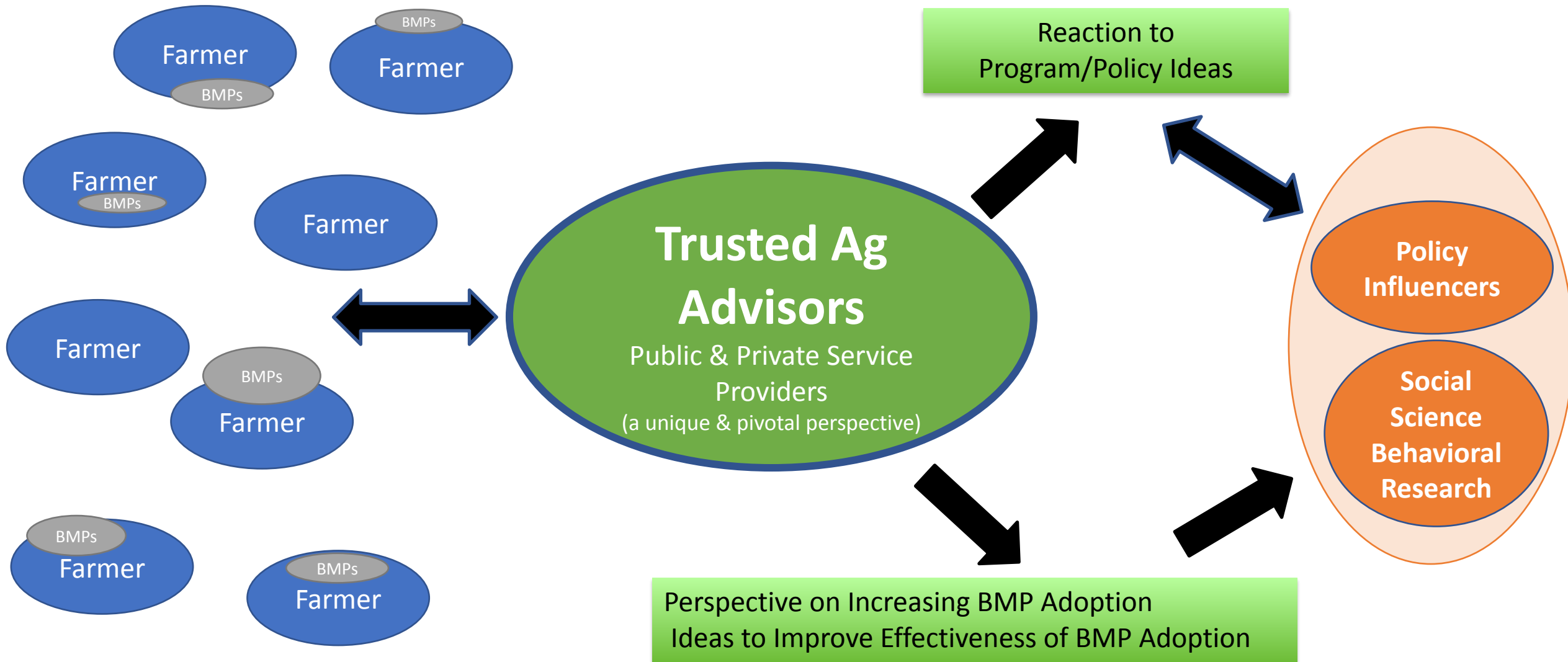
3-Day Road Map

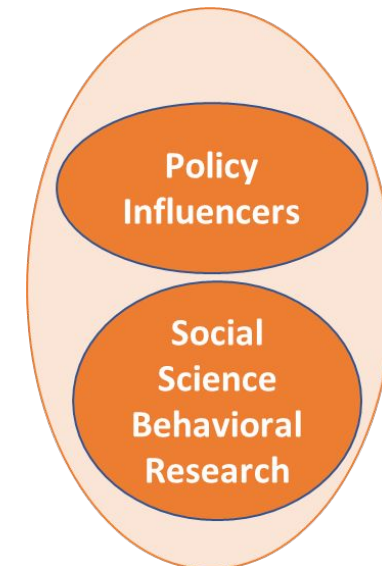**Day 1: Listen & Learn**

Envisioning the Future
(great water quality, resilient & profitable farms)

Day 2: Listen & Learn

Solutions: How Do We Get There?

Day 3: Okay. Now What?

Translate Real-World Experience Into Concrete Policy Recommendations

Trusted Ag Advisors
Public & Private Service Providers
(a unique & pivotal perspective)

Policy Influencers

Social Science Behavioral Research

Workshop Structure

30-min Introduction
Why Are We Here?/ Recap of Previous Day's Outcomes

60-min Working Session
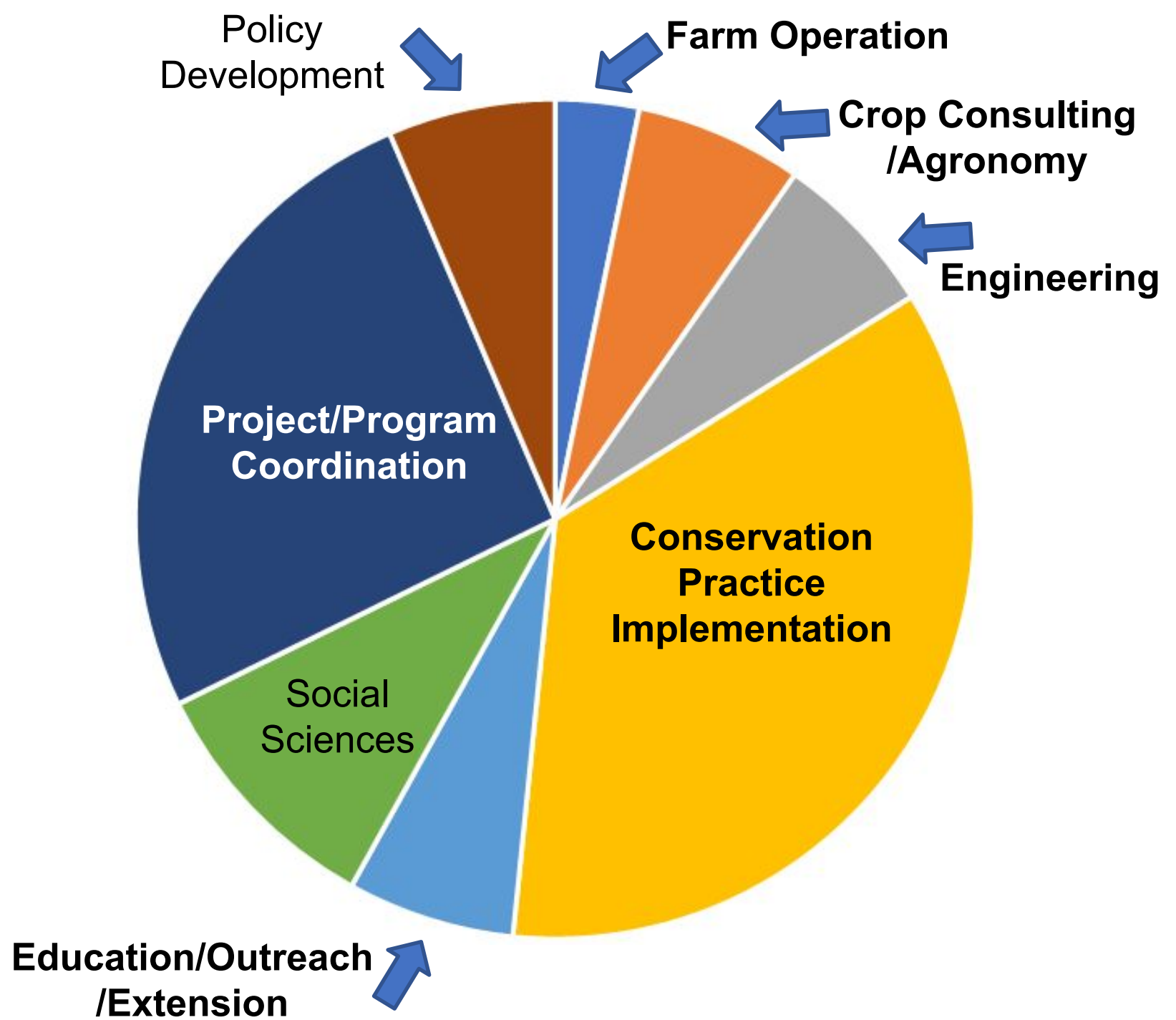*Small Group □ 7-10 people*

15-min BREAK

45-min Report-Back & Full-Group Discussion
Raised hand, chat box, jam board, parking lot ,e-mail …
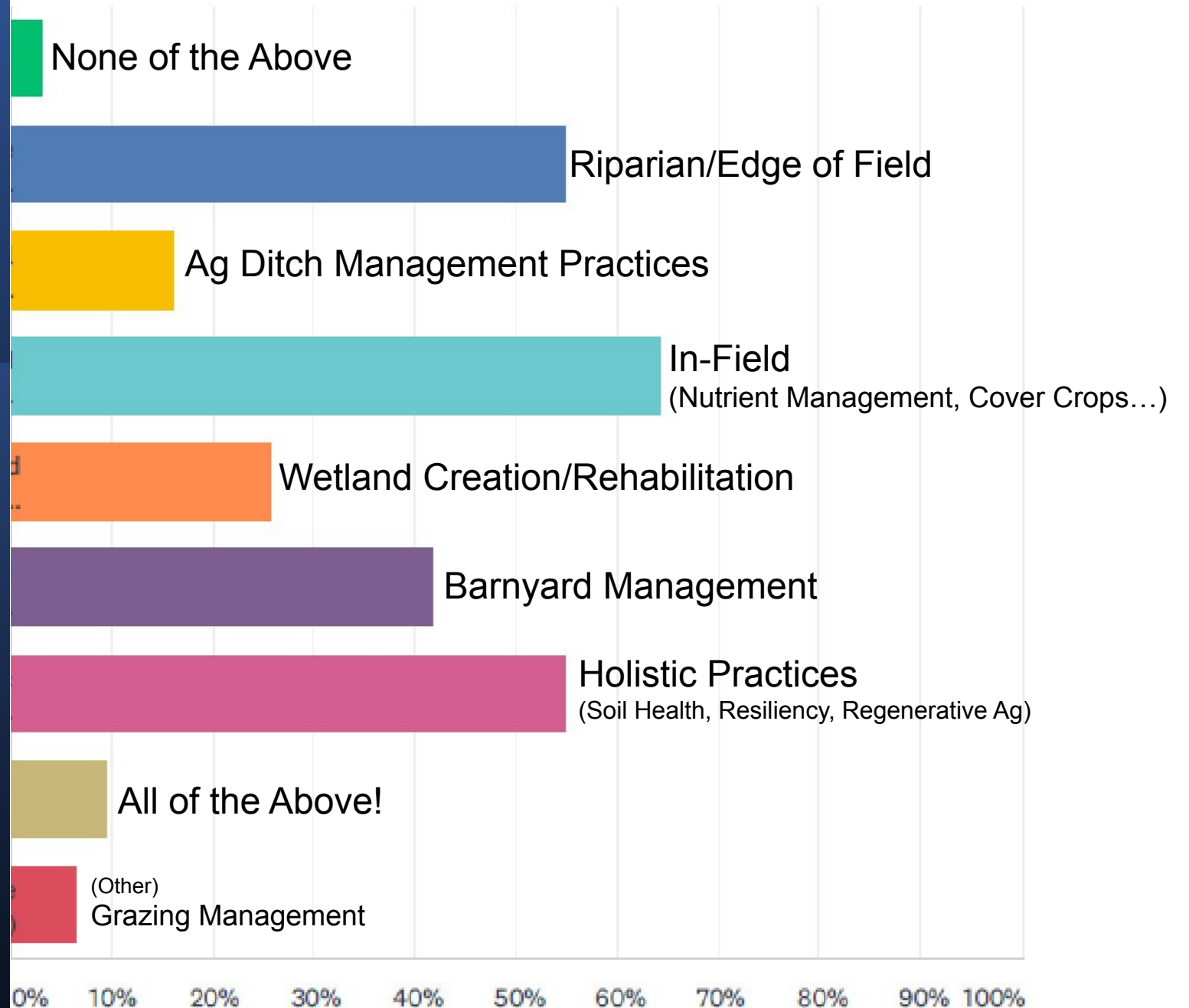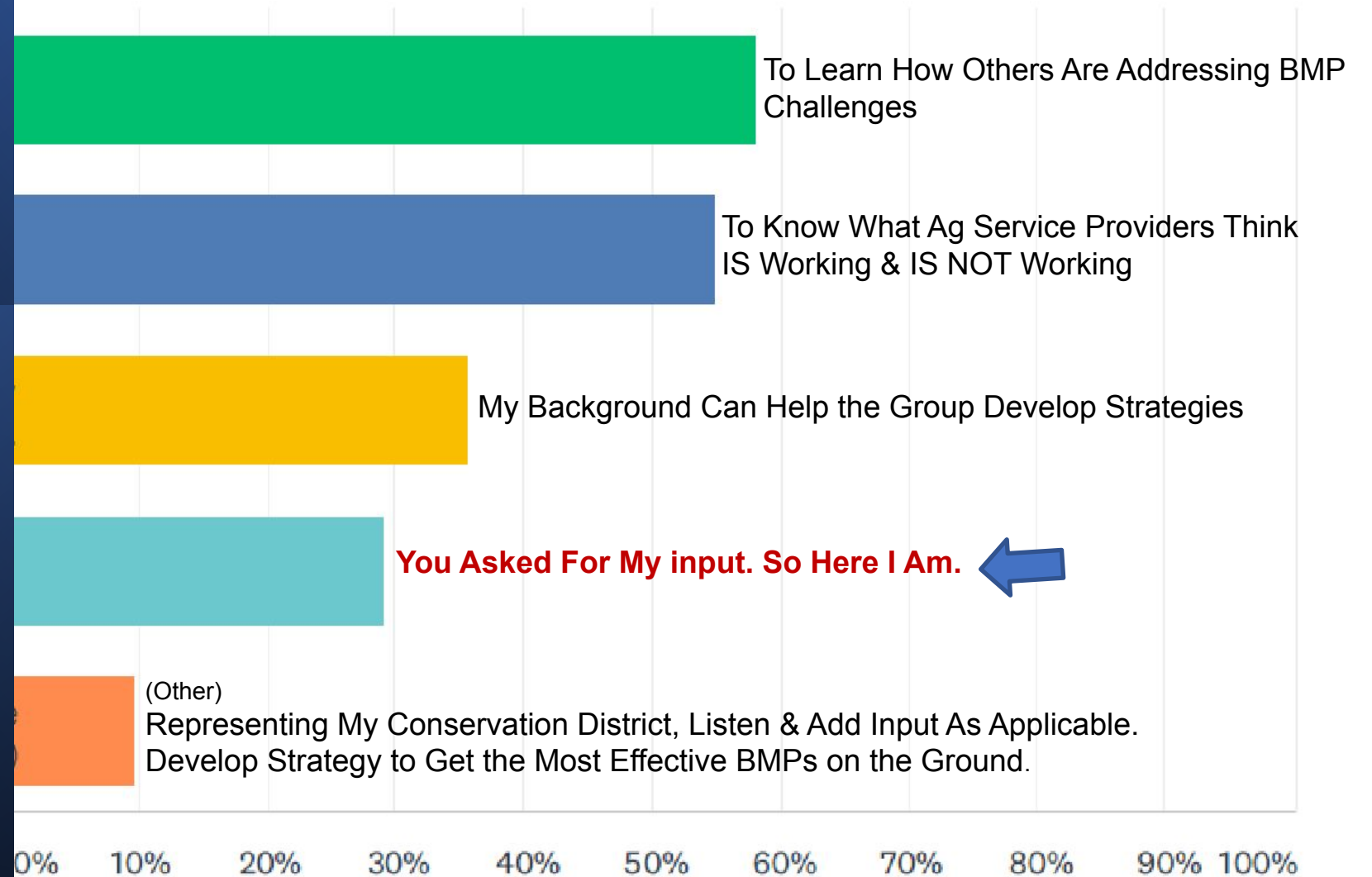
Who Participated?
(pre-workshop survey)

Policy Development

Farm Operation

Crop Consulting /Agronomy

Engineering

Project/Program Coordination

Conservation Practice Implementation

Social Sciences

Education/Outreach /Extension

Participants' BMPs of Focus
(pre-workshop survey)

None of the Above

Riparian/Edge of Field

Ag Ditch Management Practices

In-Field
(Nutrient Management, Cover Crops…)

Wetland Creation/Rehabilitation

Barnyard Management

Holistic Practices
(Soil Health, Resiliency, Regenerative Ag)

All of the Above!

(Other)
Grazing Management

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Why Did They Show Up?
(pre-workshop survey)

To Learn How Others Are Addressing BMP Challenges

To Know What Ag Service Providers Think IS Working & IS NOT Working

My Background Can Help the Group Develop Strategies

You Asked For My input. So Here I Am.

(Other)
Representing My Conservation District, Listen & Add Input As Applicable.
Develop Strategy to Get the Most Effective BMPs on the Ground.

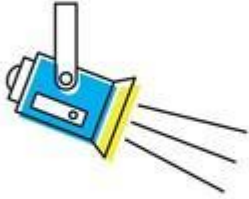0%   10%   20%   30%   40%   50%   60%   70%   80%   90% 100%

Day 1 (emphasis on ag service providers)
Envisioning the Future
## (great water quality, resilient & profitable farms)

Paradigm Shift in 2031

❖ Water quality [lens] is local

❖ Culture of good stewardship is dominant in agriculture

 Management strategies change b/c conventional farming not deemed sustainable

 Same mindset for production & conservation practices

 "Long-term conservation stewardship" is common component of farm management planning

 Generational succession on-farm = more willingness to adopt alternative management strategies

❖ Manure universally viewed as resource, not waste

❖ Ag retailers & consultants fully engaged in supporting precision: Shift culture from productive ☐ profitable

 Improvements in conservation management & profitability co-exist in ag operations

Envisioning the Future
(great water quality, resilient & profitable farms)
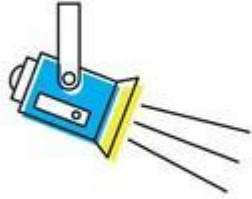
**The "Typical Farm" in 2031- 10 Years From Now**

❖ Environmentally & financially sustainable & prosperous

   Diversification in crop rotations for more sustainable meat production

   Resilient to market & weather factors

❖ Every on-farm stream has 35-ft tree buffers

   Impaired streams have been reduced by half...

❖ Implemented conservation & manure plans

❖ More focus towards organic and tillage BMPs

❖ Non-productive/marginal ag land no longer cultivated

❖ We have made space for smaller regional dairies

Envisioning the Future
(great water quality, resilient & profitable farms)
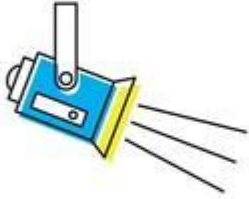
Innovation: Scientific, Technical & Financial Capacity (FLEXIBILITY is key)

- ❖ Better understanding of direct impacts of conservation management on WQ trends
- ❖ Uniform & trusted BMP reporting system instills confidence in progress assessments
- ❖ Innovation in ag conservation is swiftly identified, defined & implemented

- ❖ Local on-farm field trials are common-place
- ❖ Targeting BMPs to be most effective is the norm
- ❖ Technical service provider networks are robust & dependable
- ❖ Pay-for Performance programs are operational in the CBW

- ❖ Innovative funding mechanisms have opened up BMP implementation opportunities
- ❖ Cost-share funding structures are flexible and reliable to accommodate a spectrum of needs
- ❖ All farmers have access to structural technology

Day 1 (emphasis on ag service providers)
Envisioning the Future
(great water quality, resilient & profitable farms)
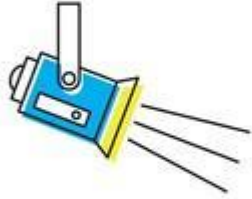
**Communication & Knowledge**

❖ Venues for farmer-to-farmer knowledge sharing are common

❖ We meet farmers *where they are*

❖ Awareness that circumstances are different in different places

❖ Flexibility in BMP implementation standards based on localized needs

❖ Outreach & education with farmers has expanded and is more effective

Day 1 (emphasis on ag service providers)
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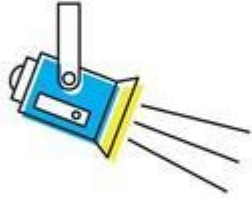
Community Support/Cohesion

❖ Communities united in common goal

❖ Cultural awareness opens opportunities to underserved communities

❖ Farmers paid equitably for product

❖ Conservation funding available & easy to get

❖ Reliable & consistent cohort of TA providers available

❖ Consumer demand drives conservation through markets & policy

❖ Informed consumers support conservation with their wallets

❖ We lift the burden of highly effective (but costly) BMPs off farmer

Who are You?
(Check All that Apply)
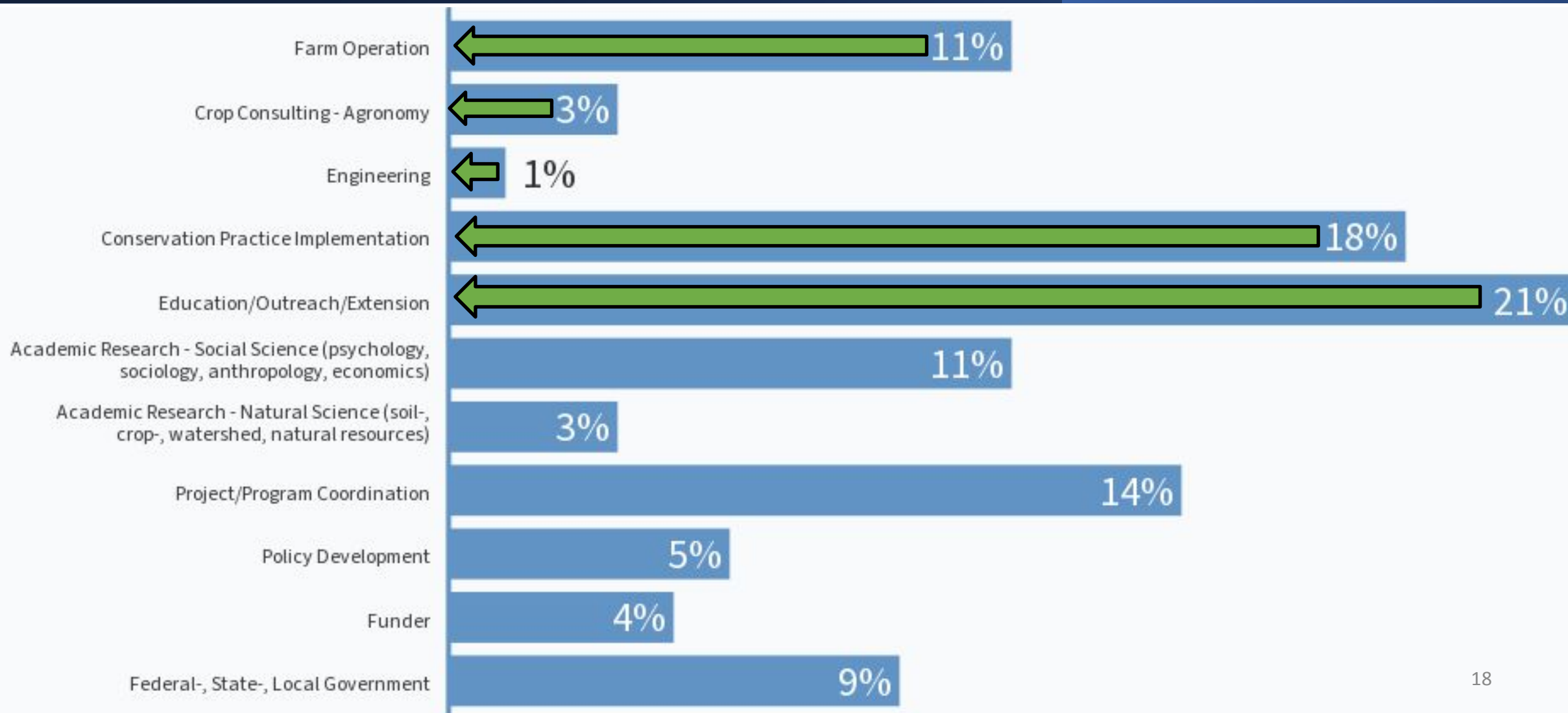
Most Important *Financial Incentives* for Reluctant Adopters
(Choose 2)

- Streamlined BMP cost-share (greater subsidies, upfront payments) — 45%
- Continuity/Reliability in funding — 21%
- Community-supported financial rewards (e.g., reduced insurance rates, "green" certification for price premiums) — 14%
- Encouraging (friendly) competition among farmers for BMP payments — 4%
- Bonuses if farmers sign-up with neighboring farms — 5%
- Other (including Pay-for-Performance) — 11%

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Most Important *Programs/Policy* for Reluctant Adopters
(Choose 2)

Continuity/Reliability in funding and programs — 15%

Streamlined programs (reducing bottlenecks, less paperwork) — 44%

Improved access to technical assistance — 30%

Enforcing existing laws/regulations — 7%

Other — 4%
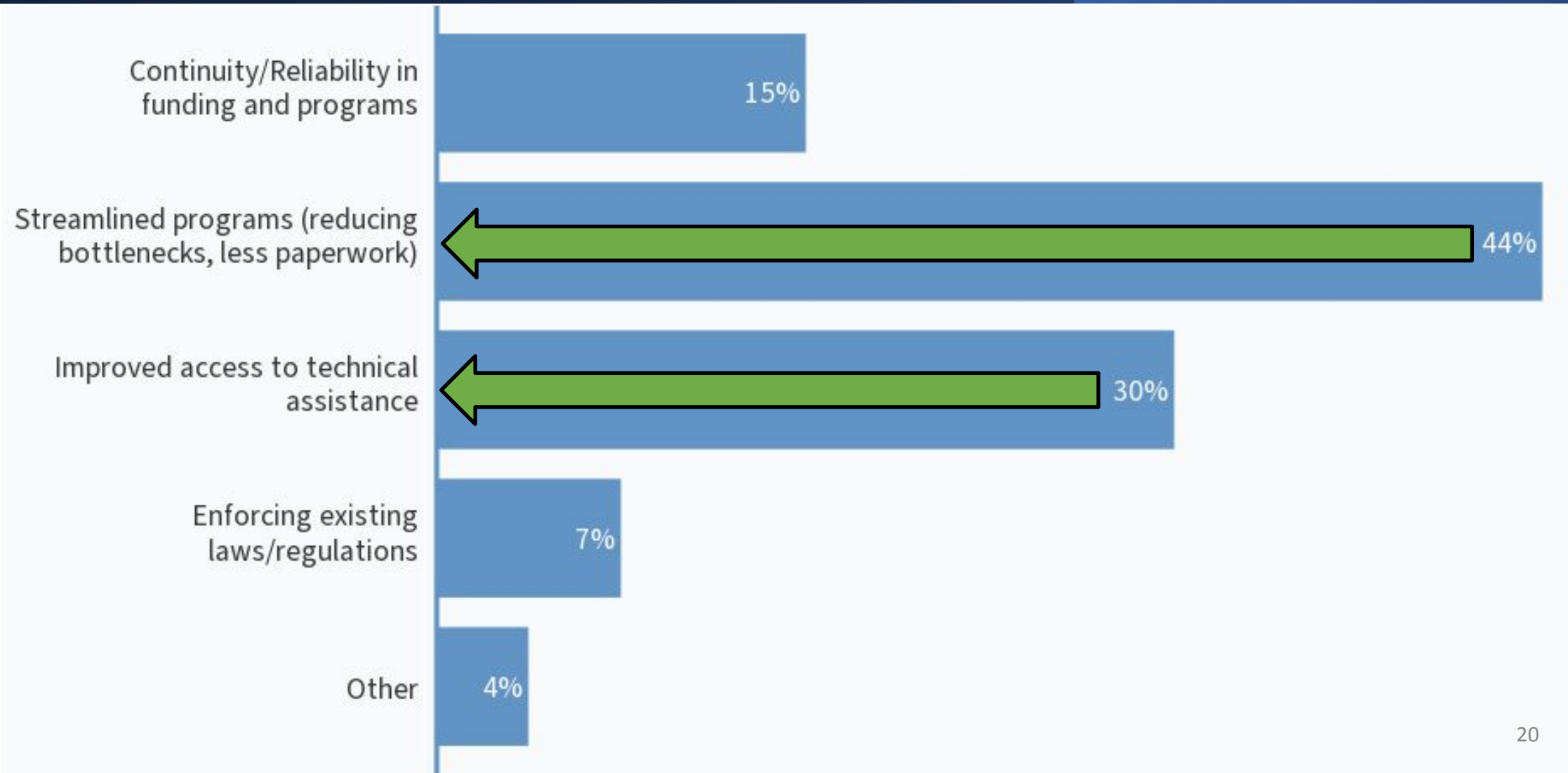
Most Important *Education/Outreach* for Reluctant Adopters
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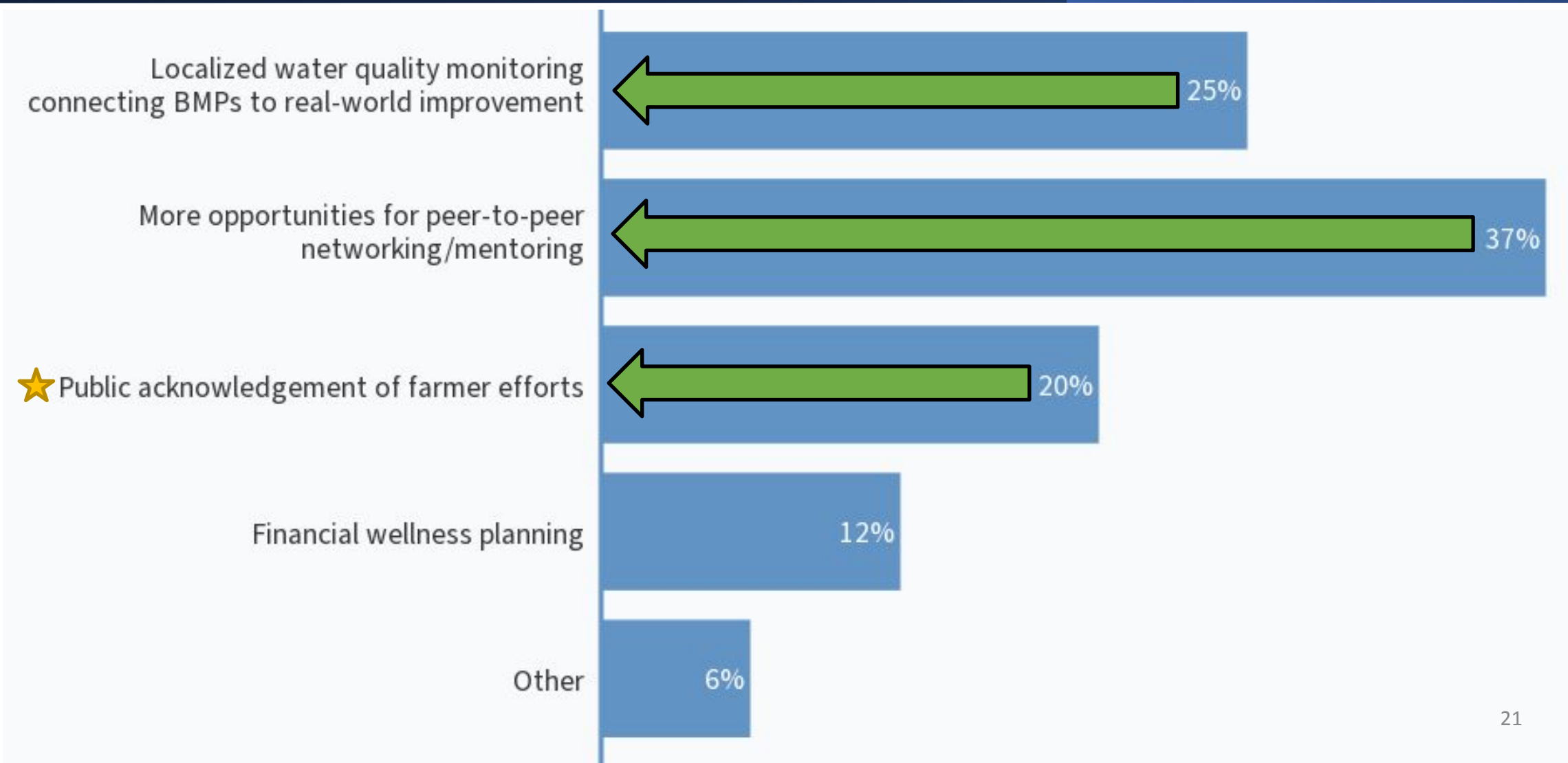
Key themes: fun vs. stressful conservation work?

Fun?
- Working outside
- Engaging People & Partners
- Building Trust & Making Connections
- Making a Better World
- Hearing Examples That Work

"Helping farmers is rewarding"

Stressful?
- Deadlines
- Paperwork
- Over-documentation
- Time from Idea to Implementation
  - Tight Turnarounds & Delays
- Restrictions
- Programmatic *Manure*
- Conflict
- Competing Priorities

Day 2 (emphasis on ag service providers)
Solutions: How Do We Get There?

Engaging farmers who have not previously prioritized BMPs (i.e., **reluctant adopters**).

Improving adoption of BMPs with high public (WQ) benefits, but low private (on-farm) benefits.

Implementing BMPs *in* landscapes and *by* farmers that can generate cost-effective reductions with limited budgets (i.e., "Bang-for-the-Buck").

Solutions: How Do We Get There?

Scenario 1: Expanded use of spatial prioritization (Technical Targeting Tools)

Scenario 2: More flexible financial incentives

Scenario 3: Using insights from behavioral science to plan outreach efforts & design conservation programs

Scenario 4: Rewarding conservation professionals for reducing nutrient & sediment loss from ag land

Scenario 5: A mix of actions

Developing Solutions through Exploring Scenarios

Scenario 1: Spatial Prioritization/ Technical Targeting

- Potential to use biophysical & social data to prioritize key areas, producers

- Lots of questions/ideas about tools, ground-truthing

Increasing Effectiveness and Reducing the Cost of Nonpoint Source Best Management Practice (BMP) Implementation: Is Targeting the Answer?

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2. Develop and test alternative incentive systems for targeting programs:
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STAC Workshop Report
November 12-13, 2019
Fairfax, Virginia

stac

STAC Publication 20-002

Technical Targeting Tools
Preliminary Recommendations

❖ **Collaborate w/ Service Providers on Tool Development -> Two-Way Conversation**

   Tool options varied & too complex

❖ **Use Tools as Gateway to Conversation on Field-Level Management**

   Mixed trust in tools

❖ **Engage Reluctant Adopters by Listening**

   What problems need solving?

   What will save you time and money?

"Meet farmers where they are and provide feasible options"

❖ **Increase Agribusiness Role in Incentivizing/Messaging**

   Ag retailer promote field-level mapping and field-level management

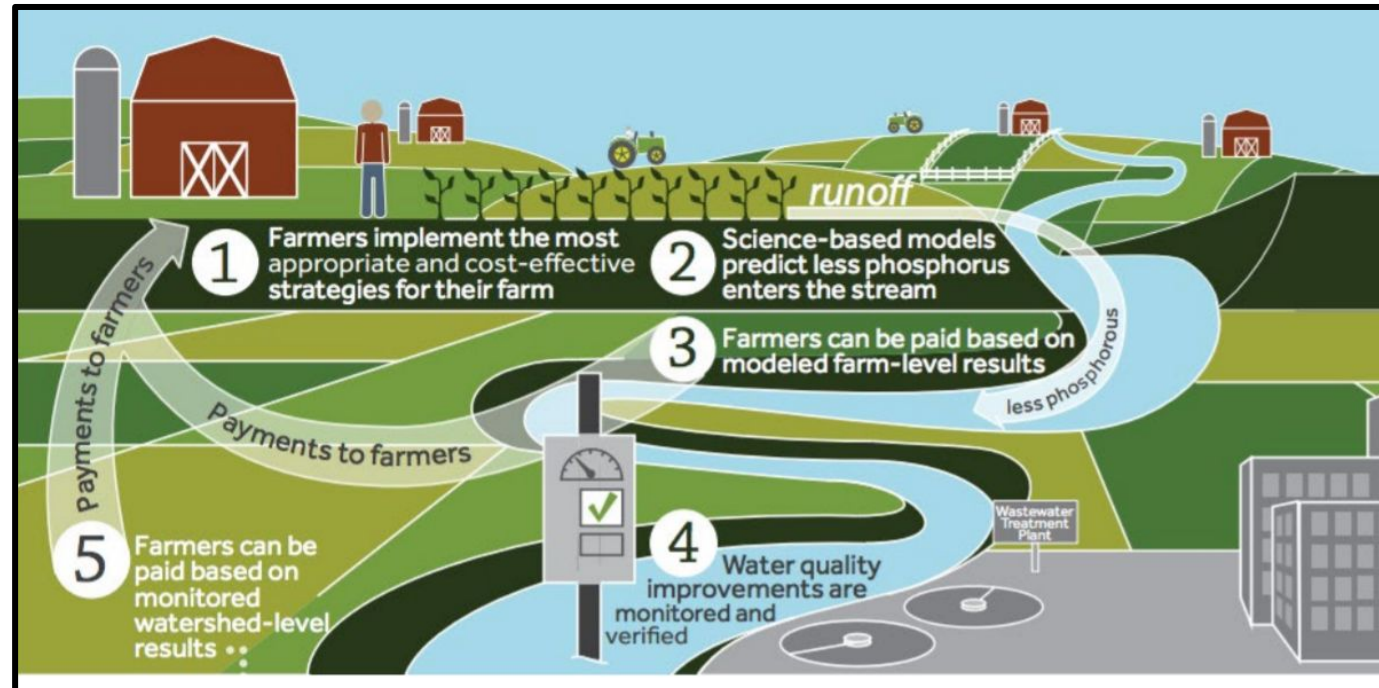   *Talk in terms of yield & profit*

Developing Solutions through Exploring Scenarios

<u>Scenario 2: More Flexible Financial Tools</u>

- Interest in Pay for Performance high, but lots of questions on how to implement & who would benefit

- Potential for other financial tools as well?

One schematic for Pay for Performance:
https://winrock.org/wp-content/uploads/2016/02/PfP-How-To-Guide-Final.pdf

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Flexible Financial Incentives
Preliminary Recommendations

❖ **Implement Pay-4-Performance Incentive Structures**
  Reluctant adopters in high loss areas w/ high public benefit (low farm benefit)
  Supplement cost-share after initial investment
  Differential load reductions crediting for BMPs

❖ **Improve Existing Cost-Share Programs**
  Recent losses in reliable federal funding sources
  Minimize burdensome paperwork
  Flexibility

❖ **Flexible Program Enrollment**
  Focus on critical source areas* rather than whole farm

❖ **Localized Control of Funding**
  Conservation district flexibility on expenditures
  $ for districts unencumbered by program rules

❖ **Drive Programs to Right Landscapes, Right Farmers**

> "Some projects have 3,4,5 sources of funding to get a project done. Each has own requirements and paperwork. Discouraging to get farms on board."

Developing Solutions through Exploring Scenarios

Scenario 3: Using Insights from Behavioral Science

- Need to think about framing: farmer centered, producers as part of the solution

- Work with communities (networks, peer-to-peer, celebration of success)

PROTECTING LOCAL WATERWAYS ...   0 COMMENTS

Central Pa. dairy farm helps protect Chesapeake Bay

Mifflintown's Sunset Farms receives award for environmental leadership

PUBLISHED ON **JUNE 16, 2021**

https://www.morningagclips.com/central-pa-dairy-farm-helps-protect-chesapeake-bay/

lancasterfarming.com/news/main_edition/one-farmer-s-journey-to-planting-a-better-buffer/article_40d2dbed-a0fc-5b81-b4e8-...

MENU   Farm   Home & Family   Videos   Podcasts   Mailbox Markets   Classifieds   Auctions

One Farmer's Journey to Planting a Better Buffer

Dick Wanner, Southeast Pennsylvania Correspondent   Jun 8, 2021 Updated Jul 1, 2021

https://www.lancasterfarming.com/news/main_edition/one-farmer-s-journey-to-planting-a-better-buffer/article_40d2dbed-a0fc-5b81-b4e8-44b8140f0653.html

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Preliminary Recommendations

❖ **Implement Staff Retention Strategies (e.g., higher pay)**

❖ **Training in Soft-Skills/ How to Frame Outreach**
- Self-presentation/ on-farm etiquette
- Approaches for different personality types
- Establishing trust
- Use Shared/Accessible language (forget alphabet soup)

❖ **Provide Tools for Conservation Professionals**
- Catalogue success stories
- Mentorship program

❖ **Research on *Farmer-to-Farmer* Influence**
- Equip farmers to encourage BMP adoption
  - Access to funds to direct where needed
  - Bonuses for encourage BMP adoption

❖ **Improve Program Coordination**
- Reduce contact-fatigue by coordinating with like-minded partners
- Recognition of farm needs (not program goals)
- Consider spatial targeting in priority watersheds

"People may tell you what you want to hear. Will agree with you to be polite. Resistant folks may argue but do what they need to do in the end. There are a lot of personalities out there… Folks have to learn to meet people where they are. Farmers need to be afforded a little patience and latitude. They are humans like the rest of us."

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Developing Solutions through Exploring Scenarios

Scenario 4: Rewarding Conservation Professionals

- Rewarding conservation professionals who work for conservation districts may not work; consider farmer peer-to-peer networks?

- Opportunities for other types of rewards/incentives?

https://conservationfinancenetwork.org/2020/04/15/farmers-on-the-frontlines-of-the-regenerative-agriculture-transition

Pennsylvania No Till Alliance
- Farmers Improving Soil Health -

VIRGINIA NO-TILL ALLIANCE
VANTAGE

https://www.suffolknewsherald.com/2016/09/08/farmers-take-boating-trip-along-chesapeake-bay/

Rewarding Effective Conservation Leaders
Preliminary Recommendations

❖ **Establish Set Pay Scale for District Staff**

    Consistent TA fundamental to relationship building

    Certainty will help work & retention

❖ **Uncouple District Funding from BMP contracts**

    Quantity vs. quality; right people/places/practices

❖ **Allow Districts to Establish Conservation Goals**

    Request funding based on needs

❖ **Increase University Extension Support**

    Monitoring, evaluation & promotion of BMPs

"The lack of consistent funding for outreach and technical assistance affects staff members' ability to make relationships with farmers and limits their ability to use BMPs that will solve farmers' problems."

Developing Solutions through Exploring Scenarios

Scenario 5: A Mix of the Above

- No single idea enough- need a mix of practices to meet people where they are

- Think about programmatic design, streamlining, funding, human behavior

https://bloximages.newyork1.vip.townnews.com/lancasterfarming.com/content/tncms/assets/v3/editorial/b/c4/bc4a0770-a396-11eb-8db5-bfe971433a44/6081bd486a2bd.image.jpg

Mixed Bag

Preliminary Recommendations

❖ **Tailor Education & Outreach**

   Audiences are specific

❖ **Utilize Compliance as a Tool**

   Simple & easy to enforce

   Gateway to engage farmers, *if not ideal*

   Be **flexible**

   > What? ☐ keep cows out of stream

   > How? ☐ tailored to farm needs & feasibility

❖ **Increase Speed & Accessibility of Funding**

❖ **Provide Marketing/Branding Opportunities**

   Success stories on buffer implementation

   Moving beyond compliance to something more

> "Not a lot of farmers trust the model, so we are trying to do more monitoring where we are-not just water quality…If you can't show proof, no one believes it is true. We need to encourage them to share information to get credit. We all think we are doing well, but it is not showing up the way we think it should."

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What's Next?

Translate Real-World Experience Into Concrete Policy Recommendations

Final Report with Recommendations Expected Early 2022

And End on a Closing Thought…

"…The incredible complexity of delivering resources to farms creates an unusual amount of waste of public resources and it is frustrating to farmers,

so I think focusing on how to **deliver those resources quicker and with less complexity is crucial**.

There needs to be a sense of urgency about that. There is a lot of talk, but how do we fix it? A sense of urgency would go a long way in getting people to engage and be willing to do things.

I hear all time, 'We had a farmer hooked and by the time the funding came in they had quit.' Not surprising. Their energy went somewhere else.

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Questions/Discussion
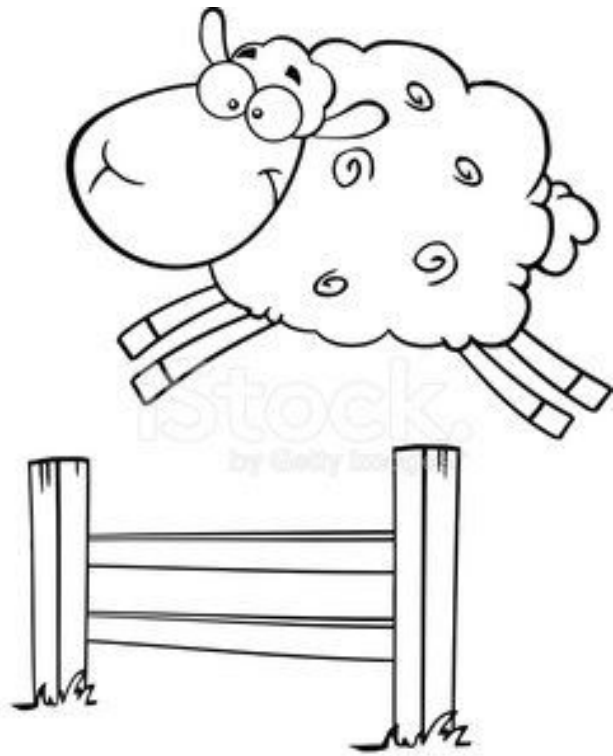
Thank You
lcollins@chesapeakebay.net