Learning Outcomes of OFPE
12/14/2022

Purpose of OFPE: Data to make economical and environmental decision. Gain knowledge to make better decision for economic, environment, agronomic decision-making.
Automated experiment from design-data-analysis-recommendation. Safter and reliable food production. Integrate local knowledge, co-learning, co-understanding, co-innovation.

What must be do and what's must not do to extend the project for this purpose?

Do	Don't
Group 1 • Identify ROI: economics what they are doing, outcomes and goals • Establish trust - essential • Data management rules • Platform, people specific, location specific, culture specific, what is the right thing to do, what is their priority, product yield, quality, economics, social? Focus on people and gratitude. • Teach kids, FFA, 4-H modern ideas and techniques of farming. Partner with kids education specialist. – won't fail the project but in the long-term may, by-product of our project. • Tool development to the appropriate level for kids, more accepting, hands on, creative, fun programs • Focus on nutrition other than only on mass, and help farmers marketing based on quality. • When use our gained knowledge to make recommendations, (compared tradition and experience), include how certain/uncertain we are. • Have a minimum dataset: Use free data/minimize costs of the technology for accessibility • A highly usable system for various levels of users and stakeholder • Accountable for our work • Be inclusive for cropping systems • Trending of climate, outcome consider resistant and stability for generations to come. Group 2	Group 1 • Commit to something we can't do, over commit – break the trust and lose the acres. • Don't lose, set, trade, sell, manipulate data • If there is a conflict of interest among stakeholders. The goal is to make lives better. Do not harm as a rule. • Not just economics and yield. Group 2 • Don't replicate Group 3 • Don't generalize knowledge too much

• Parsimony: keep things simple for the user, focus on purpose, listening • Feedback: to and from farmers: what we see what we learned what we don't understand. Group 3 • Simplify but don't over simplify: simplied answer • Collaborative, inclusive, listen to farmers • Has to be return to investment, improve lives • Who the end-users are? Be clear and develop for different levels of users.	

What is the worst thing that we could do, terrible outcome

Group 1

- Over committing, over promise,
- make farmers fill out paperwork from universities that's not recognizable by farmers, survey farmers all the time
- dealing with multi-level bureaucracy,
- make a logic model
- institution needs to provide proper support-leadership of the institutions-provide us support for efficiency

Group 2

- creating silos: you know everything
- privatization
- lots of wheels, one of them going the wrong direction, lack of experiences running these wheels, looking for suggestions and comments

group 3

- not communicating with our funders, need to keep them informed.
- selling data
- don't show end users until we are done
- don't think about the longevity of our project

Data sharing: do we make data publicly available? What if people are not interested in raw data? – private data and need policy and appliance to make it publicly available.

15% solutions

- Collaborate with NRCS 590.
- Reports: automated trial reports but not geared to farmers yet, need to get farmers feedback on reporting-need extension people's involvement
- Need to get database running, improvement, etc.

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What we are doing, why are we here? **What** your favorite take aways?

- Complexity of data and enthusiasm of people wanting things like this to advance farming
- This has a lot of power and a lot of potential, but worried about over promising, e.g. *** wants to use this method in Guan.
- Expanding knowledge and skills and participation
- Can't promising it work but I can promising worth trying.
- The idea has a lot of usage
- Network with people
- Create a place where we can have a discussion where we create idea, gather knowledge, to improve ag. Ability to sit together, having consultants and farmers here, tremendous power in the conversation. It will be nice to go to a farmers meetings and only have farmers talking and we learn.
- Started from 3 farmers, they have been with us everything year, they value this, its viable piece.

So what? (Implications, end products, why important?...)

- NRCS perspective is resource conservation, great way to protect environment for water and climate
- Continuation of it, extend to other regions and cropping systems, experimental approaches (for example for weed management), statistical analysis approaches
- Bring this out of shadows, what we are doing and what these tools can do and can be used by NRCS
- Topics we discussed and linking them to what: biggest roadblock to growers, adopt our trial design, work with local coop renting equipment etc.; communication-combine farmer knowledge make trials more efficient and data privacy.
- What if we can't get funding, need expose our work to funding agency to secure long-term financial efficiencies, make sure meet our long-term goals
- Keith Curran would like to donate a $65000 worth physical server
- Step-by-step but surely move forward
- Farmers can be empowered to use their own data to answer their own questions; method can be used to answer or attempt to answer pretty much any kind of question
- Think more about what I can do to influence the region, use the technology to do more. The technology is transferable and available to broader regions

Now what? (next actionable step, what the biggest boldest long-term vision dream?)

- Keep making contact with consultants, train the trainers, make it more efficient; vision-create something can be used by public in long-term basis by farmers, for environmental, economics, food security
- What's next step, recruiting state agronomists, Adam-NRCS will talk to them; dream-information can be incorporated in 590 standard, for nutrient management techniques
- Who are we training, get it to the right people, NRCS, CCA, Extension, - be realistic, not many extension in each state left, making it available to farmers, make it free, create it good and make sense for consultants to use it.
- Train crop consultants: when farmers sign up, the farmers can refer their preferred consultants
- Consultants have been working with farmers and have the trust from farmers. So get info to the consultants, they will get it to their farmers and spread the words.

- What now for me as a consultant, I have been flying on wall, have been doing this for years, have 3 more growers, 1000 acres I think now can benefit from it, and I will talk to them. Dream-huge silos, disconnection between farmers and researchers, companies claim things unrealistic and old, need to break the wall, free information change between farmers and researchers, farmers be comfortable to share their data; nightmare-this thing disappears such as NRCS takes money away or the leadership retire, no one uses data is generated; this is a beautiful program.
- Farmer: use it more on my farm, dream-use it, where to start
- Extension: use it as an extension tool
- Consultant: expand it, more growers in the program, make it more robust, improve farming
- It's an empowering tool
- Apply the concept in tropical system, implement ideas, Guan-just got a $5M climate smart grant, identify and recruit farmers, measure GHG emissions in livestock and high OM soils, use technology – can use this idea for this new project. environmental degradation, increase food security and production. Growing nutritious food.
- Use free resources such as satellite imagery.
- Precision ag management? If we don't have many producers, how do we expand growers? – use this as a tool – TX irrigated area
- All about getting the right people.