NISS-NASS Affiliation Successes

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March 2014

External Reviews

- GPRA mandated external program reviews
- Problems identified in reviews
- Initial steps taken to address some recommendations from reviews
- Technically difficult recommendations not addressed
- Efforts began to hire entry level individuals with doctoral expertise

Research Needs at NASS

- Technically difficult emerging problems
- Lack of staff with expertise to provide research
- Mid-level research managers did not have background required to tackle problems and to guide research
- Neither institutional motivation to seek solutions to problems nor knowledge as how to approach addressing problems

Partnership with NISS

- NASS had inventory of current research projects
  - Mostly applied
  - Few technically difficult projects
- Conducted informal review of projects
- Team review suggested to tackle the difficult problems requiring research

NISS-NASS Plan (1)

- NASS managers identified 4 difficult problems
- Conceived of 2 year project with academics, post-docs and doctoral students, NASS employees
- NISS conducted search to find academics with doctoral students interested in any of the problems
- Teams organized and began in June 2009

NISS-NASS Plan (2)

- Teams met at NISS HQ for summer 2009 & summer 2010

- Post-docs worked at NASS D.C. office during academic term w/NASS staff

- Academics worked w/doctoral students & mentored the project from a distance during academic term

- Project completed in June 2011

Multivariate Imputation: ARMS

Develop a comprehensive, multivariate imputation scheme for a large, diverse data set of semi-continuous data that:

- produces results reflecting the distribution scheme for a large, diverse data set of semi-continuous data
- produces results reflecting the distribution of agricultural data
- Supports both economic modelling & direct estimates
- Provides for an estimable impact of imputation on mean squared error

Multivariate Imputation Team

- Sujit Ghosh and Barry Goodwin, both of NCSU
- Darcy Miller, Tim Keller, Peter Quan, NASS
- Kirk White, ERS
- Michael Robbins, NISS post-doc
- Joshua Habiger, USC
- JSM Papers: 2010 (3), 2011 (1)
- Peer Reviewed Journals: JASA, AJAE
- NASS Internal Reports (2)

Estimating Small Farms

Develop the most effective statistical procedures and estimation methodologies to measure the number of farms missing from both the NASS area frame and the NASS list frame and to incorporate these measurements into list sample weights.

Small Farm Team

- Linda Young, UFL; Pam Arroway, NCSU
- Denise Abreu, Andrea Lamas, NASS
- Kenneth Lopiano, UFL doctoral candidate
- Hailin Sang, NISS post-doc
- JSM Papers: 2010 (5), 2011 (2)
- NASS Research Reports (3)

Crop Production Models

Develop statistical models for forecasting components of crop production (area planted, area harvested, yield, production)

- to incorporate multiple data sources (surveys, administrative data, weather, remote sensing, historical relations)

- Provide measures of error

- Validate models

Crop Production Team

- Balgobin Nandram, Worcester, Scott Holan, UMO
- Wendy Barboza, Edwin Anderson, Emily Berg, NASS
- Jay Wang, NISS post-doc
- Criselda Toto, Worcester doctoral candidate
- Peer Reviewed Journals: JABES, another submitted
- NASS Research Reports (2)
- NASS Internal Documentation (1)

Benefits to NASS

- Expected
  - Solve real problems and implement solutions into NASS operational program
  - Interest academics in NASS problems and provide incentive for later collaboration
  - Use academics to mentor NASS staff
  - Hire post-docs and/or graduate students

Actual Benefits to NASS

- Academics mentored NASS staff
- Continued research with academics after program end
- Hired senior academic but no post-docs or grads
- Raised the expertise of all NASS research staff – monthly seminars
- Three team members now pursuing doctoral degrees
- Implementing research results into operational program

Benefits to Researchers

- Researched real world problems and provided solutions to NASS

- Worked in team environment similar to what would happen in industry or government

- Academics gained real world examples to use in courses and in developing graduate students