



National Institute of Food and Agriculture  
[www.nifa.usda.gov](http://www.nifa.usda.gov)

# Why, How, Who, and What NIFA and Outcomes

Bob MacDonald

Director

Office of Planning and Accountability

September 29, 2010



# Topics

- Federal Budget Situation – **Why** your reports are important
- **How** NIFA uses your reported outcomes and to **whom** we send them
- Examples of **what** NIFA sends forward
- Advertisement – Building Consensus on National Outcomes and Indicators Workshop



National Institute of Food and Agriculture  
[www.nifa.usda.gov](http://www.nifa.usda.gov)

# Federal Budget Situation

## Why your reports are important





Chart 4: Government Revenue and Cost 1970-2080

Percent of GDP

60

# 2007 GAO Report – Pre-Recession

50

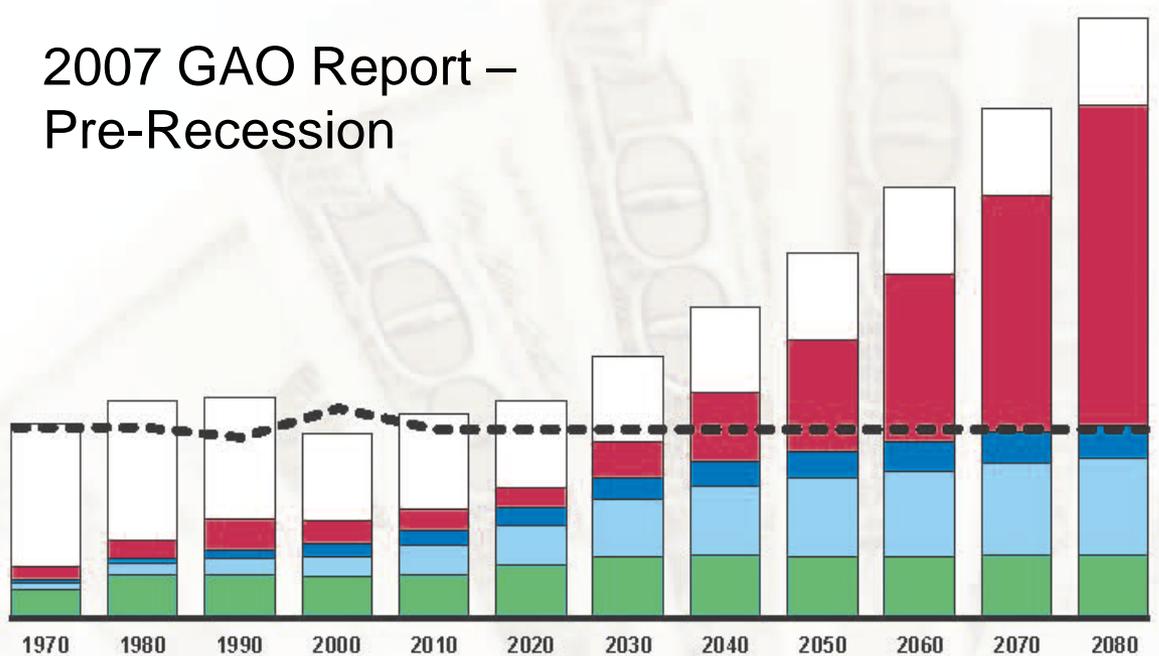
40

30

20

10

0



--- Revenue

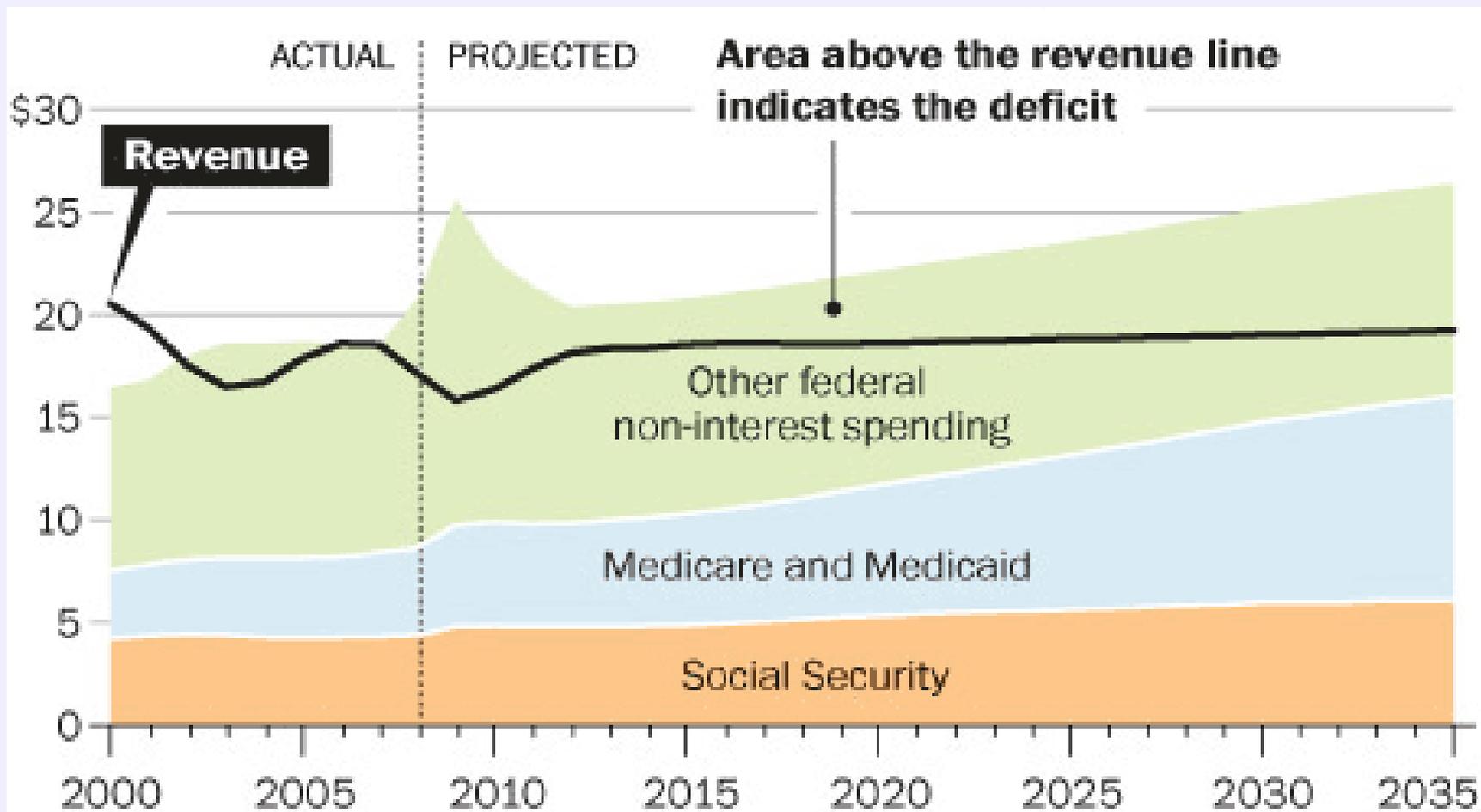
Other government programs

Net interest

Medicaid

Medicare

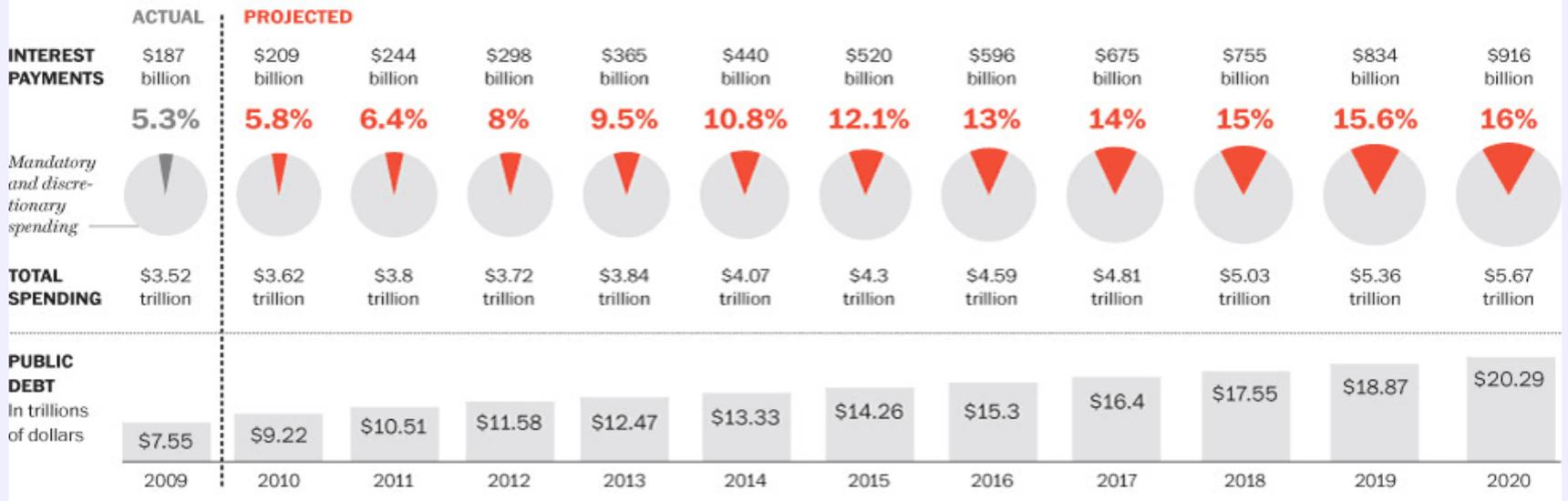
Social Security



NOTE: Does not include interest on the debt.



### Interest payments as a percentage of annual federal spending



Source: Congressional Budget Office as published in The Washington Post 4/27/2010



National Institute of Food and Agriculture  
[www.nifa.usda.gov](http://www.nifa.usda.gov)

# How NIFA uses your reported outcomes and to whom we send them





# How NIFA uses reported outcomes

- Budget
  - Secretary (Agency Estimates – June)
  - White House (Department Estimates – September)
  - Congress (President's Budget – February)



# How NIFA uses reported outcomes

- Budget
  - Past performance by goal and objective
  - Proposed increases
    - Past performance (if existing budget line)
    - Future expected results if receive proposed increase



# How NIFA uses reported outcomes

- USDA Performance Annual Report
  - Examples of Research, Education, and Extension have high visibility
- Portfolio planning and assessment
  - NIFA and OMB



# Examples

(Quality and quantity of outcomes in Annual Reports  
has really improved)





# What is needed to convince a decision-maker?

- Concise and comprehensible
- Context and interpretation
- Public, National value



**Farmers Grow Higher Revenue Generating Crops –** With NIFA funding scientists in North Dakota developed three barley cultivars which are recommended for malting and brewing by the American Malting Barley Association. The two-rowed malting barley cultivar Conlon was grown on 18% of the North Dakota barley acreage or 265,000 acres. Since Conlon is a malting barley, it commanded on average a \$1.25 premium over feed barley. In 2009, this resulted in Conlon generating an additional \$23 million in revenue for North Dakota growers that grew this cultivar.



**More Efficient Bio-refineries** - Improved conversion of lignocellulosic biomass into biofuels is a high priority national research goal that will enhance national security, balance of trade, rural employment opportunities, and the nation's environmental performance, including net reductions in CO<sub>2</sub> emissions. NIFA funded scientists in Georgia developed a new chemical reaction that converts waste biomass lignin into high-value chemical components that will make bio-refineries more efficient and effective. This new reaction will yield high-value, renewable, chemical components derived from lignin. The new products can be used in a variety of products that are currently dependent on petroleum-based resources, as well as improve modern ethanol conversion programs.



**Improving Efficiency in Pork Production** – Pork producers who formulate diets on a digestibility basis, maximize their use of synthetic amino acids, and make use of alternative ingredients can reduce total feed costs by more than \$20 per ton in some cases at an average savings per ration of \$12 per ton. This information was provided by NIFA funded University of Missouri to more than 165 Missouri pork producers who raise more than 80 percent of the pork in Missouri. The feed savings generated by reformulating diets resulted in an average of \$5.50 per pig marketed. Therefore, a Missouri pork producer who finishes 6,000 head of pigs had a \$30,000 savings in feed costs. For Missouri, the economic impact for pork producers is over \$14.8 million savings in feed costs.



**Electrical Energy Production from Natural Plant Processes – A** NIFA funded researcher at Vanderbilt University and his colleagues have successfully converted solar energy to electricity using a photosynthesis protein unit. The conversion efficiency has been improved more than four orders of magnitudes over the course of three years of the research. The prototype can produce electricity voltage similar to an AA battery. More impressively, the prototype unit has been continuously working for more than 300 days and still counting. This also offers a new value added uses of the by-products of agricultural crops.



**Research Aims to Improve Child Nutrition** – About 12% of the U.S. population do not consume enough zinc in their diets and are at risk for marginal zinc deficiency. NIFA funded researchers at Oregon State University found that rats fed even marginally zinc-deficient diets had more DNA damage, increased levels of oxidative stress and decreased ability to repair DNA compared to control animals fed diets containing adequate levels of zinc. Impairment of DNA integrity can adversely impact immune function and increase risk for cancer. This study has important implications for child nutrition because infants and children are more likely to suffer from marginal zinc deficiency than adults.



**Fighting Food Pathogens at the Source** – Although cattle are important reservoirs of foodborne pathogens, no validated method exists to monitor them on farms. The goal of this project was to improve food safety by developing efficient, effective methods to determine the *E. coli* O157:H7 and *Salmonella* status of pens of feedlot cattle and to reduce the potential that these foodborne pathogens are transmitted outside the feedlot. NIFA funded scientists in Nebraska developed and validated a pen-testing protocol as a monitoring tool for feedlot production HACCP programs and as a research tool to identify and test potential HACCP control points. This work was important to the understanding of when and where food safety pathogens occur in cattle feedlots and enable the development of control strategies.



# Building Consensus on National Outcomes and Indicators Workshop

- Purpose - To develop one or two regional/national outcomes and indicators for each of the five NIFA priorities
- Scheduled for February 21 - 24, 2011 in New Orleans at the Wyndham Riverfront Hotel



# Workshop Participants

- 55 Land-Grant Participants needed
  - 25 Research, 25 Extension
    - One Research, One Extension from each Region on each of the Five NIFA Priority Area Teams
    - Directors/Associate/Assistant Directors
    - State Program Leaders
  - Five Evaluation Specialists (one on each team)
- Five Facilitators (One for each team)
- Ten NPLs – NIFA (2 per Team)
- Two Office of Planning and Accountability Staff