

Comments for CSREES Stakeholders Conference

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There are three areas that I would like to comment on: 1. Scientific management, 2. Research portfolio, and 3. Human capital.

- 1. Scientific Management:** My concerns here are that our competitive grants programs are greatly underfunded which is undermining the future of agriculture and natural resource science. Specifically, as agricultural and natural resource research often involves interdisciplinary, systems research which by its nature requires large research teams and a long duration, our current competitive grants are often too small and too short to adequately address these important issues. It is surprising that NIH grants that study microbes with life spans of minutes or hours can be both larger and longer than agricultural and natural resource grants trying to understand complex managed ecosystems. Yet such research addresses global climate change and environmental quality, our regional and national urgency to protect water and other natural resources, conserve energy, and to ensure an adequate and safe supply of food for an expanding global population. In addition, the indirect cost on competitive grants (currently 19%) is seriously affecting who does agricultural and natural resource science. Major research universities (including land grant universities) are changing their hiring practices so that new faculty can compete for NIH and NSF grants rather than USDA grants. We are losing our capabilities to attract and do state-of-the-art agricultural and natural resource research.
- 2. Research portfolio:** My concerns here are that do we have the correct balance of basic and applied research and public vs. private research? In some cases, the expectation is that if the public sector does the basic research, the private sector will be able to apply that research. For many managed ecosystems and for crops that remain largely in the public sector, this does not occur. These systems and crops are largely becoming orphaned in the research initiatives, which greatly reduces our deployed biological diversity. In the most highly privatized crops, even basic research may be duplicative of private research, hence unnecessary. In the systems research arena, we need the equivalent of the LTERS (long-term ecological research stations) with a similar long-term commitment. In two emerging areas, bioterrorism/ biosecurity and global climate change, there is insufficient funding for proactive approaches. We may have the germplasm collections and biological resource centers that will provide the needed germplasm for the future attack and exotic species invasions, but are we developing the needed monitoring and rapid response infrastructure, do we know what is in our collections, and are we creating the adapted germplasm that can be rapidly deployed when needed; or are we willing to play “catch-up” and suffer years of losses. Similarly are we committed to the science that underpins our public policies? With the billions of dollars paid in disaster relief, do we understand our climate and ecosystems well enough to develop more cost efficient public policies?
- 3. Human capital:** Based on the concerns in items 1 and 2, there may be serious limitations in having an adequate number of highly competent researchers and educators whose education span the continuum of future needs for agriculture and natural resource management. Will they have the breadth needed to tackle complex problems? Also, do we have training programs, similar to other countries, to train science and education administrators who are capable of administering large scale and institutional science and education? We have a population that is highly supportive of scientific research and exploration. Repeatedly, national surveys show that the public’s support for science ranks among our highest priorities but contrarily, the public’s understanding of science is not keeping pace. Basically we need programs to insure our future human capital for vibrant research, education, and impact.