

CSREES Portfolio Review Expert Panel Report

Portfolio 5.1 Forests and Rangelands CY 1999 – 2003

REPORT

External Review Completed: February 2005

Portfolio Overview

This portfolio encompasses agency-wide activities because it addresses fundamental natural resource issues necessary to support agricultural productivity and resilient rural and agricultural communities. It is for this reason that the NRE Unit leadership initiated and implemented the Environment and Natural Resources (ENR) working group. This is an agency-wide group that takes into consideration the interconnectedness of all programs, functions, funding resources and program leaders involved in research, education and extension activities. ENR is comprised of individuals from each program unit within the agency and intended to provide a more comprehensive and integrated approach to the programs that comprise this portfolio.

This portfolio was prepared using the agency-wide ENR working group which is also being utilized to plan, develop and implement natural resource and environment related programs at the agency level. It consists of research, extension and education programs aligned with seven Knowledge Areas (KAs) to provide science-based knowledge and education to improve the management of forests and rangelands. The KAs addressed are as follows:

- KA 121 - Management of Range Resources
- KA 122 - Management and Control of Forest and Range Fires
- KA 123 - Management and Sustainability of Forest Resources
- KA 124 - Urban Forestry
- KA 125 - Agroforestry
- KA 135 - Aquatic and Terrestrial Wildlife
- KA 136 - Conservation of Biological Diversity

This integrated systems approach takes into account that the ability to sustain production while growing the economy requires more efficient production practices, better management of the resource base and finding uses and markets for raw materials. There is also a need to restore degraded lands to some level of productivity through reclamation and remediation. Understanding how these natural systems respond to cultivation and introduced species is critical for maintaining environmental quality and conserving the resource. Additionally, science-based knowledge is needed so that these resources can best be protected in order to promote a sense of well-being and security for our citizens. Because of industrialization and land use and land cover change, our planet is changing. Understanding global change and the effects on climate and production practices are critical to sustainability and our agricultural economy. Better understanding of the role forests and rangelands play in the production and offset of greenhouse gases and their implication to national policy in a global environment is needed. The portfolio encourages interdisciplinary approaches to addressing these issues. Similarly, many of the activities are integrated in nature and encompass research, education and extension components.

Comments on R&D Criteria and Dimensions

In 2005 a panel comprised of independent experts from the field was convened to assess and score the current state of the Forest and Rangelands Portfolio. A discussion of specific comments and recommendations related to each of the dimensions of the three Office of Management and Budget

(OMB) research and development (R&D) criteria used (relevance, quality, and performance) is provided below.

Relevance

Scope

The breadth and complexity of natural resource issues in the United States exceeds current capacity of the CSREES and LGU partnership. Given the mission of the organization, the volume of impacts and outcomes would increase with expanded resources.

Evidence demonstrated some expansion of the scope of programming over the five year reporting period. We were unable to ascertain any reallocation of resources from terminated programs to emerging programs. Future reporting might include information about deliberate reallocation.

Focus

Some knowledge areas document an appropriate level of investment in critical needs of the nation. Some knowledge areas suffer from an antiquated scientific knowledge base. In all cases, this reflects variation in staffing levels and variation in reporting of identified regional and state priorities.

There is a lack of attention directed towards under-served and urban populations. We recommend continued effort in partnerships with 1890 and 1994 institutions. Many opportunities exist for programming on critical issues in expanding urban issues and the wildland-urban interface. National needs can often be met by working in international collaborations and contexts.

Emerging Issues

There is evidence that NPLs identify and communicate emerging issues. We found that multiple structures are in place to facilitate this. We suggest more leadership by NPLs, as well as LGU leaders, in facilitating strategic planning and resource allocation. This will result in a more effective process for the system to address the most important issues.

We suggest the partnership continue to expand its interactions with stakeholders to include "emerging stakeholders." It is as important for planning processes to identify new stakeholders and partners as it is for the process to identify emerging issues and priorities. Lasting outcomes are often a direct result of the tough work done by a diverse community.

In their presentations, NRE administrators and NPLs indicated an attention paid to emerging issues and desire to reallocate resources in order to address these new issues. The panel perceived that resource allocation has been inconsistent among knowledge areas. A more stable allocation and reallocation of resources to emerging issues would produce significant outcomes.

A balanced portfolio would include programs focused on emerging issues and programs focused on the advancement of scientific knowledge. Note that long-standing, critical issues will continue to require attention as well.

Integration

Good documentation of the integration between extension and research was noted. We suggest that NPLs increase this interaction and grow these efforts over the next five years.

Documentation of the Higher Education Program (HEP) and its integration with research and/or extension is missing from the document. In merging CSRS and CES, the agency demonstrated an exemplary job of

integrating research and extension within the leadership responsibility of NPLs. The model needs to be further expanded through the inclusion of HEP in NPL responsibilities.

NPLs expressed, in the document, that "there are some challenges to accomplishing this," not the least of which may be the legislative mandate for the program. LGU partners stand ready to work with NPLs and CSREES administration in making progress on this important next step in the integration of CSREES functions.

Multidisciplinary Balance

Some knowledge areas demonstrate a high level of inter-disciplinary activity, with commendable integration of biological and physical sciences.

We suggest more regional collection of data in order to support evidence of inter-disciplinary activity. There is a need for an increase in their integration with social and policy sciences.

Quality

Significance

There were projects with significant outcomes reported. The volume of findings and number of students graduated in natural resource fields is impressive given the resources available. Many implied outcomes were reported and this could be improved by full utilization of the logic model, including documentation of outcomes and impacts. Formative evaluations to document program implementation successes and challenges should also be performed.

Special grants account for a substantial portion of CSREES distributed funds. Reporting is not available for these projects but should be required. Some congressional offices require reports and could share them with funding agencies.

Real resources (operations dollars and personnel time) should be allocated to program evaluation at all levels of the partnership.

Stakeholder Input

Traditionally there is a higher expectation for CSREES than for other federal agencies to involve stakeholders in program planning and implementation, and the agency enthusiastically meets this expectation.

At the national level, there has been much effort by CSREES NPLs to connect and collaborate with other federal agencies on issues of national significance. This is especially true when there is apparent inefficiency, duplication or opportunity lost. These efforts by NPLs have been met with mixed results. We commend the efforts to date and suggest perseverance.

Portfolio Alignment

Success stories in many of the knowledge areas suggested alignment with the current state of science based knowledge. All NPLs should stay current on cutting edge science by being active in scientific societies and attending appropriate scientific meetings, as they relate to identified priorities and emerging issues.

Critical need rationale ought to be based on achieving sustainable ecosystems, not sustaining any particular component of an ecosystem. The performance indicator for conservation biology is that portfolio preserve, enhance, and restore natural biodiversity to levels compatible with societal use of natural resources. There is an internal inconsistency in this indicator in that the maintenance of natural levels of

biodiversity will often be in conflict with the uses of natural resources. We suggest seeking a balance between the two. Compatibility may be unachievable.

Appropriate Methodology

The number of refereed publications documented in the portfolio indicated the use of good science methodology. It is more difficult to document the utilization of appropriate methodology in extension program development and delivery. We recommend the continued implementation of volunteer programs, on-line formats and interactive teaching methods, as appropriate for target audiences.

Peer reviews for continuously funded (multi-year) projects could include criteria relating to the application of new theories and knowledge of the problem and issue at hand. For extension, a systematic merit review of project methodology would enhance portfolio quality.

We suggest including stakeholders in the development and/or review of strategic program planning and priority setting, rather than retroactive accountability and assessment. Additionally, it is important to include both traditional and non-traditional groups to generate an appropriate stakeholder base.

Performance

Portfolio Productivity

The productivity score was high for a number of reasons, including an integrated base of funding which provides tremendous potential for the leveraging of funds. Players throughout the partnership, especially NPLs, should examine all federal reports across states within program areas in order to document the synergistic effect of integrated funding on levels of research, education and extension productivity. Integrated funding comes from a variety of federal and state sources, in different forms and has a direct effect on productivity.

The number of refereed publications per scientist year and per project indicates high levels of productivity. The portfolio does not reflect several excellent extension outputs known to the panel. Increased frequency and quality of reporting at national and state levels would enhance the impact of our reporting.

We suggest increasing the documentation of outcomes. Formative evaluations to document program implementation successes and challenges should be performed.

Real resources (operations dollars and personnel time) should be allocated to program evaluation at all levels of the partnership.

Portfolio Comprehensiveness

There is variation in comprehensiveness of the portfolio for particular knowledge areas and in particular time frames. It is assumed that this is related to the amount of resources available and invested. The absence of national program leadership was evident in some knowledge areas.

Funding in some knowledge areas was inconsistent. We assume more would have been accomplished with stable resources.

Portfolio Timeliness

Approximately 15 to 20% of research programs receive a no-cost extension. The panel regards this as a reasonable proportion, given our collective experience as administrators and directors of research and extension programs. There is no documentation to indicate the proportion of all extension programs that receive such extensions.

Agency Guidance

Leadership, management and guidance are variable in certain knowledge areas, but this may be attributable to low staffing levels.

It is recommended that NPLs allocate a higher proportion of time to leadership for program development at a regional and national level, and less to program management and maintenance of management systems. Leadership responsibilities might include more facilitation of the system and its parts in order to foster focused investments across the system in our highest program priorities. This will require support from CSREES and LGU administrators and a possible realignment of staffing.

Portfolio Accountability

In the spirit of partnership, there could be improved documentation of outcomes and impacts at both the federal and the LGU level. When possible, outcomes and impacts ought to relate to needs identified in the planning process.

There is insufficient national level synthesis of results from like-projects relating to major national issues. LGUs could also do a better job of reporting outcomes and impacts from McIntire-Stennis, Hatch and RREA funded projects. Impacts should be delineated by source of funding and reports should be subject to review and improvement requested when appropriate.

We recommend that NPLs read sections of all state reports in their programmatic and related areas to identify replicated as well as synergistic projects. This will provide the opportunity for integration across the system.

General Comments

The panel thanks CSREES for the opportunity to serve as the review panel for Portfolio 5.1. Our panel members found this to be an enriching experience. We learned of the important work of CSREES does and of its people, programs and aspirations. We made observations and recommendations for improvement and enhancement of this agency's efforts. We are impressed with the workforce of National Program Leaders and believe they work hard to carry out the mission of the agency.

Our review of the portfolio and our interaction with CSREES staff reminded us of the importance of our partnership with you. Our best outcomes occur when we exercise the partnership and the many interconnections between CSREES, Land-Grant Universities and our myriad stakeholders in the public, private and non-profit sectors.

We adopted a "partnership paradigm" in our review of the materials provided to us and in writing our report. We evaluated past accomplishments and made recommendations for the future based on interdependencies between partner organizations. We acknowledge that the program development processes, outcomes, and impacts expressed in the portfolio document reflect intention and activity by the full partnership. Suggestions and recommendations for improvement and enhancement are directed at the full partnership, not at one entity. Indeed, the true power of our unique partnership is its ability to leverage ideas, knowledge and dollars together.

It is in this spirit of partnership that the review committee commits to working with CSREES in an iterative, recurring process to accomplish the recommendations contained in this report. Through our combined efforts, we can secure a successful future for the system.

Comments on Future Directions presented by CSREES

The performance indicator for conservation biology is that the portfolio preserve, enhance, and restore natural biodiversity to levels compatible with societal use of natural resources. There is an internal inconsistency in this indicator in that the maintenance of natural levels of biodiversity will often be in

conflict with the uses of natural resources. We suggest a balance between these two; compatibility may be unachievable.

Data Issues

Standardize and expand the documentation and evaluation metrics across program areas. This could be done by comparing the amount requested in competitive funds versus the amount awarded, input and output measures and using the spread sheet as a tool.

Increase the archiving and accessibility of research project data, CRIS and otherwise, to enable meta-analysis. This data should be available to researchers throughout the nation. There are existing models in other federal agencies, such as National Center for Ecological Analysis and Synthesis of the National Science Foundation.

Evaluation Issues

The panel found Section I of the portfolio review document to be useful and informative in its effort to analyze and understand the knowledge areas. This section includes background information on CSREES and its funding authorities and an overview of the self-review document and its format.

The format employed in Portfolio Section IV ought to be used for the presentation of data and information for each of the Knowledge Areas in Portfolio 5.1. However, the panel found it necessary to change the wording of some metrics used in the score sheet.

Miscellaneous Evaluation Issues

- Provide training on the logic model for agency employees and external and internal partners. Logic models should be developed in collaboration with partners. This process would provide additional leadership opportunities for NPLs.
- Develop strategic plans for each knowledge area. For example, we suggest tying CSREES planning to The Vision for America's Forests project of NAPFSC and the USFS, and other relevant planning processes in the NRE arena.
- Increase stakeholder contributions by including panel members and other stakeholders in the development and review of CSREES strategic plans at the portfolio level instead of just evaluating past performance.
- Suggest that individual states and/or regional teams request CSREES involvement in the development and review of plans of work for 2007-2011.

Summary of Comments and Recommendations

The panel finds that the people of CSREES NRE make a significant difference and add considerable value to the work of the agency and the partnership. The evidence in the portfolio reflects hard work and indicates high levels of productivity. The NPLs are dedicated and mission-oriented and operate with a strong organizational ethic. With additional resources they could achieve broader impacts and outcomes.

The panel observed and commends CSREES staff for progressive movement on integration, planning and reporting, and leadership. There is evidence that they are increasing emphasis on integration, becoming more creative and determined about planning and reporting as forms of accountability, and are attempting to strike the right balance between activity as leaders of programs and activity as managers of programs and administrative systems.

Portfolio Score

Portfolio 5.1 received a total score of 77 from the panel. This score places the portfolio in the category 'moderately effective in supporting CSREES objectives.'

