

# CSREES Portfolio Review Expert Panel Report

## Nutrition, Goal 1: Portfolios 4.1 and 4.2 CY 2000 – 2004

*External Review Completed: February, 2006*

### Portfolio Overview

The Goal 4 Nutrition Portfolios reflect research supported by CSREES to generate knowledge about food and nutrition and the transfer of that knowledge through education and extension, to help the American population adopt a diet and physical activity pattern that promotes a *HealthierUS*. The portfolios have three main themes: 1) generation of knowledge about the requirements and the functions of nutrients and food components, 2) development of educational and environmental strategies to improve diet and physical activity, along with evaluation systems/tools, and 3) outreach activities designed to improve diet, nutrition and fitness.

CSREES nutrition programs, with an average annual funding of \$108M or approximately 10% of the Agency's budget, represent one of the largest single programs in CSREES. These programs are integrated to achieve synergy across the research, education and extension mission areas. CSREES nutrition programs target nutrition, food, and health issues across the life span.

Supporting CSREES Strategic Goal 4, "Improve the Nation's Nutrition and Health, the Nutrition Portfolio consists of:

- Portfolio 4.1 – Improve Human Health by Better Understanding the Nutrient Requirements of Individuals and Nutritional Value of Foods
  - KA 701 – Nutrient Composition of Food
  - KA 702 – Requirements and Function of Nutrients and Other Food Components
- Portfolio 4.2 – Promote Healthier Food Choices and Lifestyles
  - KA 703 – Nutrition Education and Behavior
  - KA 704 – Nutrition and Hunger in the Population

### Comments on Research & Development Criteria and Dimensions

#### Overall

The panel commends the unit and its leaders for their sincere efforts to improve the nation's nutrition and health. Their accomplishments are especially noteworthy given the limited resources and a varied mix of expectations and requirements for specific programs. The units' work is vitally important to improving the quality of the U.S. food supply and promoting healthful

food, nutrition and activity choices for all Americans. The panel acknowledges that there are many challenges and barriers to achieving these objectives.

## Relevance

### *1.1 Scope*

The panel recognizes the intrinsic dilemma inherent in attempting to achieve exceptional coverage in all areas implied by the portfolio's goals and objectives (scope) while also attempting to achieve a highly focused approach that addresses critical issues, topics and needs (focus).

This portfolio reflects CSREES' strength in taking a comprehensive approach towards promoting health and well-being of individuals, families and communities. The food and nutrition needs of young children and their families and communities are targeted with EFNEP and other CES programs, community food projects and maternal and child health (MCH) programs.

The panel recommends that the food and nutrition needs of older adults be addressed with more emphasis even considering resource limitations. In addition, further efforts are needed to clarify the relationships which exist among base programs, initiatives, and targeted programs in extension/outreach. The panel recommends CSREES clarify these relationships in the context of optimal integration of research, education and extension components. Whenever possible, integration should be enhanced and compartmentalization de-emphasized. Compartmentalization is likely to be fostered when planning is based on separate funding lines such as EFNEP, community food programs, etc. The panel rated the portfolio coverage as satisfactory.

### *1.2 Focus*

The panel rated the portfolio as highly focused. In general, this portfolio reflects an appropriate mix of efforts to address important needs (e.g., obesity emphasis in supported research and EFNEP). Overall, further benefits may be achieved by more extensive coordination as CSREES strives to allocate its resources in a synergistic way that addresses important issues, topics and critical needs.

The panel noted that efforts to focus agency programs need to be balanced with the charge to address broad issues with a comprehensive plan. Therefore, CSREES is advised to continue to prioritize its efforts without jeopardizing its ability to be flexible and responsive to dynamic food, nutrition and health issues. The intra-agency approach may be a goal, but the preamble presented to the expert panel indicated a desire to be flexible, nimble, proactive and responsive. Questions which must be answered include, how can this desire be incorporated into the appropriate programs within the next few years? And what programs, if any, should be reduced or eliminated so that CSREES can demonstrate a forward focus while remaining flexible?

### *1.3 Contemporary and/or Emerging Issues*

The panel believes the portfolio has demonstrated that many contemporary and emerging food and nutrition issues have been identified over time. In fact, there are over 30 statements of future directions in the self-review document. While the panel applauds CSREES' ambitious plans and efforts, it recommends future directions be prioritized and focused to further enhance integration of research, education and extension activities. Additionally, the panel believes

renewed/strengthened energy and commitment are essential if the agency's ability to adapt is to be enhanced as contemporary issues emerge while meeting its original charge. (See additional comments under Future Directions section of this report.)

#### *1.4 Integration*

Integration of its research, education and extension is CSREES' unique niche and critical to its ability to fulfill its accountability expectations. The Families, 4H, and Nutrition (F4HN) unit, specifically, is in a position to promote synergy and multi-disciplinary balance, and the unit's emphasis on integration across CSREES should continue.

The panel acknowledged the push for integrated projects at the federal level, especially within the NRI project priorities and AREERA. The panel also noted that this integration is not consistently reflected in CSREES' structural and management functions, especially for formula fund programs managed mainly at the state/university level. The NRI and other research activities have provided evidence of supporting integrated projects, however enhanced and measurable efforts to translate research findings for use in the education and extension mission areas are strongly recommended. For these reasons the panel rated the portfolio to be moderately integrated.

#### *1.5 Multi-disciplinary Balance*

Historically, nutrition education research has tended to focus on individual behavior change. However, nutrition education programs function at the community and policy levels as well. Each of these components is critical for effective change in lifestyle practices. The community food program and NRI research projects have made significant progress in incorporating multidisciplinary approaches. Similarly, some education and extension programs have multidisciplinary components (e.g., food resource management, food security). However, the portfolio was still found to be only moderately balanced. Wherever possible, further multidisciplinary work should be initiated throughout.

Practitioners can provide researchers with information that can be used to strengthen and enhance the coordination of these functions. Additionally, multidisciplinary models, as reflected in the community nutrition education logic models, can be borrowed from public health and other partners (e.g., translational research emphasis of NIH) to accomplish this broader range of multidisciplinary research needs. This will help promote USDA's and CSREES' niche in the broad food/nutrition/health research arena and capitalize on the unit's linkages to the land grant university system, the nationwide network of county and state extension programs, and agency expertise that spans all aspects of the nation's food system.

### Quality

#### *2.1 Significance of Findings*

NRI and other CSREES-sponsored research programs have yielded an impressive number of publications in a breadth of high-quality peer-reviewed journals. Specifically, the list provided in the self-review document for Portfolio 4.1 (pp. 98-101) along with the 2000-2004 publications from the EFNEP report (and pp. 148-151 in the self-review document) provide evidence of significant findings that have been shared with professional colleagues. The panel believes the portfolio has demonstrated many significant findings.

## *2.2 Stakeholder/Constituent Inputs*

The panel commends CSREES for soliciting input from a variety of stakeholders and constituents. However, the panel noted that on the formula side, states provide input that does not appear to be routinely used to set and adjust program directions. Additionally, the panel acknowledged that although EFNEP is a highly effective program with a carefully structured reporting system, it lacks a systematic mechanism for responding to input from researchers and practitioners. The panel rated the portfolio as demonstrating generation of many stakeholder and constituent inputs. The panel believes more emphasis should be given to the application of stakeholder suggestions. This is important for maintaining quality and to ensure stakeholders continue to appreciate their value to the overall partnership.

## *2.3 Alignment with Current State of Science*

The agency has invested significant resources and made a concerted effort to adjust educational materials and messages to be consistent with the Dietary Guidelines for Americans, the current and appropriate basis for educational messages according to Federal policy. Therefore the panel rated the portfolio as highly aligned with the current state of science.

## *2.4 Appropriate and/or Cutting Edge Methodology*

The panel rated the portfolio as providing evidence that appropriate methodology is routinely applied. For example, NRI research grant proposals are selected according to criteria which include novelty, innovation, uniqueness, and originality. EFNEP's reporting system is being updated to reflect current research in behavior and impact measurement. The F4HN unit appears to be ahead of other CSREES units in utilizing the logic model as a planning and reporting tool. The comprehensive Community Nutrition Education (CNE) logic model and the Portfolio level logic model provide a well-developed foundation for development of a coordinated set of nested logic models that can clarify each program's role in achieving CSREES' overall food and nutrition goals.

## Performance

### *3.1 Portfolio Productivity*

Overall, portfolio productivity was difficult to assess given that this portfolio reflects the considerable variation in the effectiveness of CSREES efforts in providing services through funding, directing, managing and partnering with its various stakeholders. CSREES' contributions to the documented outcomes of research activities are well supported in the portfolio, but evidence of CSREES staff leadership was not as compelling in all program areas. Because of this variability among programs, the panel rated the overall portfolio as moderately productive.

### *3.2 Portfolio Comprehensiveness*

The panel's ability to judge evidence of outcomes related to the portfolio's goals is limited because the agency appears to be responsible for activities conducted with funds that they administer (e.g., formula funded programs) but that are often managed by a system beyond their immediate control. Additionally, the reporting system has had limited potential to consistently capture and aggregate output/outcomes data for CSREES as a whole.

The agency is making efforts to utilize a consistent reporting system based on logic models. The panel strongly supports these efforts but would like to see CSREES take the next step. The current models were developed retrospectively and the panel found it difficult to determine how the individual models fit together to form a cohesive whole. The panel encourages the F4HN unit to now develop a prospective and comprehensive logic model for its own work for the first time. Then, programmatic level logic models can be developed in support of and nested within the larger model. For these reasons the portfolio was rated to be moderately comprehensive.

### *3.3 Portfolio Timeliness*

CSREES competitive grants are administered with a process (CRIS reports) that encourages the timely completion of projects. CES and other formula-funded projects are ongoing and less amenable to completion-oriented reports that would provide strong evidence related to this indicator of productivity. Overall, the panel rated the portfolio as demonstrating that most projects achieved closure on time but recommends CSREES continue to work with its partners and key stakeholders in improving its ability to collect important outcomes data via a system that respects local differences in needs and resources.

### *3.4 Agency Guidance*

The panel focused on leadership within the unit to develop this score and the recommendations related to this guidance performance dimension. The panel observed strong evidence of leadership within CSREES. Given constraints in financial and other resources, F4HN unit leaders have shown strong guidance and direction over activities related to the goals of this portfolio.

Although agency guidance was rated to be exceptional, the panel recommends CSREES examine options to strengthen its emphasis on integration. This would enhance the important function of coordinating communication as issues emerge across the programs with CSREES' major partners.

Additionally, the panel recognizes that CSREES' relatively new partnership arrangement with Baylor is an innovative and potentially productive way of coordinating expertise and communication on MCH, an important topic area for CSREES. The panel recommends CSREES assess the effectiveness of this model to determine its potential application in other topic areas such as nutrition and aging.

### *3.5 Portfolio Accountability*

The panel rated the portfolio as having a moderate level of accountability. A nationwide review of CES proposals for FSNE and several site visits were conducted recently and designed to provide feedback and follow-up training to improve quality of plans and reports. The panel recommends that CSREES continue and expand its efforts to review state plans (POW) and reports for nutrition-related activities, beginning with the 2005 annual reports.

This report has limited information on the outcomes of formula-funded activities. If the challenging charge of collecting and reporting aggregated data on these important activities and then communicating their value to partners and stakeholders is fully pursued, it will strengthen future congressional support. If CSREES cannot more effectively capture evidence of impact of

formula funds, there is a risk that resources will be redirected to competitive funding. This would result in a permanent and severe loss of valuable infrastructure for delivering quality programs.

### General Comments

The panel commends CSREES staff for the quality of their presentations and the time and effort invested in preparing the self-review document and evidentiary materials. The panel compiled the following recommendations to further refine the process for years to come.

The mixing of “food,” “nutrition”, and “fitness” concepts in the accomplishment reports is sometimes confusing and is not consistently matched to the Goal 4 mission. The nutrition work is presented as part of the agency’s expertise covering the breadth of the nation’s food system, but the food system aspects of nutrition are not uniformly represented. Physical activity is mentioned in the priority statements, but not measured and reported in the data. These inconsistencies need to be rectified and presented more clearly and more uniformly in subsequent reviews.

As noted above, the agency’s nutrition effort is relatively small and its accomplishments are affected by limitations in resources and shared authority. The agency’s leadership role sometimes reflects a degree of responsibility for outcomes that exceeds its authority to control activities and outcomes. This is especially true at state/local levels. Staff members at CSREES are professional and dedicated to their work, but descriptions of accomplishments do not consistently clarify how NPL leadership roles and leadership activities contributed to or promoted successful work of program partners. If CSREES wants to maintain and maximize its ability to be a dynamic organization, the agency should examine options that would allow flexibility in providing program leadership. For example, the current coverage of nutrition and aging is not in pace with nationwide demographic trends. The panel recommends that a variety of models and alternatives be explored so that more leadership and integrated research, education and extension activities in this important area can be provided.

The panel recommends the higher education resources of CSREES be directed to developing a cadre of well-trained scientists. More graduates are required to meet the anticipated need for faculty positions in research, education and extension in the near future. Expertise in diversity and the social science aspects of food science and nutrition should be especially encouraged and efforts should be continued and strengthened to attract talented youth from underrepresented minorities. Additionally, there is a growing need for nutritionists trained in biological sciences. There are many research-based priorities that require the use of methodologies adapted from genetics, molecular biology, and other scientific disciplines. Currently there is a scarcity of qualified people with in-depth training in nutrition who are also able to use these techniques to solve nutrition-related problems and who can effectively train the next generation of nutrition scientists.

### **Comments on Future Directions presented by CSREES**

The portfolio presents an extensive collection of future direction statements that need to be prioritized and utilized for planning and resource allocation at the agency level. CSREES should develop two to three major overarching initiatives based on these future directions and the need for enhanced integration of research, education and extension as dictated by the logic model for Goal 4. Developing a more concise set of targeted outcomes will assist CSREES in directing resources to the highest areas of need and potential accomplishment.

### *Information Exchange*

CSREES is encouraged to continue marketing and communicating its accomplishments. The agency's niche in solving problems through an integrated approach, as well as its unique ability to reach all counties in the country, needs to be appreciated by colleagues in other food/nutrition agencies and organizations. Interdepartmental coordinating committees present an opportunity to enhance the visibility of and appreciation for CSREES' role and accomplishments; therefore, F4HN staff should participate on these committees. These should be used more effectively to showcase CSREES efforts. Additionally, the panel stressed that an integrated or "translational" approach to coordinate within and among agencies is essential to enhance effectiveness. Program leaders have the unique opportunity to coordinate with other food science, nutrition, and fitness and physical activity leaders to exchange knowledge gained from both successes and shortcomings and to improve the effectiveness of all programs.

The agency is encouraged to continue to stay abreast of new research and national trends, especially in the dynamic area of obesity prevention where new research findings are changing prevention and treatment paradigms. For example, stating extension outcomes in terms of sustained reductions of body weight or BMI or other clinically significant outcomes exceeds programming limitations and creates unrealistic expectations. The current national trend is toward placing more emphasis on promoting healthy lifestyles and fitness. Therefore, CSREES work in educating health care professionals and gatekeepers who can extend/reinforce messages to the general public is more important than ever.

### *Miscellaneous Comments on Future Directions*

Multi-disciplinary balance should continue to be emphasized as should the encouragement of flexible models of operation to maximize the agency's ability to address pressing needs. The continued use of logic models with strong emphasis on updated needs/situation statements should be part of this process. These models should be reviewed annually and kept up-to-date.

As stated above, integration is CSREES' unique niche in the food/nutrition community. Strengthening and increasing the successful collaboration between CSREES' functions (research, education and extension) is essential (see agency guidance recommendations).

Nationally and within CSREES, there has been a prevalent emphasis on identifying and documenting the value of bioactive food components. The importance of this work extends beyond the typical commercial application of developing new supplement products. CSREES' research and integrated work in the area of functional foods and food components should be strengthened to increase public and professionals' understanding of the value of whole foods and overall dietary balance.

### Data Issues

Data and information for formula-funded activities has weak support in the self-review document. At the present time, the Plan of Work (POW) system is being strengthened but, historically, the capturing of accomplishments has been difficult. Following the overall logic model for Goal 4, data collection in each activity area (Research, Education, and Extension) should ultimately report accomplishments in ways that more effectively capture overall impacts. Similarly, EFNEP is encouraged to continue moving forward with its plans to collect data that

reflects, in addition to individual behaviors, their accomplishments at the community and policy levels.

### Evaluation Issues

The panel noted limitations as it attempted to follow the review process and use the standardized rating tool. The self-review document reflects varied components which make it difficult to specify a series of fair and representative overall ratings. Further, there were several issues impacting the effectiveness of the tool and adding to the complexity of the charge to the panel. These should be addressed by the time the next cycle of portfolio reviews occur. First, the descriptions of the dimensions overlap on several occasions. For example, accountability includes timeliness as part of its description. In addition, scope and comprehensiveness are highly related. Also at issue was the requirement that the panel come to a consensus despite being given only three possible scores. The panel believes the adoption of a 5-point scale will make it possible to award more meaningful scores. Further, inconsistent wording in the definitions of what each of the existing three points in the scale mean makes it difficult to arrive at a fair representation of the panel's views of the portfolio's strengths and weaknesses. This was compounded by the fact that the rating tool's descriptions of numerical scores were not totally consistent. In some cases numerical score descriptions did not match the dimension descriptions and, in others, dimensions were confusing, misleading or contradictory (e.g., it may not be possible to have a large scope and be focused at the same time). The term "cutting edge" in dimension 2.4 was problematic because appropriate and innovative use of strategies can take place without the use of methods considered novel or new. Similarly, the term "significant findings" is more applicable to the research than the extension and education mission areas of this portfolio. An improved rating tool will lead to a better, more useful final report. The panel recommends the rating tool be revised before the next cycle of portfolio reviews.

### *Miscellaneous Comments on Evaluation Issues*

Access to information on the results of budgeting and allocation of other resources is inconsistent throughout the self-review document. The agency is moving in the direction of providing more consistent evidence of quality and performance for the portfolios, but the current body of evidence indicates a need for future growth in this area.

The panel recognizes that the portfolio review process is new and that documents and presentations were compiled to the best of CSREES' ability. However, for the next cycle, the panel recommends an increased emphasis on consistency. Overall, the system needs to be refined so panels are provided information in a consistent manner. This will facilitate comparisons across programs.

Dimension 1.5 refers to multidisciplinary work. The panel recommends emphasis be given to interdisciplinary work because that implies greater interdependence and coordination than may be apparent when using the term multi-disciplinary.

### **Summary of Comments and Recommendations**

CSREES has prepared a portfolio with an impressive collection of evidence of its effective use of limited resources to accomplish important goals. To continue and expand its success, the panel recommends that CSREES:

- a. Develop a coordinated set of nested logic models to guide planning, reporting and evaluation

- b. Coordinate integration through internal and external communication for each major activity (Research, Education, and Extension)
- c. Improve structural flexibility to adjust to dynamic needs and opportunities while continuing CSREES' basic activities and successful programs
- d. Promote CSREES' image and its unique niche in addressing major food and nutrition issues from an integrated perspective with expertise that spans the food system from food science to education of needy families
- e. Identify key issues for further emphasis in resource allocation (e.g., obesity prevention and enhanced recruitment efforts for graduate students)
- f. Establish and assess potential application of innovative methods to leverage resources, such as the MCH partnership with Baylor University and ARS.

**Portfolio Score = 86**