

# GLOBAL OPPORTUNITIES AND PARTNERSHIPS

*“It’s a globalized food system today.”*

– USDA Secretary Ann M. Veneman

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## INTRODUCTION

The single most daunting, exciting, and pervasive factor affecting the viability of U.S. farming and ranching today is globalization. Farmers around the world – including those involved in small and medium-sized family operations – are impacted. In addition to traditionally encountered problems such as drought, disease, inadequate genetic diversity, water shortages, or declining soil fertility, more recent global influences are making the national and worldwide goal of a stable food supply more difficult to achieve and more complicated.

Farmers must respond to worldwide competition governed by international trade agreements, to new stringent environmental regulatory standards and requirements, and to worldwide public scrutiny, fueled by a communications technology revolution that is increasingly concerned about food safety. In order for citizens to foster a healthy farm sector domestically, it is important for them to understand how farm systems interact in the global context. Family farmers and ranchers throughout the U.S. need help in adapting to and coping with the changes caused by globalization.

Agricultural globalization touches American suburban and urban communities as well. Indeed, people around the world share several fundamental concerns:

- Farmers and ranchers share concerns about farm productivity and sustainability, farm management, market opportunities, and economic viability.
- Rural communities share concerns about the viability of the farm sector and the impact on rural quality of life.
- Urban consumers share concerns about food safety, abundance, and cost.
- Societies share concerns about a stable food supply, clean air and water, and stewardship of natural resources.

Compounding the challenge of addressing these concerns is the fact that consumers in the U.S. and other developed countries are generally distant from food production and have little understanding of what’s involved. A number of countries have experienced increasingly abundant, safe, and inexpensive food for half a century – the entire lives of much of their population. As consumers born and bred to prosperity, we expect this to continue. We also expect continued improvements in environmental protection.

However, increasingly we also tend to reject technological innovations in food production as bringing unwarranted costs or risks. Technologies and practices such as chemical pesticides and fertilizers, use of genetic resources, IPM, biological control, transgenic food and fiber plants, and waste management and recycling are all controversial. The resulting pressure – to keep food prices low, while on-farm environmental protection costs increase, and technological innovation is constrained – is impacting rural economies and severely challenging the farm sector in the United States and around the world. A global loss of the rural middle class is possible, just when

many countries see strengthening this group as a path to development. Worst-case scenarios include a food production collapse, with disastrous consequences for the environment, for development, and for world peace.

According to Farm Bill authorities, the “Secretary may enter into cooperative arrangements with Departments and Ministries of Agriculture in other nations to conduct research, extension, and education activities in support of the development of a viable and sustainable global agricultural system...” Achieving this goal will require the involvement of all who will be affected. Disjointed attempts by researchers, by producers, and by consumers to define and implement sustainable solutions can work at cross-purposes in a complex world where no one group sees all the implications.

In a new problem-solving model for a globalized world, three things must happen:

- A high degree of communication among all stakeholder groups across national borders must be achieved.
- Each stakeholder group must come to see itself as accountable to the others.
- Nations and stakeholder groups must share a sense of ownership of the results.

CSREES partner institutions offer the tools and skills needed to build these communication and ownership goals into technical REE projects. The classical role of extension as listener and responder will be foundational. Newly evolving concepts of inclusive, participatory decision making in research and development – now being articulated by social scientists and extensionists – will be required. In the new model, these approaches will partner with the advanced scientific research capability and expert knowledge in CSREES partner institutions.

This paper suggests a new Global Partnership initiative that will support projects designed in the new model of inclusive, international problem-solving. The common goal of these projects will be to develop widely accepted, longer-lasting, and effective solutions for trans-boundary problems in a globalized world.

Each project will focus on a shared problem in sustainable food supply, environmental stewardship, and/or global economics or competitiveness. The projects will be between partner countries who find mutual benefit in addressing the problem together. Within each project, all major decisions will be made by consensus among stakeholders, including farmers and consumers; research, education, and extension (REE) specialists; and others as appropriate. Together stakeholders will identify priority researchable problems, determine what approach(es) will be used to find solutions, allocate resources, establish and monitor project milestones, assess project impacts, and communicate and use project results.

The outcomes of the Global Partnership initiative will be solutions deemed socially acceptable by consumers worldwide, leading to trusted food products in steady supply, opened markets, more robust income streams for rural areas, new research and development models for creative solutions into the future, a vastly improved global environment for agricultural REE, and better opportunities for sustainable global prosperity and a healthy environment.

## **SUSTAINABLE FOOD PRODUCTION**

Abundant, affordable, and nutritious foods are required for healthy lives and productive communities. The need for a stable and secure food supply is a bond shared by people worldwide. Essential conditions for sustainability in food production include careful attention to environmental impact. They also include an advantageous cost/benefit ratio that provides

producers with motivation and latitude to act. The need for a profit is shared by farmers around the globe. Profitable production requires constant generation and application of new and emerging technologies to support ever-increasing crop and livestock yields and low per-unit input costs in the face of ever-changing challenges from the environment.

As described above, CSREES and its partners have the scope of disciplinary expertise and experience that puts them in a globally unique position. They are able not only to address the technical problems but to help bridge gaps in public understanding – in the U.S. and with its trading partners – of what it takes to maintain a food supply that is truly sustainable. CSREES can establish an environment for collaboration, such that solutions found are effective, environmentally and economically sustainable, and widely accepted. Solutions that have some but not all of these attributes will fall short of realizing maximum social benefit from world investment in agricultural research and development.

Food-supply problems calling for inclusive global attention include plant, animal, and human health and disease; waste management; postharvest practices and valorization (value-added); food and water safety; drought; fertility management; and more. International collaboration on these topics benefits all partners, including U.S. agriculture. Global interaction among stakeholder groups would result in more receptive consumers at home and abroad, leading to new export opportunities of U.S. goods and products. It will help America provide a more wholesome and robust environment for the rural sector and food-related industries at home. It could help stem the tide of attrition of family-run farms and ranches.

The following case study is an example of a possible Global Partnership project:

Potatoes are a global food security staple, but they are susceptible to environmental fluctuations and to dynamic pest and disease challenges everywhere they are grown. Processor and consumer expectations of quality and standards for fresh and processed potatoes are very high. To meet them, researchers, extension services, and producers develop combinations of genetically resistant varieties, integrated pest management practices, cultural practices, and chemical controls. Despite best efforts, crops sometimes fail to meet standards, and potato farmers are losing some of the tools that help them cope. The recent Food Quality Protection Act will, in response to consumer concerns, remove chemical protectants that U.S. potato farmers have relied on. Meanwhile, public concerns about transgenic technologies have halted their use as a tool to protect potatoes, particularly with trade partners in Europe. Few small to mid-sized farms can absorb the economic loss when control measures fail or are lost. Each constraint reduces the economic viability of potato farms and increases the size of the potato farm required to be profitable.

How would the Global Partnership project respond? A proposal development grant (“seed money”) would allow U.S., European, and developing country producers, consumers, and the research/education/extension community to collaborate. Together they would address the issue of (for example) pest and disease control as related to sustainable potato (or other food) production, decide on what approach to use in seeking a solution, design a project, and prepare a proposal. These could be integrated projects reaching from research to application, field and ecosystem to market, or one that would more specifically deal in depth with a limited problem area. The project proposal would go into a competitive evaluation and, if selected, would lead to research and extension activities in parallel in the partner countries, with stakeholders from both countries involved in the entire process of monitoring and evaluation.

## **ENVIRONMENTAL STEWARDSHIP**

There is little doubt among scientists today that our earth is warming, that the concentrations of CO<sub>2</sub> and other greenhouse gases are increasing, and that these factors can cause changes in local weather patterns and alter ecosystems around the globe. Many of the underlying linkages between global climate change, fluxes of greenhouse gases, carbon sequestration, and responses of ecosystems and watersheds are still poorly understood and in need of additional research. Furthermore, deforestation, soil erosion, soil and water quality (including excess salts, nitrate and phosphorus, metal and organic chemical contamination), watershed protection, water resources and nutrient management, pathogens from human and animal wastes, the spread of new and emerging diseases, and invasive species are all issues that impact agriculture wherever it is practiced. CSREES' land-grant partners, including island and minority-serving land-grant institutions, represent a full spectrum of cultural and climatic diversity and have much to share with international partners.

Beyond the issues related to global change, domestic and international concerns for food safety are contributing to a worldwide focus on the protection of water and land resources. Similarly, public interest in worldwide pesticide and livestock drug usage, and in genetic crop modification, is on the rise. Wherever they live, people want agriculture to be practiced in an environmentally sound, safe, and sustainable way. Certainly, with upswings in trade, the products we import should be safe and disease-free, and the products we export must also be safe and meet the regulations of the importing country.

The Global Partnership initiative would help in developing programs in the area of the environment and natural resources that respond to global needs. It would open the door for international cooperation and collaboration with a goal of achieving consensus on many important questions. For example, a program on emissions of greenhouse gases could tap into the researchers and stakeholders of the countries of the Intergovernmental Panel on Climate Change (IPCC) to establish, through research, emission standards and ways to implement carbon trading that would be scientifically valid. Similarly, the Global Partnership program could focus on risk assessment. For example, European countries that have objections to genetically modified organisms are not only concerned about health risks, but also environmental risks. This issue has received more public attention in Europe than in the U.S. An international meeting with Land Grant college and foreign university researcher/extensionists and domestic and foreign stakeholders (consumers and producers) would be useful in designing the kind of research program that would address the most compelling international concerns about risks and ways to assess them, while making the public (via representation) part of the process.

## **GLOBAL ECONOMICS AND COMPETITIVENESS**

Given the historic importance of agriculture to U.S. commercial performance, international trade continues to present an opportunity to strengthen U.S. farm and related economies. USDA's Foreign Agricultural Service helps American farmers identify markets abroad. Once new sales are arranged, CSREES can play an important role in helping farmers meet safety, shipping, and quality requirements of those markets. Furthermore, to expand global opportunities for American agriculture, we may occasionally need to act in almost counterintuitive ways. For example, in agriculturally based economies in Africa, Asia, or Eastern Europe, and the former Soviet republics, where pent-up market demand for American products exists, we may need to help strengthen *their* farming sectors so that consumers in these developing and transitional countries have money to purchase our farm goods. In other words, to help ourselves, we may need to help others. CSREES will need to connect with diverse economic, financial, health and nutrition, and consumer government agencies, academe, organizations, and spheres of influence in overseas markets to address economic vitality issues.

Trade is a two-way street. CSREES must help American farmers remain competitive at home and abroad. As other countries increasingly export to the U.S., American agriculture will have to adjust and respond. Yet the information required to understand the trade balance is not generally available to farm communities, leaving them feeling underrepresented and at risk. Producers both at home and abroad tend to believe that they are at a disadvantage. American farmers believe, for example, that Mexico is a threat to the balance of commodity trade because of lower input costs. Mexican producers, on the other hand, may believe that U.S. producers have tremendous advantage due to their access to technological innovation and affluence. In this context, an example of a Global Partnership opportunity for CSREES and its land-grant partners would be to partner with a university economics department in Mexico to develop a project to assess with the stakeholders, e.g., the actual costs and balances in trade between the two countries. Such a joint project might be expected to directly affect the lives of producers and consumers in both countries.

The proposed Global Partnership initiative would help address issues raised by global competitiveness in ways that are consistent with goals stated in USDA's FY 2001 Annual Program Performance Report, namely, "the achievement of a more open, stable, and prosperous world agricultural trading system, one which offers more opportunities to American farmers, more fairness to farmers in the developing world, and better prices and choice for consumers everywhere."

## **ACTION POINTS**

### **Establish a Global Partnership initiative:**

- As described in this paper, the Global Partnership (GP) initiative would address significant, globally important constraints or opportunities in a new way. All research conducted under the GP would be planned, conducted, and evaluated with involvement of U.S. and foreign university faculty. Furthermore, extension specialists would insure that input from stakeholders (food and fiber producers, consumers, and the research community in agriculture, economics, and environment) is also included in all phases of the program. At its outset, GP would provide seed funding for establishing partnerships between U.S. and foreign universities (leveraging complementary support abroad). As the program took hold, competitive grants for REE model programs would be supported that looked holistically at specific production systems. As a result of investing in GP, CSREES would find publicly acceptable solutions to globally shared concerns. The program would build upon the proposed International Science and Education competitive grants program, and other existing CSREES competitive programs.

### **Strengthen CSREES' role in the international arena, by:**

- initiating greater involvement and actively exploring collaborative arrangements with FAS, EPA-International, and USAID, among others, in the area of global change research, education, and extension;
- commissioning a research effort on the relationship of the effects of globalization, public awareness and policy through enhanced global education;
- globalizing CSREES processes so that RFAs and RFPs explicitly allow international partnerships, and international engagement is included as an element of performance assessments for NPLs.

### **Contribute to sustainable food production systems, by:**

- strengthening current CSREES outreach programs and developing new public information and extension curricula, domestically and in primary trade nations abroad, that foster public investiture and trust in agricultural technology.

**Participate in global environmental stewardship, by:**

- reaching out to agencies with environmental functions in other countries (EMBRAPA, INIA, etc.) and International Research Centers to create joint programs and information exchange;
- substantive involvement in international environmental meetings such as in the World Earth Day activities, and the UNEP Environmental Summits, to network and identify topics for collaboration with other countries.

**Improve U.S. economic competitiveness, by:**

- providing technical assistance and extension education to producers, business leaders, community leaders, government agency leaders, and policy makers in other countries in consumer and market related programs;
- utilizing land-grant research and extension services partners to interact with domestic farmers and ranchers to identify and prioritize global agricultural issues for Agency action. With its land-grant partners, CSREES should listen directly to farmers who have been affected either positively or negatively by globalization to determine if current Agency programs assist in farmers' abilities to adequately manage such impacts.

**TARGETED OUTCOMES**

- Technical solutions to agricultural constraints are deemed socially acceptable by consumers worldwide, the American farm sector benefiting from public understanding of the difficulties and challenges inherent in producing a safe and secure food supply.
- Enhanced global markets for U.S. food and fiber products are developed.
- The U.S. and global partners are better able to meet worldwide environmental standards. Public support for agriculture is strengthened as a new generation of research, education, and extension programs that access global resources lead to improved farming systems, process innovations, and natural resource conservation.
- The food supply system is environmentally sustainable and is widely trusted and accepted. Public awareness, at home and abroad, will have multiple spin-offs in new marketing strategies. Consumer confidence and 'ownership' in the production process will bring consumers and technology in closer sync. Increased worldwide public confidence will lead to a policy environment more sympathetic and supportive to the needs of the U.S. and international agricultural sector.

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