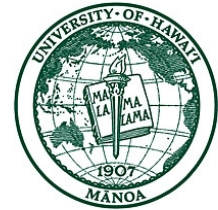


Horticulture Collaborative Research Support Program (Horticulture CRSP)



Pilot Project Pre-proposal Background Information

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PREAMBLE

Pilot Projects are major grants funded by the Horticulture CRSP. Our intent in selecting pre-proposals for preparation of full proposals is to identify proposals that that will result, if funded, in activities that show promise of achieving impacts affecting the key priorities, objectives, and themes of the Horticulture CRSP (see Appendix G).

ELIGIBILITY

This RFA is open to all US public universities and their partner institutions and organizations as defined by the CRSP Guidelines. Each application team must be led by a US public university and include at least one host country institution or organization (IARCs, NGOs, or other private/public sector partners).

DURATION AND TIMING

Pilot Projects will be funded for a maximum of 3 years. The award period will begin 10/1/2010. Funding for each year will be contingent on satisfactory progress as indicated in required reports, on fiscal accountability, and on completion of the proposed Monitoring and Evaluation programs.

AVAILABLE FUNDS

Approximately \$3,000,000 will be devoted to this round of the Pilot Project Research Award program of which \$1.2, \$1, and \$0.75 million will be available in years 1, 2 and 3 respectively. The maximum amount awarded per project will be a three-year total of

\$750,000. We will select up to 40 pre-proposals for preparation of full proposals, and intend to fund approximately 6 to 8.

Our intent in reviewing pre-proposals and full proposals will be to examine not only the manner in which the proposal's objectives address the issues and themes of the Horticulture CRSP, but also to look for fiscal constraint that will provide opportunities for maximizing the number of proposals that can be funded.

COST SHARING AND INDIRECT COSTS

Institutions may claim indirect costs at the lesser of 20% of modified total direct costs or their approved rate; indirect costs should not be claimed if no approved rate is in effect. Each applicant will be required to identify 25% of the total federal dollars per year in matching from non-federal sources and may match unrecovered indirect costs as part of that total.

TRAINING

In keeping with the HORTICULTURE CRSP theme of Information Accessibility, training will be a primary component of the HORTICULTURE CRSP at all levels. In addition to funding traditional training activities such as short-term education and exchanges, funded Pilot Projects will be expected to include outreach components, particularly focusing on entrepreneurial women.

TRANSPARENCY, MONITORING AND EVALUATION

To achieve a transparent, dynamic, effective and responsive program, the Horticulture CRSP includes a monitoring and evaluation requirement that incorporates a results-driven framework, the foundation of which is a continuous cycle of evaluation. Each Pilot Project Full-Proposal will include a results-based monitoring and evaluation plan (see Appendix B-1, Monitoring & Evaluation).

SUBMISSION

[Pilot Project pre-proposals are to be submitted using the online form \(https://ucce.ucdavis.edu/survey/survey.cfm?surveynumber=4876\)](https://ucce.ucdavis.edu/survey/survey.cfm?surveynumber=4876). Investigators are urged to adhere to the word limit for responses to questions requiring text responses. Text exceeding the requested limit will be deleted before the pre-proposals are sent to reviewers.

DUE DATE

All applications must be received in electronic forms by close of business June 15, 2010 (5:00 p.m. Pacific Daylight Savings Time). Applications received after the deadline may not be considered for funding. Receipt of proposals will be acknowledged by email within one business day.

EVALUATION PROCESS & CRITERIA

All pre-proposals will be subject to peer review by teams selected by the International Advisory Board; reviewers will use the criteria outlined in Appendix E.

ADDITIONAL INFORMATION

Additional information is available at <http://hortcrsp.ucdavis.edu>. For clarifications and questions, e-mail hortcrsp@ucdavis.edu.

APPENDIX A Monitoring and Evaluation Plan

Projects funded to address the goals of the Horticulture CRSP will be evaluated based on a results-based (logical) framework and all proposals must include a monitoring and evaluation (M&E) plan. Projects will address **Objectives** through defined **Activities** which will have specific **Outcomes** (deliverables/outputs) and **Measures of Success**. Please refer to the Performance Indicators Table (Table B-2) when completing your M&E plan. Within this framework, we define the following terms

- **Objectives.** A statement of intention. Objectives should be specific, measurable, achievable, realistic and time-bound.
e.g. reducing postharvest losses of leafy vegetables in East Africa.
- **Activities.** Research or training/outreach programs intended to achieve the objectives.
e.g. determine the benefits of perforated plastic bags for reducing water loss, evaluate the use of evaporative coolers for short term storage and transport, & conduct a 3-day workshop and demonstration for women's farmer groups.
- **Outcomes (Deliverables/Outputs).** Expected results of the activities.
e.g. documented effects of plastic bags and evaporative coolers on weight loss, 50 women farmers trained in postharvest technology
- **Measure of Success.** How will you decide if your activity was successful?
e.g. perforated plastic bags and evaporative cooling significantly reduce water loss of leafy greens, trainees have a significantly increased understanding of postharvest technology
- **Documentation of Success.** How will you objectively document the success of your activities?
e.g. extension bulletin in local language(s) on benefits of perforated bags and evaporative cooler, results of pre- and post-training quizzes to document knowledge gained.
- **Impact.** What is the long-term result of the activities and outcomes, e.g. reduced losses of leafy greens after harvest

APPENDIX B Performance Indicators Table

Full proposals for Pilot Projects will be required to include the Horticulture CRSP Performance Indicator Table (Table 1), which provides numerical indicators of project performance that the Management Team need to assist in reporting to USAID. In preparing your pre-proposal, be aware of these indicators.

Table 1 *Horticulture CRSP Performance Indicators*

Indicator	FY 2011 Planned	Notes
Policy and Enabling Environment		
Number of policies/regulations/administrative procedures analyzed as a result of USG assistance.		
Number of policy reforms/regulations/administrative procedures presented for legislation/decrees as a result of USG assistance.		
Number of policy reforms/regulations/administrative procedures passed for which implementation has begun with USG assistance. (Outcome Indicator)		
Number of individuals who have received USG supported short-term agricultural enabling environment training - Female		
Number of individuals who have received USG supported short-term agricultural enabling environment training - Male		
Number of individuals who have received USG supported long-term agricultural enabling environment training - Female		
Number of individuals who have received USG supported long-term agricultural enabling environment training - Male		
Number of farmers adopting improved technology or management practices. (Outcome / Impact Indicator).		
Number of new technologies or management practices under research as a result of USG assistance.		
Number of new technologies or management practices made available for transfer as a result of USG assistance.		
Number of new technologies or management practices being field tested as a result of USG assistance. (Custom Indicator)		
Number of additional hectares under improved technologies or management practices as a result of USG assistance.		
Number of rural households benefiting directly from USG interventions		
Number of producers organizations, water users associations, trade and business associations, and community-based organizations (CBOs) receiving USG assistance		
Number of agriculture-related firms benefiting directly from USG supported interventions.		
Number of women's organizations/associations assisted as a result of USG interventions.		
Number of public-private partnerships formed as a result of USG assistance.		
Number of individuals who have received USG supported short-term agricultural sector productivity training - Female		
Number of individuals who have received USG supported short-term agricultural sector productivity training - Male		

Indicator	FY 2011 Planned	Notes
Number of individuals who have received USG supported long-term agricultural sector productivity training - Female		
Number of individuals who have received USG supported long-term agricultural sector productivity training - Male		
Number of research projects or new technologies of potential benefit to U.S. horticultural industries		
Postharvest Handling and Technology		
Number of handlers adopting improved technology or management practices. (Outcome / Impact Indicator) - Female		
Number of handlers adopting improved technology or management practices. (Outcome / Impact Indicator) - Male		
Number of new technologies or management practices under research as a result of USG assistance.		
Number of new technologies or management practices made available for transfer as a result of USG assistance.		
Number of new technologies or management practices being field tested as a result of USG assistance. (Custom Indicator)		
Number of new value added or processing products developed and/or introduced		
Number of rural households benefiting directly from postharvest, value added or on-farm processing interventions		
Number of individuals who have received USG supported short-term postharvest training - Female		
Number of individuals who have received USG supported short-term postharvest training - Male		
Number of individuals who have received USG supported long-term postharvest training - Female		
Number of individuals who have received USG supported long-term postharvest training - Male		
Number of research projects and/or technologies of potential benefit to U.S. horticultural industries		
Horticulture Market System Development		
Number of new farmer marketing associations, or similar, formed as a result of USG assistance.		
Number of new marketing opportunities created		
Number of new horticultural products being exported		
Quantity of new horticultural products being exported		
Number of rural households benefiting directly from marketing strategy interventions		
Number of private sector marketing firms benefiting directly from USG supported interventions.		
Number of women's organizations/associations assisted as a result of USG interventions.		
Number of public-private partnerships formed as a result of USG assistance.		
Number of individuals who have received USG supported short-term marketing training - Female		
Number of individuals who have received USG supported short-term marketing training - Male		

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Indicator	FY 2011 Planned	Notes
Number of individuals who have received USG supported long-term marketing training - Female		
Number of individuals who have received USG supported long-term marketing training - Male		
Number of research projects and/or technologies of potential benefit to U.S. horticultural industries		
Number of farmers adopting improved technology or management practices. (Outcome / Impact Indicator).		
Number of new technologies or management practices under research as a result of USG assistance.		
Number of new technologies or management practices made available for transfer as a result of USG assistance.		
Number of new technologies or management practices being field tested as a result of USG assistance. (Custom Indicator)		
Number of additional hectares under improved technologies or management practices as a result of USG assistance.		
Number of rural households benefiting directly from USG interventions		
Number of producers organizations, water users associations, trade and business associations, and community-based organizations (CBOs) receiving USG assistance		
Number of agriculture-related firms benefiting directly from USG supported interventions.		
Number of women's organizations/associations assisted as a result of USG interventions.		
Number of public-private partnerships formed as a result of USG assistance.		
Number of individuals who have received USG supported short-term agricultural sector productivity training - Female		
Number of individuals who have received USG supported short-term agricultural sector productivity training - Male		
Number of individuals who have received USG supported long-term agricultural sector productivity training - Female		
Number of individuals who have received USG supported long-term agricultural sector productivity training - Male		
Number of research projects or new technologies of potential benefit to U.S. horticultural industries		
Institutional and Capacity Building		
Number of host country institutions, agencies and organizations in direct cooperation or collaboration		
Number of workshops conducted for host country institution, agency, and organization personnel		
Number of host country professionals attending workshops, training conferences, or similar - Female		
Number of host country professionals attending workshops, training conferences, or similar - Male		
Number of graduate degrees earned by host country as a result of Hort CRSP project - Female		
Number of graduate degrees earned by host country as a result of Hort CRSP project - Male		

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Indicator	FY 2011 Planned	Notes
Number of certificate training programs conducted		
Number of certificates earned by host country professionals - Female		
Number of certificates earned by host country professionals - Male		
Number of U.S. faculty providing training or instruction in host country - Female		
Number of U.S. faculty providing training or instruction in host country - Male		
Number of host country extension workers, university faculty or other host country professionals involved in providing training to other host country professionals - Female		
Number of host country extension workers, university faculty or other host country professionals involved in providing training to other host country professionals - Male		
Number of host country professionals directly involved in conduction Hort CRSP research activities - Female		
Number of host country professionals directly involved in conduction Hort CRSP research activities - Male		

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APPENDIX C Budget

As noted above, and in the call for pre-proposals, the Horticulture CRSP has set aside \$3 million to fund the 2010-2013 round of Pilot Projects. \$1.2, \$1, and \$0.75 million will be disbursed in years 1, 2 and 3 respectively. The financial guidelines for the Horticulture CRSP are found in the Code of Federal Regulations, 22 CFR 226, at http://www.access.gpo.gov/nara/cfr/waisidx_05/22cfr226_05.html. Limitations exist relating to the purchase of agricultural commodities, motor vehicles, pharmaceuticals, pesticides, rubber compounding chemicals and plasticizers, used equipment, and fertilizer. The eligibility of commodities is discussed in detail in ADS Chapter 312 which can be found at <http://www.usaid.gov/policy/ads/300/312.pdf>.

DETAILS

(A separate budget and budget narrative is required for each institution)

PERSONNEL

Senior Personnel

Provide names and titles for all senior personnel, including those who are not being paid against the project. State the appropriate amount of effort as a percentage or calendar months for each key person on the project. Senior personnel from another institution should be reflected on the corresponding budget and budget narrative for that institution.

Support Personnel

Provide the title/position/role for all support personnel. Administrative salary is not allowed as a direct cost unless it is part of an administrative fee for an institution that is not claiming any indirect costs—the administrative fee should be included in the “other” category if applicable.

TRAVEL

Detail domestic travel using applicable rates (mileage, etc.). Provide a full explanation for **each** anticipated international trip—this explanation needs to include the following information (per trip):

-names and/or number of travelers

-destination country

Provide the method of calculation for each international trip including applicable per diem rates.

Note: The information in the budget narrative serves as **PRIOR BUDGET APPROVAL** for each international travel trip; any deviation from this budget narrative for international travel will require pre-approval from the Horticulture CRSP Management Entity.

MATERIALS AND SUPPLIES

List specific supplies and costs if possible; if specifics are unknown, list specific categories of supplies. No miscellaneous or contingency categories are allowed. All goods and services must meet the source, origin, and nationality requirements set forth in 22 CFR Part 228 for the authorized geographic code 000, the United States. The following goods are restricted and may not be purchased without prior approval:

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- agricultural commodities
- pharmaceuticals
- pesticides
- US Government-owned excess property
- fertilizer

PRIOR APPROVAL will be deemed to have been met when:

- the item is of US source/origin;
- the item has been identified and incorporated in the program description or schedule of the award (initial or revisions), or amendments to the award; and
- the costs related to the item are incorporated in the approved budget of the award.

EQUIPMENT

Equipment is defined as tangible, non-expendable property having a useful life of more than one year and an acquisition cost of \$5,000 or more per unit. **Motor vehicles and used equipment are not allowed.** All goods and services must meet the source, origin, and nationality requirements set forth in 22 CFR Part 228 for the authorized geographic code 000, the United States. Detail each piece of equipment by name/model/type.

PARTICIPANT TRAINING

Guidelines for participant training are found in ADS Chapter 253 – Training for Development. <http://www.usaid.gov/policy/ads/200/updates/iu2-1003a.pdf>. Participant program monitoring must be detailed here per the federal guidelines. Cost tracking for participants is in three categories: instruction; participant; travel.

OTHER

Some examples are greenhouse fees, maintenance agreements, honoraria, repairs, analyses, and long-distance toll charges. All goods and services must meet the source, origin, and nationality requirements set forth in 22 CFR Part 228 for the authorized geographic code 000, the United States. Travel fees and insurance should be included under “Travel”. If admin fees are claimed, enter them here and provide a full narrative including rates and cost structure (administrative fees should be minimal and not exceed 8 – 10% of the total modified direct costs). A signed letter from the institution is required to justify any requested administrative fees.

SUBAWARDS

Briefly list each subaward here and include yearly and cumulative amounts. Each subaward will have its own, separate budget and budget narrative. Do not fill in the subaward totals on the main budget sheet as they will auto-fill after entering in any applicable subaward budgets on the provided worksheets. The subaward budget sheets also allow for subawards—enter the appropriate total amounts for each on the worksheet and detail the budget in the narrative.

INDIRECT COSTS

Provide the rate used (must be either the approved rate for the institution or 20% of modified total direct costs, whichever provides the lesser for indirect costs). If no

approved rate applies, then the indirect cost rate should be zero. Administrative fees should be requested in the “Other” category if applicable; if administrative fees are charged, then no indirect costs can be taken.

The budget spreadsheet is formatted to calculate indirect costs based on modified total direct costs. Please contact Heather Kawakami at hekawakami@ucdavis.edu if a different method of calculation is needed. **An approved indirect cost rate agreement for each institution claiming indirect costs must be provided at the time of proposal submission.**

COST SHARING

Cost sharing is required at 25% of the total federal funds requested from the Horticulture CRSP. The cost share must consist of non-federally funded contributions that meet the criteria detailed in 22 CFR 226.23. Cost sharing may include, but is not limited to: 1) principal investigator/senior personnel effort; 2) in-kind contributions; 3) cash contributions; 4) unrecovered indirect costs; 5) indirect costs on principal investigator/senior personnel effort.

Cost-sharing documentation from the contributing entity must be provided at the time of proposal submission (in most cases, this will be in the form of a letter signed by the authorized organizational representative). Some items that are ineligible for cost sharing are existing equipment, administrative services, office and lab space, and administrative fees in lieu of indirect costs. The required cost share may come from any combination from the main institution and subaward(s) as appropriate. **Provide a detailed cost-sharing narrative listing institution(s), dollar amounts, and descriptions below.**

Please address any budgetary questions to Heather Kawakami at hekawakami@ucdavis.edu, 530-754-7968.

APPENDIX E Application Review Criteria

Impartial peer reviewers will evaluate all applications, and their advice will be key to the funding decisions recommended by the Horticulture CRSP Program Council. The primary criteria for evaluating proposals are:

Project Impact: How well does the proposed project contribute to attainment of the Horticulture CRSP Objectives? Specifically, how well does the proposed research build local scientific and technical capacity, apply research findings and technical knowledge to increase small producers' participation in markets, and facilitate the development of policies that improve local horticultural trade and export capacity. Does the project address horticultural crop development in one of the target regions and/or are the results transferable to other countries or regions? (20 points)

Capacity Building: How well do the degree, faculty exchange, certificate and short-term training programs build capacity for sustaining future horticulture development in the target host countries? How well does the proposed research enhance host country infrastructure for research and education, such as facilities, instrumentation, networks, and private industry partnerships? (20 points)

Scientific Merit: How important is the proposed activity to advancing knowledge and understanding in "horticulture" and related disciplines? To what extent do the proposed activities utilize "leap frog" or "disruptive" technologies and explore creative and original concepts? Are the proposed research and outreach methods appropriate? Can the proposed research be technically implemented within the proposed time frame and budget and given the available resources? Are proposed research and extension activities effectively targeted towards project objectives? (20 points)

Participatory Partnerships: How well qualified is the research team to conduct the project? Is the proposed team sufficiently diverse institutionally (universities, IARCs, NGOs, etc.), disciplinarily (social, biological and physical), and by gender for the intended research? Were developing country stakeholders and/or USAID Missions sufficiently involved in the conception and design of the research application? How well does the research proposal integrate stakeholders into the research program? Strength of past-performance in diverse participatory research and development projects? Effectiveness of identified groups of local stakeholders? (15 points)

Gender and Enabling Environment: How well is the gender of stakeholders (end-users, trainees, and other participants) taken into account? To what extent has gender sensitivity been integrated into activities? How well does the proposed activity broaden the participation of women? Does the project contribute to policies and/or market access that will ultimately alleviate poverty, enhance quality of life, and improve economic livelihoods? (15 points)

Monitoring, Evaluation and Impact Plan: How well is the Monitoring and Evaluation (M&E) plan developed and designed specifically for the proposed project? Are benchmarks

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established so progress toward achieving objectives can be measured? Are target impacts realistic and measurable? (10 points)

The Horticulture International Advisory Board will seek a balance between regions, themes, and institutions in making their final recommendations to the Management Entity of Horticulture CRSP.

APPENDIX F Gender assessment for Horticulture CRSP RFAs

MINIMUM USAID GENDER GUIDELINES:

1. USAID guidelines on gender consider that ALL projects should be gender sensitive.
2. USAID guidelines ask everyone to do their utmost to include women as 50% of beneficiaries in ALL areas of your project. This means that if you cannot do so you need to provide justification or when possible find a creative way around constraints.

PRINCIPLES :

1. Gender refers to social characteristics of men and women, such as their different roles within the family or in farming and the types of behavior expected of them (for instance, women are gentle and faithful, men are strong and free). These issues speak to the ability of women and men in specific communities to carry out certain farming activities, to be able to travel outside their immediate area for training and meetings, to be sufficiently educated to participate in training, and so on.
2. Gender stereotypes will vary among cultural groups. It is necessary to be aware of how they function in your particular cultural group because they will affect constraints for both sexes. For instance, if you want to add more weeding on a man's crop and weeding is a woman's task in that culture, you may not get your technology adopted. Include in your proposal an assessment of how you will deal with this.
3. Gender issues also speak to who farms which crops and/or which practices do they do in farming. What are the differential usages of men and women regarding natural resources (water, firewood, etc.)? For instance, women's inability to participate in formal employment or their restraints in mobility may result in their using natural resources in order to get cash. For instance, in Africa women may cut down trees to sell the wood because they have no other income source.
4. Gender issues also exist in regard to scientists, extension agents, and students. This includes both numbers and in men's and women's perspectives.
5. Consider that one of the CRSP goals is to sensitize host country stakeholders at all levels - farmers, extension agents, local and national government officials, researchers, university faculty, etc. - to gender issues.

The Horticulture CRSP ME can provide further help in formulating gender-sensitive criteria for your specific proposal. It can also offer training of trainers for teachers and trainers so they can incorporate gender training in their courses.

ASSESSMENT CRITERIA (Use those that apply to the work you are doing.)

General:

1. Review your stakeholder/participant list and consider the gender issues with each group.
2. In writing your proposal make the sex of your participants explicit - eg. Men and women farmers/students.

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3. Go beyond numbers to consider gender stereotypes that might hamper participation of one group or other.
4. Add relevant gender training to all training programs, long and short term.

Farm/Enterprise level:

Specify the gender division of labor for Horticulture CRSP activities in your target area. Make it clear in your proposal what these are and the implications for your proposal.

1. Identify constraints on women - mobility, resources, etc. - so you can include ways of dealing with this in your proposal.
2. Clarify whether you will be dealing with men or women producers, marketers, and other stakeholders, or both. If not with both, please explain why not.
3. In addition to being gender sensitive, we ask you to be farmer sensitive. Show us that farmers and other stakeholders have been consulted on the various phases. And thus that what you are proposing corresponds to their needs.

Extension level:

1. Aim at working with a minimum of 50% women. If necessary figure out how to find relevant women in or near the communities who might be able to work as assistant extension agents. For instance, you will be working with extension services. You want to provide extension workers with bicycles but women in that area have traditionally not ridden bicycles. How will you handle this? Discuss the constraints in your research area in your proposal as also any relevant constraints on women/men farmers.
2. At the community level take into account how men and women are organized into associations, how group activities are structured, and what tasks provide for group communication such as doing laundry by the stream, or drinking tea under the shade tree.
3. Please provide gender assessment of the information knowledge transmission systems associated with your problem statement.

Training:

1. Short-term in-country training. Programs should be designed to include both sexes.
2. All courses should provide gender training at some level relative to the course subject and level.
3. Degree and certificate training should be offered to students of both sexes. The guidelines you should include in your proposal should be on the lines that 50% women is the desired percentage and the minimum percentage of female students should be 33%. If the percentage of women will be lower than 50% please provide an explanation for this and state what your project will do to ameliorate the situation.

Scientists:

Include women scientists in both the US and host countries. If you cannot do this, explain the constraints that have prevented this.

APPENDIX G Background Information, the Horticulture CRSP

CRSPs

Collaborative Research Support Programs (CRSPs) are funded by the US Agency for International Development (USAID), and have the following goals and characteristics:

- Coordinated, multi-disciplinary research programs that are collaboratively developed and cooperatively implemented, with shared responsibilities between US and host country institutions and scientists. CRSP goals are to support economic growth and to reduce poverty through the generation of knowledge and technologies important to the development of agriculture and natural resources of developing and transition countries, while also contributing to the improvement of agriculture in the US.
- Long-term activities, carried out largely in developing countries, following “global plans” of research goals and strategies to reach them. Research proposals are selected competitively and are subject to approval by USAID and by BIFAD.
- Development of the human and institutional capability of research organizations in the countries where CRSP activities are located. Research projects are a vehicle for this capacity development, as are graduate degree programs, research assistantships, and workshops. The institutional relationships established between CRSPs and host country institutions are intended to be enduring and to transcend the life of the CRSP.

HORTICULTURE CRSP GOALS, OBJECTIVES, AND STRATEGIES

Goals

In addressing the priorities outlined in the RFA and the Global Horticulture Assessment (GHA), the Horticulture CRSP emphasizes challenges and opportunities in seven key areas – gender equity, sustainable crop production, postharvest technology, food safety, market access, and financing. Constraints in each of these areas can limit the opportunity for limited resource communities to participate in the value chain. Equally, in each area there are exciting opportunities to deploy innovative technologies, introduce new germplasm, and create innovative marketing partnerships and strategies that will facilitate their participation. The goals of the Horticulture CRSP are to realize the opportunity that horticultural development offers, of meeting the food needs and improving nutrition and human health in the developing world, while providing opportunities for diversification of income and consequent economic and social advancement of the rural poor and particularly women. The results of the research and training activities for the Horticulture CRSP will increase food security and improve the quality of life of people in developing countries while bringing an international focus to the research, teaching, and extension efforts of U.S. institutions. These goals will be achieved through collaborations between U.S. universities and national and regional institutions abroad that are active in horticulture research and development. Initial programs will target developing countries in sub-Saharan Africa, South Asia, and Latin America.

Objectives

The Horticulture CRSP objectives are:

1. To build local scientific and technical capacity,

2. To apply research findings and technical knowledge to increase small producers' participation in markets, and
3. To facilitate the development of policies that improve local horticultural trade and export capacity.

Strategies for achieving these goals and objectives include:

- To develop knowledge pertaining to horticultural agriculture as a means of building sustainable human, economic, technological and institutional capacity via interventions and strategies, and
- To organize and extend the knowledge developed in modalities that can be readily adapted and implemented for sustainable farming, value chain building, education, training, and decision-making at global, national, regional and local levels.
- Integrated and cross-cutting strategies to achieve these goals are:
- To identify the constraints to production, postharvest, food safety, marketing, environmental and enabling environment for stakeholders in horticultural value chains, particularly small enterprises and those led by women,
- To build institutional and personal capacity through horticultural research activities and their applications
- To invest in education, training, and extension of technology to smallholder producers, agricultural support personnel and institutions in host-country partnerships
- To build and support linkages between producers and markets and their infrastructure through policy recommendation, information and technology interventions for gender-empowering, financial and socioeconomic solutions
- To provide specific and flexible mechanisms through public and private partnership and stakeholder interactions to reduce poverty, improve nutrition, support gender equity, promote food security and invest in pro-poor educational and economic development of small holder production and competitiveness in high-valued horticultural products.

The Horticulture CRSP expects applicants for Pilot Project awards to implement these strategies via 'problem-solving' methodology for 'Farm to Fork' capacity-building at all levels of the horticultural value chain.

Major themes

The Pilot Projects selected for funding by the Horticulture CRSP will address one or more of the central themes of the Horticulture CRSP – Information Accessibility, Innovation, and Gender Equity.

Information accessibility

The Global Horticulture Assessment notes the desperate need in rural communities for information – on marketable crops and varieties, on production techniques, postharvest handling, and market requirements and access. Successful Pilot Project applications will include strategies for extending information and technologies developed during the project,

and eventually linkages to the developing Horticultural Knowledge Center (<http://hortcrsp.ucdavis.edu/GHIC/html>).

Leapfrog technologies

The Horticulture CRSP Pilot Projects that explore 'disruptive' or 'leapfrog' technologies will provide advanced tools, in an appropriate form, to stimulate and facilitate horticultural development in the developing world. An example of this approach is to capitalize on the rapidly decreasing cost and increasing efficiency of photovoltaic devices to power innovative technologies for horticultural applications. Electric water pumps, reverse osmosis desalinizers, and Peltier effect small-scale coolers are all examples of such strategies. The Horticulture CRSP will also encourage Pilot Projects that harness the explosion in knowledge of the molecular and biochemical basis of plant growth and development to develop novel germplasm (through biotechnology, marker-assisted, or conventional breeding) that addresses constraints to horticultural production, particularly biotic and abiotic stresses.

Gender equity

In the developing world, women provide as much as 90% of the labor for the production of horticultural crops. Although they represent a reservoir of production and marketing knowledge of what are often termed 'women's crops' they usually are compensated with lower wages and less permanent positions than those available to men. Lacking knowledge of how finance works and where to get it, as well as collateral to insure it, women have unequal access to technology and production inputs and therefore reduced opportunities for economic advancement. All Pilot Projects should consider gender and enabling environment issues. Project proposals specifically addressing gender inequality will be expected to evaluate gender-based constraints, provide leadership and technical training, and provide outreach or policy assistance to develop solutions. Some training activities are expected to target women, including training for female extension specialists.

Impacts

In addition to the innovation, training, and capacity building noted above, success for the Horticulture CRSP will include demonstrable impacts in

- Increased production of selected horticulture products in target countries
- Increased trade of selected horticulture products in target countries
- Increased value-addition of selected horticulture products in target countries
- Investment in host country agri-industry that increases employment