

# Internationalization of Land-Grant Universities in the US: The results of an online survey

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## Abstract

The USDA International Science and Education (ISE) grants program, formally initiated in 2005, seeks to improve the ability of higher education institutions in the U.S. to conduct international collaborative research, extension, and teaching programs. By 2008, the ISE Program has provided support for 55 projects to academic institutions throughout the U.S. The purpose of this paper is to present the results of online surveys of the award grantees, as well as Directors of International Agriculture programs, documenting their perceptions of the short- and long-term benefits of ISE-funded projects, and offering insights into the state of internationalization at U.S. Land-Grant universities (those with Colleges of Agriculture). Besides providing leaders of internationalization efforts with concrete evidence of effective programs and strategies, the results of the surveys suggest profitable uses of U.S. Federal funds for strengthening internationalization at higher education institutions. Key findings identified travel support that strengthens and promotes research collaborations, faculty exchanges, and study tours for faculty and students as the most successful use of ISE funding. In addition, seed funds for collaborative research projects and support for globalizing course and curriculum development, including distance education opportunities, were also strongly supported. At the same time, funding levels for these grants, as well as limits on grants per institution, are seen as restricting the reach of the ISE Program. The authors also noted a lack of recognition of the importance to incorporate information technology and management applications as integral parts of the ISE projects to ensure continued networking opportunities and access to project results by all collaborators, no matter their geographic location.

## Introduction and Background

In 1999, the Globalizing Agricultural Science and Education for America (GASEPA) Task Force published its agenda for strengthening the position of U.S. agriculture to “continue to be a major contributor to global food security in the post-Cold War era” (NASULGC/IAS 1999, p.1). Adopted by the Board on Agriculture of the National Association of State Universities and Land Grant Colleges (NASULGC, now A.P.L.U.), the stated vision was to build a cadre of

globally competent stakeholders, faculty, and students in the U.S. food, agriculture, and natural resource sectors, who live, compete, and work well in an ever dynamic and interdependent world community (NASULGC/IAS 1999, p. 6).

The accompanying mission statement provided an outline of specific objectives envisioned by GASEPA to realize this vision:

An international dimension is incorporated into teaching, research, and extension programs so that (1) our graduates understand and appreciate the global environment in which agriculture functions, (2) our research and extension programs have access to the best ideas and technologies regardless of where they are generated or developed, and (3)

the above strengthen U.S. international competitiveness within a sustainable global agricultural system. (NASULGC/IAS 1999, p. 6)

Further, the Task Force directed globalization goals to particularly focus on human resource development, the dissemination of market and trade information, expanded collaborative global partnerships, the promotion of trade through economic development particularly with developing nations, and engagement in global environmental issues.

To realize the GASEPA agenda, the Task Force was reconstituted as a Standing Committee by the Board on Agriculture (BOA), a move that resulted in an implementation plan to develop, manage, promote, and evaluate a competitive grants program that would be overseen by the USDA's International Programs office (NASULGC/IAS 2000). The grants program was contingent upon gaining Congressional support and the necessary appropriations for initiation. This goal was accomplished through the reauthorization of the Research Act of 1977 that included language stating "the Secretary may make competitive grants to colleges and universities...to strengthen U.S. economic competitiveness and to promote international market development...through enhanced agricultural research, extension, and teaching activities" (U.S. Government [2008]). The most current reauthorization also extended indefinitely the term of the grant program from 1999 past the original 2007 end date (Ibid).

Once funding was obtained, the International Science and Education (ISE) grants program was initiated first on a biennial basis in 2005, although carry over the first year resulted in additional awards in 2006. The maximum award was set at \$150,000 with an indirect cost rate set at 22% of the total budget. The initial round of request for proposals (RFPs) generated 13 projects although these were followed quickly by another 19 in 2006. An additional 23 grants were made in 2008, bringing the total awards to 55 at that time.

## Purpose and Objectives

This paper presents findings of a survey of ISE 2005-06 and 2008 awardees for the purpose of determining the short- and long-term outcomes and impacts of ISE funded projects toward the internationalization of U.S. academic institutions, largely Land-Grant universities (LGUs) - those that have Colleges of Agriculture - in the areas of research, extension, and teaching activities. The particular focus was on identifying those activities perceived as most successful in achieving the goals of the ISE Program, as well as any areas that might be improved to expand Program positive impacts.

This paper also presents the results of a parallel survey of International Agriculture Directors at LGUs which was conducted to determine the extent of broader campus and/or College internationalization such as the role global engagement plays in mission statements and strategic plans, seed funds and incentives, research and outreach programs, information dissemination/knowledge sharing, and curriculum changes related to international interests. The Directors also were asked about their understanding and involvement in the ISE Program and how the Program has or has not contributed to campus internationalization activities.

## Methods

In September 2009, prior to developing the survey tool, the primary author interviewed ISE staff in Washington D.C. as well as officials of the Association of Public Land-Grant Universities (A.P.L.U.; formerly NASULGC) and the American Council on Education (ACE). Based on the knowledge gained from these interviews, a review of ISE grants awarded (drawing on reports available from the USDA Current Research Information System (CRIS)), and from an examination of current literature, two questionnaires were formulated, one targeted to ISE grantees and the other to International Agriculture Directors. These questionnaires were reviewed by A.P.L.U. and ACE personnel and revised according

to their suggestions. The ISE grantee survey contained 14 demographic/profile questions and 22 ISE program-specific questions, while the International Agriculture Directors survey comprised 17 demographic/profile questions and 10 ISE Program questions.

In November 2009, the required forms were submitted to the Human Subjects office at the University of Arizona to gain approval for conducting the surveys. It was specified that responses would be submitted anonymously. This process was successfully concluded by early December. At that time, the questionnaires were prepared using Survey Monkey and, on December 8<sup>th</sup>, an introductory letter was sent to two mailing lists by an A.P.L.U. official announcing the survey and requesting participation. The ISE grantees mailing list included 51 recipients, and A.P.L.U.'s International Agriculture Directors mailing list numbered 125 persons, although 12 addresses were found to be invalid. The survey letter and link to the Survey Monkey tool was emailed on December 15<sup>th</sup>, followed by a first reminder on December 23<sup>rd</sup> and a second reminder on January 8<sup>th</sup>. The survey closed at the end of January.

## Survey Results

Of the 51 recipients of the ISE grantee survey, 36 completed the survey for a nearly 71.0% response rate. However, the result from the International Agriculture Directors mailing was not as great, with only 29 completed questionnaires for a 25.6% response rate. Given the number of open-ended questions requiring thoughtful and knowledgeable responses, the response rates and the extent of the descriptive answers received was considered significant.

### Summary of International Agriculture Directors Responses

#### *Demographic/Profile Responses*

Responses were received from a much wider variety of positions than just those designated as International Agriculture Directors (6 responses). Included were Directors and Associate Directors of university-level International Program offices (10); Deans, Associate Deans, and Assistant Deans (8); two Vice Chancellors, two professors, and one Associate Director of an Agricultural Experiment Station. These positions had been held anywhere from one to 17 years and most were full-time FTEs (16), although many were half time or more (6) or less than half time (6). Most of the positions were affiliated with 1862 LGUs (82.8%), with the next group from 1890 LGUs (publically historically Black LGUs) (13.8%), and one from a non-LGU. There was no representation from 1994 LGUs (Native American tribally-controlled colleges and universities). In specifying the focus of internationalization activities, 58.6% (17 responses) stated research, 48.3% (14) identified teaching, 13.8% (4) selected Extension/Outreach with 10.3% (3) writing in Study Abroad. Support provided by these institutions to encourage international activities included (a) preparing MOUs (72.4%); (b) establishing partnerships (69%); (c) supporting international students (69%); (d) providing logistics for international visitors (58.6%); and (e) obtaining visas (48.3%). Responses to a question about awards or recognition given to internationally engaged faculty and staff included 11 with "no recognition given", nine that offered some type of awards, and one sponsored "thank you" event.

When asked if global engagement was included in their institution's mission statement or strategic plan, 85.2% said "yes", 14.8% said "no" and two skipped the question. The same question, but asked in terms of their College, met with a lower positive response: 75% said "yes", 25% said "no", and one skipped the question. Similarly, the responses to the question asking if global engagement is considered a legitimate and supported promotion and tenure (P&T) activity elicited a "yes" 53.6% of the time (15 responses), with a "no" response from 25% of the respondents, and ten comments (35.7%). Generally, comments suggested informal rather than formal support for global engagement activities or as one respondent stated, "It is mentioned, but it does not receive the emphasis from departmental P&T committees that are accorded teaching and research." Another suggested there was only support "to the extent that is has

benefit to the citizens of our state.” A similar question about College-level P&T guidelines revealed slightly more support for international activities with 60.7% answering “yes” to its legitimacy and 17.9% answering “no”. Of the nine comments (32.1%), the informality of the support was also noted and one suggested global engagement “is interpreted and enforced in different ways. It is not required.”

Level of perceived commitment to internationalization at the institutional and college levels was also assessed. On a scale of one to five with one the lowest level of commitment and five the highest, institutional commitment to internationalization was almost equally split in the middle three levels (27.6%, 34.5%, and 34.5%) with only one response selected at the highest level of commitment. At the College level, there was a greater percentage (17.2%; 5) responding at the highest level, but there was a greater spread of responses than from the Directors including one who felt there was no commitment to internationalization at the College level. In general, it appears this cohort believes there is at least some if not considerable commitment to internationalization on their respective campuses. However, when asked if the level of commitment had diminished given the economic downturn, all felt there has been some decline, with 39.3% specifying significant decline and 42.9% moderate decline.

### *ISE Grant Program-Related Responses*

Of this cohort, only 31% (9 responses) had been a recipient of an ISE grant and most had not collaborated on an ISE grant (71.4%). Of those that were aware of or involved in ISE projects on their campuses, 81.8% (9 each) felt the projects both strengthened internationalization capacity and raised global awareness of the faculty and students; 54.5% (6) said worldviews of students had changed; and 45.5% (5) identified improvements in linkages to other campus globalization strategies, in cross-cultural communication, and in the development of a model for other campus activities; while 36.4% (4) confirmed a greater integration with existing campus programs and increased involvement with the private sector. None thought the projects had led to changes in university structures and only one each saw an increase in numbers of international students, or support for short-term study abroad, at least as a result of ISE grants.

The respondents suggested continuation activities resulting from the ISE grants included new research collaborations both internally and with external partners (6 responses), although several also noted curriculum development activities (2) and new study abroad opportunities (1). The top suggestions for the most effective use of funds to encourage internationalization ranged from travel support, presumably for strengthening research collaborations (11), seed funding for projects (11), and support for faculty exchanges (9) as well as funding for curriculum enhancement (6) and more study abroad programs (3). To improve the effectiveness and the reach of the ISE program, the largest number of respondents (10) suggested increasing the duration of projects and raising the maximum “funding level to allow more faculty and student involvement [and] to maintain the effectiveness of partnerships.” Following on this, the most requested change was to accept more than two applications and/or one grant per university (4). Other suggestions included changes in the review process such that it is more “transparent and funds programs that help more than one department or faculty member” and that encourages “innovation, resourcefulness and institutional commitment”.

## **Summary of ISE Grantee Responses**

### *Demographic/Profile Responses*

The 36 grantees that provided responses to the survey were largely from the 2008 cohort (48.6%; 17) with projects running most often for two years (44.5%; 16), although 58.3% (21) are still in progress. Respondents were nearly equally split on their academic appointment designation with 55.6% (20) holding research appointments and 52.8% (19) considered teaching faculty. There was also an even split between Extension and Administration (19.4% or 7 responses each). Most awards were made to 1862

LGUs (72.2%; 26) with 16.7% (6) made to non-LGUs. By far the most recipients were affiliated with departments (88.9%; 32), although administrative units involved included Offices of International Programs (12), followed by College-level International Program offices (6), then departmental administrations (5), central administration (3), academic program offices (2), and Extension (1).

As might be expected, collaborations were primarily with foreign institutions (88.9%; 32) followed by internal institutional collaborations (66.7%; 24) and a range of other types including those with other U.S. institutions (22.2%; 8), foreign NGOs (22.2%; 8), and private industry (13.9%; 5). The breakdown of the location of foreign collaborators included: Mexico/Central America (12); South America (8); Europe (8); India (8); Africa (7); East Asia and the Pacific (5); Australia/New Zealand (2); and the Middle East (1). Project disciplinary concentrations were wide-ranging including 31 agricultural science fields, and three designating a focus on Extension. Of the agriculture disciplines, the highest numbers were in business-related fields (6), rural development & sociology (6), animal science (6) food science (5), plant science (5), environmental economics (4) and an even balance among agronomy, organic agriculture, water management, and engineering (3 each). Fewer still were projects in the areas of wildlife, natural resource management, entomology, pest management, agricultural communications, and agricultural education.

As with the International Agriculture Directors, level of perceived commitment to internationalization at the institutional and college levels was also assessed. In this case, institutional commitment to internationalization was almost equally split across all five levels although there was clearly a strong perception that there was little or no support by many of the respondents (22.2% and 16/7% at the two lowest levels). At the College level, there was only slightly less a sense of minimal commitment to internationalization (5.6% and 11.1% at the two lowest levels). However, when compared with the responses from the Ag Directors cohort, ISE grantees had a somewhat more positive view overall of institutional and College-level support than their administrators. An example of how this may be revealed at these institutions is the number of incentives offered for global engagement. At the institutional level, 50% (17) stated they had travel grants programs, 44.1% (15) give recognition or awards for international engagement; 38.2% (13) offer some support for P&T; 32.4% (11) provide seed funds; although only one mentioned merit pay. At the same time, five commented there were no incentives in place at their institutions. There was a similar mix of responses when asked about incentives at the College level: 46.9% (15) identified travel grant programs; 43.8% (14) offered recognition and awards; 34.4% (11) provide seed funds; 31.3% (10) include P&T support; although again with five stating there were no incentives. As one respondent put it, "In my view, none. In fact, the response I got could be termed a disincentive. It is only my professional interest and conviction that it is important that makes me continue."

### *ISE Project-Related Responses*

ISE Program-specific goals to be strengthened through the projects were identified first as teaching (76.5%; 26), then research (44.1%; 15), Extension (38.2%; 13); and lastly economic competitiveness (23.5%, 8). Student development also was identified twice in the comment field. As might be expected, there was a similar response when asked about the primary objectives addressed in their specific projects: teaching (79.4%; 27); research (58.8%; 20); Extension and increased competitiveness (52.9%; 18 each), and technology development (23.5%; 8). Key activities included: partnerships with foreign institutions at the highest level (82.4%; 28), followed closely by internationalized curriculum development (73.5%; 25), study abroad programs (61.8%; 21), and research projects (58.8%; 20). Also significant were workshops, seminars, and speaker events (18 responses), exchanges with foreign faculty (16), development projects (8), and development of niche markets (6). Lesser utilized were public-private partnerships, product commercialization, volunteer opportunities, reverse technology flow, and cross-cultural campus programs. In rating the success in meeting these objectives, all

respondents felt there had been some success (17.6%), with most leaning toward moderate (47.1%) to significant success (35.3%).

Methods used to achieve these ends were many, often used in combinations, and parallel the activities already identified: research collaborations (10); faculty exchanges (9); study tours (9); seminars (8); course and curriculum development, including distance education (6,3,4=13); Study Abroad programs (5); workshops (4); recruitment (4); language training (3); Extension programming (3); internships (2); and conferences (2). There was a broad array of comments to the question asking about the most successful of these methods. However, in general, the methods considered most important were those that included some aspect of direct, in-person engagement in other countries. For instance, study tours were viewed as highly successful because “they could see and do first hand.” and because they “resulted in new contacts and ideas”. In one case, exchange opportunities for growers and Extension personnel led to growers “radically shift(ing) their view of Central America after the trip, and had acquired several new ideas for ag marketing and production methods that they would put to use on their own farms.” Also viewed as a positive outcome was the integration of case studies into courses and post-course travel providing “students the opportunity to integrate their individual international travel experiences with the rest of their curriculum and undergraduate experiences.” In addition, “workshops and short courses...developed relationships and electronic communication that resulted in new research, teaching, and extension projects.” Means for disseminating project results included on-campus seminars/workshops (81.8%; 27), on-campus presentations (75.8% (25), websites (66.7%; 22), campus news articles (57.6%; 19), off-campus seminars/workshops (48.5%; 16), off-campus presentations (42.4%; 14), articles with foreign scientists (39.4%; 13), and other journal articles (30.3%; 10). It is of interest to note that except for the inclusion of websites, the methods of dissemination are all highly traditional and do not take into consideration advances in information and networking technologies.

Comments about unplanned circumstances that occurred during project terms support the perspective that ISE projects are largely meeting or exceeding their goals. ISE grantees identified new partnerships and collaborations in addition to those originally planned in their proposals. In addition, they saw a general increase in the interest of faculty and students in international work, as well as new sources of internal funding/buy-in, and increased invitations to visit other foreign universities, companies, and conferences. Longer-term effects identified from ISE grants parallel these results. Receiving the highest number of responses was “raised global awareness of faculty, students, others” (97.1%; 33) and “created linkages to other campus globalization activities” (70.6%; 24); followed by “strengthened internationalization capacity” (67.6%; 23); “changed worldviews of students” (61.8%; 7); and “increased integration with existing campus programs (44.1%; 15). In addition, 12 respondents said their ISE grant had served as a model for other campus activities and that it had improved cross-cultural communication. Ten respondents also stated their involvement had increased with the private sector as a result of their ISE grant. These types of responses appear to substantiate the results from a question about follow-up or continuation activities. In this case, 21 respondents answered positively that the project had led to continuing or expanded internationalization campus activities, while only three answered “no”. Seven noted their project was still ongoing.

Grantees were also asked if they believed there was more support for internationalization at their institution or in their College as a result of the ISE program. Although responses were fairly similar at both levels, there was a slightly higher perception that Colleges are more supportive of internationalization as a result of ISE projects. For example, 15 respondents (44.1%) said they saw no additional or very limited support at the institutional level, while only 9 (25.6) responded similarly about College level support. The most effective use of funds was identified as travel support (18), seed funds (14), P&T support, and (5) research support (4). One respondent was more specific: “The current model is pretty good. A few suggestions: 1) encourage multistate projects engaging multiple universities for coordinated activities; 2) directly involve the lead PIs in governmental communications between the US and foreign countries to facilitate the delivery of the long-term impact.”

In spite of these positive results, there was widespread agreement on what caused the most difficulty in achieving these ends. Of the 30 who responded to this question, 13 said they did not have enough funding to achieve all of their objectives. Specifically, inadequate funding limited the number of participants, especially students, who could participate (especially given current high travel costs). Others noted a lack of institutional support for their projects, including allowance of the extra time needed to engage internationally, particularly given language and distance barriers. At the same time, seven identified significant political and regulatory issues, sometimes experienced as political unrest in a foreign country or foreign regulations relating to exchange of research materials, but also on the USDA side. In this case,

We had hoped to use the ISE grant to seed continued activity beyond the life of the grant, but were stymied by regulations regarding the use of USDA funds. Any program income had to be expended during the life of the grant, rather than used as “pump-priming” for future exchanges that would lead to more case studies and more market connections.

Similar results were noted in the responses to the final question on what one change could be made to enhance the effectiveness of the ISE Program. The suggestions mirror those from the International Agriculture Directors cohort. Fourteen of the 30 respondents to this question said that an increase in the funding level would broaden the reach of the projects and would “maximize the number of students and faculty who can gain international experiences.” Four grantees suggested increasing the number of proposals and projects allowed per institution, while three focused on revenue generation and sustainability issues, and two recommended extending project times. There were opposing views by some, three wanted more emphasis on research and continued domestic benefits, while two others sought a stronger focus on developing countries and increased support for international collaborators. Several saw a need for high level political involvement to help cut through difficult governmental procedures.

## **Discussion and Conclusion**

As stated in the introduction, the vision for the ISE Program was to contribute to the development of globally competent faculty and students, as well as public and private collaborators in the U.S., and to do this by enhancing teaching, research, and Extension activities. This was to include such strategies as building partnerships with colleagues and institutions in other countries, broadening human resource development, and information dissemination. The results of the two surveys described above provide insights into the effectiveness of the ISE Program in realizing this vision.

From the International Agriculture Directors respondents, there is documentation that a majority of the ISE recipient institutions have mission statements which recognize or encourage global engagement. At the same time, responses revealed a lack of widespread support for international pursuits in the P&T process or of recognition for those who have achievements in this area. As for ISE projects specifically, the Directors do feel they raise awareness of international opportunities in research, course development, and Extension programming, and are helping to change the worldviews of faculty and students. The Directors suggest that ISE funds should be targeted to travel support/faculty exchanges, seed funds, course enhancement, and additional Study Abroad opportunities. In general, the Directors felt that more funding was needed to engage more people for longer periods of times, suggesting that this strategy would increase the likelihood of maintaining sustainable partnerships and longer term benefits for participants.

ISE grant recipients noted some of the same benefits and constraints from their ISE projects. While the recipients felt there was less institutional support for international involvement than the administrators,

they all believed their ISE projects had met with a certain, if not significant, level of success. In most cases, the more faculty and students who were able to travel and engage foreign counterparts in person, the more successful the result in terms of increased research collaborations, interest in international work, and curriculum incorporating global perspectives. Thus, recommendations for the ISE Program in the future were consistent with these perceptions. The majority of the recipients believe the benefits of the grants would be greatly expanded if the funding level was higher and if more grants could be awarded per institution.

It is worth noting that when the ISE Program began, it was offered only every other year. However, beginning in 2009, additional funding was provided by USDA to make it an annual request, although institutions are still only allowed to submit two proposals each year and have one active grant at a time. Thus, while progress is being made, there is still clear and strong interest in expanding the ISE Program until a critical number of U.S. institutions and their faculty and students have opportunities for global engagement and the significant benefits thereof, particularly in light of limited internal support for such efforts. It is also of interest that in the responses, there was no recognition of the importance of the Internet and information technologies for maintaining these important linkages and for providing long-term access to the results of the collaborations. It is hoped that both of these gaps will be closed in the coming years and that the next ACE survey of U.S. campus internationalization will report better than “uneven progress in internationalizing campuses...[with] much yet...undone” (Green, Luu, & Burris 2008, p. xv).

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Note: Charts of survey results for each question as well as respondent comments, are available on request from the authors.

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