BANWA *Series B*
OPEN ACCESS | PEER REVIEWED
RESEARCH ARTICLE

The Fulbright-Philippine Agriculture Scholarship Program: Capacity Building for Institutional Impacts in the Philippine Agricultural Sector

Nelissa V. Jamora[1] and Dinah Pura T. Depositario[2,*]

[1] Georg-August-Universität Göttingen, Germany
[2] University of the Philippines Los Baños

Abstract. From 1999 to 2006, the Fulbright-Philippine Agriculture Scholarship Program (FPASP) awarded grants to 143 Filipino scholars for them to pursue graduate studies or conduct research in the United States. Its goal was to develop human resource capacity for the Philippine agricultural and fisheries sectors. While there have been studies on the impact of foreign program–assisted scholarships, focusing on personal and professional impacts, we expanded the framework by looking at institutional impacts. This study surveyed 88 former scholars and conducted 4 focus group discussions and 4 key informant interviews with institutional administrators in order to describe the contributions of these scholars and document the impact of the FPASP on institutional capacity building for the Philippine agricultural sector. Results show that the FPASP scholars contributed to the enhancement of research, teaching, extension, regulatory, and management capacities in their respective institutions. However, factors such as lack of facilities, resources, support staff, and funds, as well as the heavy workloads, restricted the scholars' institutional impact. It is recommended that a similar agriculture-specific graduate scholarship program be launched.

Keywords: agricultural sector; capacity building; Fulbright-Philippine Agriculture Scholarship Program; institutional impact

Introduction

The Fulbright Program is the United States government's flagship program for international educational exchange. Since 1948, Fulbright grants have been awarded to approximately 2000 Filipinos and 800 Americans for graduate degree study, teaching, and research in the Philippines and the United States. Principal funding support for the exchange programs administered by the Philippine-American Educational Foundation (PAEF), also referred to as the Fulbright Commission in the Philippines, comes from the United States and the Philippine governments (PAEF, 2011).

One of the several programs under the Fulbright program is the Fulbright-Philippine Agriculture Scholarship Program (FPASP) established in 15 December 1999. It is a capacity-building program approved by the Philippine Department of Agriculture (DA), using as funding source the U.S. Public Law (PL) 480 Food for Peace Program funds. This sector-specific program aimed to develop human resource capacity for the Philippine agricultural and fisheries sectors. The application of this "FPASP model" in five batches of scholars was designed to produce a critical mass of experts and institutional capacity building essential to the development of the sectors. Since its establishment in 1999, the

Article Information
Received: 26 March 2015 **Revised:** 03 August 2015
Accepted: 11 January 2016 **Published:** 20 January 2016

***Correspondence.** Dinah Pura T. Depositario, DBA, Department of Agribusiness Management and Entrepreneurship, College of Economics and Management, University of the Philippines Los Baños, College, Laguna 4031, Philippines. Telephone: +63 49 536 2846. Email: dtdepositario@up.edu.ph

FPASP had fully or partially funded 143 grantees for graduate degrees and research grants in the United States. Some of the scholars received counterpart funding from their U.S. universities, either through graduate assistantships or university fellowships.

The FPASP was the only agriculture-specific scholarship program in the Philippines that provided grants for scholars to pursue graduate studies and conduct research in the United States. It recognized that targeting individuals working on agriculture increases impact and help sustain capacity building. Program participants were mostly working in agriculture-related fields prior to training, and this training strategy aimed to enhance continued agriculture-related engagement of the scholars after completing their training. As with other Fulbright programs, FPASP scholars were selected competitively at the national level. Competition for the degree program grants was made open to Filipinos who were 40 years old or younger at the time of application and had at least two years of relevant work experience.

Based on PAEF records, out of a total 143 scholars, 81 pursued MS degrees, 32 PhDs, and 30 research (Table 1). In 2003, the most number of MS scholars (n = 41) went to the United States. One-third of the MS scholars (n = 27) were funded for degrees in social sciences (e.g., agricultural economics, agribusiness, and agricultural education) while half of the PhD scholars (n = 16) were funded for degrees in the plant/crop sciences. There was slightly more females funded across the type of grants. Scholars were sent to 54 universities across the United States, with the most number of scholars concentrated in New York (n = 15) and Florida (n = 11). Cornell University and Oklahoma State University had the highest number of scholars in an institution with 8 scholars each.

TABLE 1 Number of scholars under the Fulbright-Philippine Agriculture Scholarship Program (FPASP) categorized under different grant types (MS, PhD, and research) by batch year, discipline, and gender

Category	MS (n = 81)	PhD (n = 32)	Research (n = 30)	Total (n = 143)
By batch year[a]				
2001	11	9	7	27
2002	21	6	7	34
2003	14	6	5	25
2004	17	7	5	29
2006	18	4	6	28
By discipline				
Animal science	15	4	5	24
Agricultural/food engineering	8	0	0	8
Environment/natural resources	7	3	1	11
Forestry	2	2	0	4
Food science	1	3	0	4
Marine/fisheries	7	2	6	15
Plant/crop science	15	16	14	45
Social sciences[b]	26	2	4	32
By gender				
Male	39	14	14	67
Female	42	18	16	76

NOTE
[a] During the year 2005, the FPASP was put on hold; no scholars were sent to the United States during this year.
[b] Disciplines under the social sciences include agricultural economics, agribusiness, and agricultural extension.

Considering the substantial investment poured into the FPASP program, it is imperative to make an independent assessment of the contribution of FPASP trainees to capacity building in their respective institutions. The paper specifically wants to answer the following questions: "Did the FPASP training enhance capacity building at the trainees' work institution?" and "Did trainees contribute to the advancement of the agricultural sector?"

The general objective of the study is to describe the FPASP scholars' institutional impact by analyzing the FPASP scholars' contributions to the enhancement of teaching, research, regulatory, extension, and management in their work institutions and recommend areas for improvement in the design of future FPASP and other similar programs. Hopefully, this study can provide valuable input to the national government, specifically the Philippine Department of Agriculture, the PAEF, and institutions employing FPASP scholars in relation to planning, designing, and implementing programs aimed at enhancing human resource development in the above-mentioned sector.

Studies on the Impact of Foreign Graduate Degree and Nondegree Training

In the literature, only a few studies have examined the impact of foreign graduate degree and nondegree scholarships on the scholars and their respective institutions.

In 2005, the SRI International, an independent nonprofit research organization, was contracted by the Office of Policy and Evaluation, which is under the Bureau of Educational and Cultural Affairs of the U.S. Department of State (USDA), to conduct an outcome assessment of the Visiting Fulbright Scholar Program to determine whether the program met its objective of fostering mutual understanding between the people of the United States and the people of other countries. The report's results stated that scholars' participation in the program had very positive effects on their professional lives, which includes subsequent professional publications and works and enhanced professional credentials. Almost all the scholars claimed to have experienced changes in their professional activities after the program. This include using knowledge and skills learned in their courses, broadening the international aspects of their teaching and research, and becoming more of a resource for their colleagues with regard to knowledge and skills learned. The scholars also claimed to have built linkages and long-term relationships with host institutions and foreign colleagues.

Borgia et al. (2007) examined self-reported experiences of recent Fulbright scholars from business disciplines in programs accredited by the Association to Advance Collegiate Schools of Business (AACSBI). The study found that the Fulbright experience contributed to the development of participants' research agenda. Forty percent of respondents reported publishing or pursuing publication in peer-reviewed journals with host institution colleagues, and nearly 35% reported developing textbooks and other curriculum materials with host institution colleagues.

Furthermore, a study by Kahn and MacGarvie (2011) found that the Fulbright program appeared to increase US–home country collaborations, which was an explicit goal of the program.

Meanwhile, Nugroho and Lietz (2011) synthesized data that have been collected from ten post-award surveys among graduates sponsored by the Australian Agency for International Development (AusAID). They found that on the average, majority of the graduates (87%) claimed that they use their new skills and knowledge at work. Further, on the average, more than one-third (38%) of the graduates believed that they had been promoted because of their new qualification.

Finally, Jamora (2007), studying the Bean/Cowpea Collaborative Research Support Program (B/C CRSP), found that the program's trainees were making contributions to the advancement of bean/cowpea research. Moreover, the study found that there were higher rates of collaboration and continuous bean/cowpea research among the following: (1) host country (HC) trainees (versus US trainees), (2) trainees in the plant sciences, and (3) PhD trainees (versus MS trainees).

Based on the above review, it appears that the focus of past researches related to the impact of foreign program-assisted scholarships was more on personal and professional impact rather than institutional impact. Thus, a more in-depth examination of the contributions of foreign program-assisted scholars to their institutions is in order.

Methods

In determining institutional impact (i.e., impacts that go beyond the individual level), the FPASP was guided by the results evaluation stage of the Kirkpatrick model (1998), which is one of the most widely used models for evaluating the impact of any training program.

Given the lack of benchmark data to quantitatively measure the impact of the survey respondents, this study uses self-reported qualitative data to gather insight into the various contributions of the scholars to their institutions.

The target population for the trainee survey included all of the 119 trainees, which is 83% of the total population of 143 scholars, who completed their graduate degree training (GDT) in the United States as of August 2008. Out of the total number of invitations sent, 88 scholars submitted an accomplished survey questionnaire, placing the response rate at 74%.

To supplement data gathered from the surveys, focus group discussions (FGDs) participated in by the FPASP trainees were conducted in four locations in the Philippines to determine the institutional impact of FPASP scholars. A total of 35 scholars participated in the FGD, and a breakdown of the participants per location are given as follows: Los Baños, Laguna, 7; Quezon City, Metro Manila, 10; Muñoz, Nueva Ecija, 9; and General Santos City, South Cotabato, 7. Interviews were also conducted with key institution officials to obtain an independent assessment of the contribution of FPASP trainees to capacity building in their respective institutions. Lastly, an internet search was conducted to further identify significant contributions to their institutions that the trainees or their supervisor may not have reported.

Results and Discussion

Profile of the Survey Respondents

More than one-fourth of the study respondents went to the United States in 2002. Majority of the respondents were awarded with MS degree grants. More than one-third out of the 88 earned plant/crop science–related degrees. Lastly, there were more female than male scholars (Table 2).

The 88 respondents were asked to rank the factors that influenced their decision to pursue a graduate degree/grant in the United States. For this question, several possible reasons were listed, and the respondent was asked to rank each factor on a scale, with 1 as "very important" and 4 as "highly not important." The most frequently cited responses indicated by most of the trainees (n = 86) were the following: "training was necessary for their professional development," "desire to gain an international perspective," and "scholarship or financial assistance received from the FPASP."

The trainees were asked about their current or most recent employment. Out of the 88 survey respondents, 72 respondents were currently employed. Among the employed scholars, 69 were full-time employees, 1 was a part-time employee, and 2 were consultants. On the other hand, among the 16 unemployed at the time of the survey, 12 were currently studying for their PhD while the remaining 4 trainees were either currently unemployed, in the middle of looking for work, or had just recently retired.

Only 66 out of the 72 currently employed scholars answered the question on type of employer (i.e., public university, government agency, etc.). Out of the 66, most (n = 48) worked for the government, with 25 connected with public universities and 23 connected with government bureaus or agencies (Table 3). Majority (n = 63) were still doing work related to agriculture. Finally, about 16 trainees said they supplemented their income from their primary job with outside consulting.

On the other hand, 83 trainees answered the query on employer type before they began their graduate studies. There was a similar pattern observed with majority (n = 66) working as

TABLE 2 Profile of respondents of the study

Category	MS (*n* = 57)	PhD (*n* = 12)	Research (*n* = 19)	Total (*n* = 88)
By batch year[a]				
2001	7	5	3	15
2002	15	4	5	24
2003	10	2	3	15
2004	12	1	4	17
2006	13	0	4	17
By discipline				
Animal science	10	0	2	12
Agricultural/food engineering	4	0	0	4
Environment/natural resources	8	0	0	8
Forestry	1	1	1	3
Food science	0	2	0	2
Marine/fisheries	4	2	3	9
Plant/crop science	13	6	10	29
Social sciences[b]	17	1	3	21
By gender				
Male	28	5	7	40
Female	29	7	12	48

NOTE
[a] During the year 2005, the FPASP was put on hold; no scholars were sent to the United States during this year.
[b] Disciplines under the social sciences include agricultural economics, agribusiness, and agricultural extension.

government employees: 33 with public universities and 30 with government agencies or bureaus. It is interesting to note though that there was a slight increase in the number of FPASP scholars who became employed with multinational companies and international organizations after they got their degree (Table 3).

Survey Results

Out of the 88 scholars, 65 responded to the question on their significant accomplishments, especially those related to agriculture, and how they contributed or influenced decision making in their institution. The scholars working in the academe reported that upon their return from training, they introduced new courses or academic programs and supervised undergraduate and graduate research. On the other hand, those working in non-academic settings cited the following as their accomplishments after their training: introducing changes and innovations in program implementation or work setup, influencing their institutions' planning of programs, and assuming important positions.

However, fewer responses (*n* = 29) were elicited from the question on how scholars contributed to change or influenced policy in the agriculture sector. One reason for this is that many respondents at the time of the survey had just returned to the Philippines and had only begun to establish their presence in their respective fields. Survey results show that some had served as resource persons in national workshops or trainings on agricultural issues. In this capacity, they were able to share their scientific knowledge and expertise with students, farmers, and policymakers. Also, scholars cited FPASP-facilitated research project collaborations with mentors and colleagues in the United States, which resulted in international publications.

Majority of the FPASP scholars claimed to having their research output published both in international (*n* = 57) and local (*n* = 48) refereed journals and books. Most of the MS (*n* = 56) and

TABLE 3 Previous and current institutional affiliation of respondents

Employer type	Before	Current
	Frequency (n = 83)[a]	Frequency (n = 66)[b]
Public university	33	25
Private university	5	4
Government agency	30	23
International organization	5	7
Multinational company	2	5
Local private company	8	2

NOTE
[a] Out of 88 employed respondents
[b] Out of 72 employed respondents

PhD (n = 13) trainees published their graduate research in journals/books (29 for MS, 8 for PhD) and also presented their research in conferences and seminars (all for the PhDs, 41 for MS). Another 22 out of the 88 have also published books as one of the authors or editors.

This visibility in international publications has enhanced the reputation of the university-employers of the scholars and has boosted the institutions' rankings in annual international and local lists of top schools.

An internet search elicited information about 136 out of the 143 recorded FPASP scholars such as the trainees' names referred to in research papers; journal articles or books written or co-authored by trainees (n = 55); their names listed in national or international conferences programs (n = 38), institutional directories, or personal web pages (n = 91); and in news articles (n = 109) citing or reporting trainees' activities and accomplishments.

Focus Group Discussions

The FGDs effectively generated detailed descriptions and insights on the contributions of FPASP scholars to their institutions' research, teaching, extension, regulatory, and management capacities, as well as to Philippine agriculture in general. These are described below.

Contributions to research capacity. FPASP scholars became instrumental in getting money to establish or help develop their units' laboratories. For example, in the University of the Philippines Los Baños (UPLB), the Animal Biotech Laboratory, which cost about PhP 15 million to establish, now has multi-million projects worth PhP 7 to PhP 10 million with the Energy, Science, and Technology Program of the Department of Science and Technology (DOST).

There were also scholars who contributed in terms of developing and applying technical, quantitative, and simulation knowledge to develop specific commodities and techniques. A senior science research specialist from the Philippine Carabao Center (PCC) applied her upgraded and enhanced knowledge on animal reproductive biotechnology, specifically the cryo-loop technique, for the preservation of the eggs of cows for artificial insemination (AI) purposes.

There were others who adapted techniques and models suited to Philippine conditions. A senior development specialist in the National Economic Development Authority (NEDA) shared that her improved econometric analysis skills led to her involvement in NEDA's econometric model for agriculture.

FPASP scholars also became more active in the preparation of program/project proposals for grant funding. A supervising science research specialist from Philippine Rice Research Institute (PhilRice), a food science major, prepared a research proposal on the nutraceutical component of pigmented rice.

Lastly, the program enhanced the capability of the scholars to conduct program/project management and implementation. For example, a supervising science research specialist from PCC became part of a five-year joint project of the PCC and the Bureau of Animal Industry (BAI), which aimed to reduce milk imports by improving the production of existing local herds through better farm practices.

Contributions to teaching capacity. The FGD sessions conducted gave insights on the contributions to teaching capacity of various universities of FPASP scholars. Some scholars proposed new courses and/or new topics in "special topics" classes. There were also those who were assigned to teach new courses, to become more involved in supervising and mentoring

undergraduate and graduate students, to develop laboratory exercises, and to enhance learning through field trips and other experiential activities.

Those engaged in teaching also pointed out that their teaching style had become more research-based. For example, when presenting theory and science trivia, they provide supporting scientific journal articles. Another trainee noted that he has become much more particular with the use of the scientific method to check the soundness of data (e.g., replication). He now values more the rigor involved in scientific research.

The scholars also cited the influence of U.S. classroom instruction style, becoming more "entrepreneurial" and innovative, inspirational, motivational, flexible, holistic, "out of the box," and interactive in their teaching styles.

Lastly, the scholars have displayed more resourcefulness in their teaching. A UPLB professor admitted that he faced some constraints in teaching (e.g., availability of LCD projector), but he has become more resourceful and even initiated collaborations with other research institutions in terms of the use of the units' laboratory and other facilities.

Contributions to extension capacity. The scholars have also strengthened the extension capacities of the institutions they worked for. The scholars have become more actively involved in providing assistance as resource persons and technical experts to government agencies, local government units (LGUs), and private sector entities.

The participants in some of the scholars' trainings have also become more diverse—from high school students, to hobbyists, and even medical doctors. Another former scholar was able to help ethnic groups and rebel groups through training activities and a plantation growership program.

Lastly, quite a number claimed to have become more active in technology commercialization activities. A Central Luzon State University (CLSU) aquaculture professor, for example, became involved in the commercialization of selected species of tilapia.

Contributions to regulatory capacity. A substantial number of the Manila-based FPASP scholars who worked for government agencies and were engaged in regulatory activities were able to significantly enhance the regulatory capacities of the institutions they worked for. One scholar involved in operations/regulatory work, specifically in quality assurance, provided assistance in terms of developing basic standards, testing, and grain quality at the National Food Authority (NFA).

Contribution to management capacity. Many of the GenSan-based FPASP scholars were working for private companies and were able contribute to strengthening the management capacities of their organizations.

Quite a number introduced innovations and cost-reduction systems in their companies. A returnee connected with the multinational food company introduced the use of the geographic information system (GIS) (i.e., software satellite image) to facilitate precision farming.

Some trainees also helped government agencies in developing industry standards at par with private sector standards such as in the case of a quality assessment expert in a large fish processing company who did this through a research tie-up with the Bureau of Fisheries and Aquatic Resources (BFAR).

Another scholar working for a multinational agribusiness company introduced a matrix organizational structure in their office. Furthermore, he is now being groomed to become a people manager who will manage scientists instead of purely being a researcher-scientist.

Other contributions. FPASP scholars have also assumed leadership positions since they came back. Among the most common-cited positions were project leaders, department chairs, laboratory/nursery head/farm manager, and technical resource person to government committees.

In addition, the scholars' fields of expertise have expanded and are now more into cutting-edge science and technology. Several scholars professed that they were the only ones in their departments/units exclusively doing work in their chosen pioneering specializations.

The survey also asked scholars if they were involved in any agriculture-related organizations (e.g., professional societies, associations, networks, etc.). Majority (75%) confirmed that they were active in agriculture-related organizations. On the top of the list is the Fulbright-Philippine Agriculture Alumni Association (FPAAA). Through this organization, the trainees continue to contribute to the agriculture sector by organizing agriculture-related discussions and conferences across the country and publishing agriculture-related research output of FPAAA members.

It is also worth noting that there were some who were members of American professional societies like the American Phytopathological Society, Crop Science Society of America, American Agricultural Economics Association, American Society for Horticultural Science, and the American Society of Animal Science.

Membership in these networks increases the potential for future international collaborations. It also opens possibilities for publishing in association journals, presenting research findings at meetings, and opportunities to serve on committees and boards.

Barriers to Achieving Potential Impact

In relation to the barriers to implementing research and regulatory functions, scholars cited the lack of facilities and research funds, their heavy administrative workload that hindered them from focusing on research, and the lack of support staff.

On the other hand, the FPASP scholars engaged in teaching enumerated the following problems: (1) lack of LCD projectors, internet connection, and journals/books; (2) lack of facilities/equipment for teaching technical courses such as land/space for experiments, equipment in irrigation and laboratory facilities; (3) long process and time it takes for an academic course to be institutionalized; and (4) lack of student-enrollees for proposed courses. Among the junior faculty members, there were also some issues related to not receiving enough support and struggling between prioritizing consultancy assignments or working towards their promotion by coming up with refereed publications and presenting papers in conferences.

Institutional Interview Results

Four administrators of the institutions where the FPASP scholars were employed were also interviewed to gather information about the FPASP scholars' contributions as well as their human resource development–related constraints, which had implications to the FPASP and other agriculture-specific capacity-building programs. The administrators validated that FPASP returning scholars assumed important administrative and academic positions upon their return and observed that they had effective leadership skills.

The constraints faced by the institutions in relation to strengthening the capacities of their organizations were the age limit for applicants in the FPASP and other scholarship programs; the hesitation among potential sureties to guarantee the return of scholars; and the mismatch between the preferred R&D focus of administrators (e.g., cutting-edge disciplines such as biotechnology) versus what the faculty would like to specialize in (e.g., traditional genetics, chemistry, etc.).

One major suggestion of the administrators was to strengthen PAEF's support to returning scholars by making available start-up research funds for the grantees. Also, priority in granting scholarships should be given to those who would like to specialize in socio-economic–related disciplines, food processing, agricultural engineering, and plant physiology—as expertise in these disciplines would be of tremendous value in their home institutions and the Philippine agriculture sector.

Conclusions and Recommendations

The general objective of the study was to determine the FPASP trainees' contributions to their respective institutions after their graduate and research scholarships.

Based on the results of the survey, the FGDs and the institutional interviews, the scholars have substantially contributed to the enhancement of research, teaching, extension, regulatory, and management capacities in their respective institutions.

The contributions to improving the research capacity of the organizations include

the following: resource generation, adapting techniques and models suited to Philippine conditions and commodities, and program/project proposal preparation for grant funding. In terms of contributions to teaching capacity, the scholars have been involved in, among others, proposing new courses, supervising and mentoring undergraduate and graduate students, and applying innovative tools in teaching. Lastly, in relation to strengthening the extension capacity of their institutions, the trainees, among others, provided training and served as resource speakers or technical experts to farmers, private sector entities, LGUs, and government agencies. FPASP scholars have also assumed leadership positions since they came back. Among the most common-cited positions were project leaders, department chairs, laboratory/nursery head/farm manager, and technical resource person to government committees.

A qualitative analysis of the scholars' contributions revealed that the PhD trainees, when compared to the MS and the research scholars, were the ones able to generate resources for their institutions. They were able to acquire research funding for re-entry researches and offshoot researches of their PhD dissertations from their host institutions and other government agencies and international organizations. The PhD trainees connected with academic institutions were also noted to have initiated innovations in their teaching methodologies and to have emphasized and exemplified the application of the scientific method to their students. There were also some who assumed leadership positions in their institutions (e.g., department chair and division head) sometime after earning their PhD degrees.

There were factors found to have restricted the scholar's institutional impact. Among those engaged in research as well as regulatory functions, these include the following: the lack of facilities, the scholars' heavy administrative workloads, the lack of support staff, and the lack of research funds. Those engaged in teaching, on the other hand, pointed out the need for LCD projectors, internet connection, journals/books, land/space for experiments, and irrigation and laboratory equipment.

To conclude, the study found strong qualitative evidence that the program's former scholars made substantial contributions to their respective institutions and to Philippine agriculture.

The following recommendations for Fulbright, DA, PAEF, and the organizations employing current and potential FPASP scholars are proposed in order to build on and sustain the success of the FPASP and the contributions of the program's scholars. The FPASP should be revived or a similar agriculture-specific graduate scholarship program should be launched.

Fulbright must also make sure that scholars specialize in fields that are critically needed by their respective institutions and the country. Examples of disciplines that can tremendously add value to the Philippine agriculture sector are socio-economic–related disciplines like agribusiness, agricultural economics, and sociology, plant physiology; animal science; veterinary medicine; and food science. It would also do well for Fulbright to send more scholars to get their PhD degrees as they are the ones who can potentially contribute substantially in terms of resource generation, administration as well as academic, research and management innovations.

Moreover, funds can be made available for start-up research and/or bridge funding (for those who cannot get a job immediately upon their return), as well as grants for attendance to conferences (local and international). Assistance can also be provided to institutions employing FPASP scholars to enable the former to acquire needed teaching and/or research equipment.

For future impact studies of similar programs, a baseline database could be established through the inclusion of questions in the application form which can elicit data for the measurement of professional and institutional improvements after the trainees earned their degrees. Examples of such data include the future trainees' productivity (i.e., publications, research projects, teaching performance rating, administrative functions, etc.) to measure and compare trainees' impact before and after undergoing the program.

References

Borgia, D.J., B.K. Hobbs, and H.S. Weeks. 2007. The Experience of U.S. Fulbright Scholars from Business Disciplines: 1998–2005. Journal of Economics and Finance Education 6(2):15–26.

Jamora, N.V. 2007. Assessing the Impact of the Bean/Cowpea CRSP Graduate Degree Training [thesis]. East Lansing, Michigan: Michigan State University.

Kahn, S., and M. MacGarvie. 2011. The Effects of the Foreign Fulbright Program on Knowledge Creation in science and Engineering. http://www.nber.org/chapters/c12352.pdf

Kirkpatrick, D. 1998. Evaluating Training Programs: The Four Levels, 2nd ed. San Francisco: Berrett-Koehler.

Nugroho, D., and P. Lietz. 2011. Meta-analysis of AusAID surveys of current and former scholarship awardees. http://www.academia.edu/1982716/Meta-analysis_of_AusAID_surveys_of_current_and_former_scholarship_awardees

Philippine-American Educational Foundation. 2011. 12 October 2011. http://www.fulbright.org.ph.

SRI International Center for Science, Technology and Economic Development. 2005. Outcome Assessment of the Visiting Fulbright Scholar Program, study conducted for the Office of Policy and Evaluation, Bureau of Education and Cultural Affairs, U.S. Department of State.

SUGGESTED CITATION

Jamora NV and Depositario DPT. 2016. The Fulbright-Philippine Agriculture Scholarship Program: Capacity Building for Institutional Impacts in the Philippine Agricultural Sector. Banwa 11B: Art-002. [Date of access] http://ojs.upmin.edu.ph/index.php/banwa-b/article/view/208