

**Evaluation of CEEPA's IDRC/SIDA-funded
"Capacity Strengthening Program in Environmental Economics and Policy Analysis"
(2006-2012)**

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Summary

This report evaluates the “Capacity Strengthening Program in Environmental Economics and Policy Analysis,” which is implemented by the Centre for Environmental Economics and Policy in Africa (CEEPA) at the University of Pretoria, South Africa and is funded by the Swedish International Development Cooperation Agency (SIDA) and the Canadian International Development Research Centre (IDRC). The evaluation covers the period from 2006, when the program began, to the present.

The IDRC/SIDA program consists of 5 primary activities:

1. competitive research grants, which are associated with 3-day biannual research workshops where applicants present proposals for new projects and existing grantees present interim and final reports;
2. non-degree short courses held in conjunction with the workshops, usually immediately after the workshops and lasting 2 days;
3. scholarships for students in environmental economics PhD programs at African universities (so far, all at the University of Pretoria);
4. three types of fellowships that support stays at African universities by researchers who already have a PhD: postdoctoral fellowships for young African researchers, sabbatical fellowships for African faculty members, and international fellowships for faculty members from universities outside Africa;
5. material support (mainly library acquisitions) to departments of economics and agricultural economics at African universities and research institutions.

The evaluation focuses primarily on the first 3 program activities, which involve the largest number of participants and account for the largest share of expenditures. It does not evaluate all activities of CEEPA, which predates the IDRC/SIDA program. Other CEEPA activities are discussed only if they are connected to IDRC/SIDA program activities in important ways.

The different program activities are intended to reinforce each other in developing a continent-wide community of environmental economics researchers. Much evidence indicates that the program is succeeding in doing this. Although research capacity in general and in environmental economics in particular is lower in Africa than in other developing regions, researchers from Africa are represented as well or better than researchers from other developing regions at international environmental economics conferences and in the pages of the top international journal that focuses on environmental economics in developing countries. I interviewed or surveyed a majority of the individuals who have participated in one or more program activities, and many of them identified the creation of a network of environmental economists as the program’s greatest contribution to Africa. Consistent with this, recipients of research grants, participants in short courses, and recipients of PhD scholarships have come from a wide range of African countries. Discussions at the May 2012 research workshop were impressively lively, as was the large number of participants from multiple countries who contributed to them. Participant evaluations of the workshops held during 2006-2011 reveal a very high level of satisfaction with the workshops, and responses to an email survey of individuals who presented grant proposals at the workshops (including participants whose proposals were not funded) reveal a similarly high level of satisfaction with the grants program overall and its impact on individuals’ career development. The survey responses indicate that grant recipients have been more likely to remain in research

positions and advance along an academic career path than presenters who did not receive a grant. Participant evaluations also indicate satisfaction with the program's short courses, with a large portion of the participants being very satisfied.

During interviews and on the survey, applicants and grantees expressed great appreciation for the advice they receive on their proposals and projects from the resource persons and secretariat staff, who are clearly committed to the program's capacity-building mission and are comfortable interacting with the researchers. The program does an exceptional job of identifying the highest-quality projects within the group of proposals it receives. All but one of the 11 projects that have been completed so far have generated CEEPA Discussion Papers, which are high-quality working papers, and about half have generated publications in international peer-reviewed journals, which is consistent with the program's target. Publications by PhD scholars, 5 of whom have completed their studies so far, are even more impressive in terms of journal quality.

The program also publishes Policy Notes through CEEPA. These are aimed at a policy audience and are exceedingly well done. They are the program's primary means of disseminating results to a policy audience. Although the amount of contact between grantees and the policy community has been limited, at least two of the program's research projects appear to have affected policy regimes in the countries where the projects were conducted.

Despite this evidence of success, the program faces three serious issues that require attention. The first relates to the PhD scholarships. In contrast to the high level of satisfaction expressed by most research grant recipients, a majority of the PhD scholarship recipients who were surveyed expressed dissatisfaction with one or more aspects of the environmental economics PhD program at the University of Pretoria. The students voiced 3 major concerns: inadequate supervision, because there are too many students and too few faculty members to advise them; inadequate financial support, both in terms of the duration of the scholarship (3 years) and the level of the monthly stipend; and a recent deterioration in the quality of 2 of the 3 specialized courses in environmental economics offered by the university (Natural Resources Economics and Management, and Quantitative Skills).

I believe that these are real problems, with the first two stemming from the IDRC/SIDA program having awarded too many scholarships without paying sufficient attention to student quality and the supervisory capacity of the admitting department, and the third stemming from the university's regional collaboration with the African Economic Research Consortium. The secretariat, CEEPA, and the university are aware of these problems and are taking steps to address them. These actions are new and untested, however, and the number of current or past scholarship recipients who have not yet completed their PhD studies remains large (16 students). I therefore believe it is advisable for the program to reduce sharply, or maybe even suspend, the award of new PhD scholarships for at least one year, with the number of awards remaining at a reduced level until the Research Committee is satisfied that these problems have been satisfactorily resolved.

The second issue is the small number of research projects that the program has funded. The program is budgeted to support 8 new projects per year, but the average number of proposals funded during 2006-11 was only about half of the target. The small number of grants is a concern for two reasons: it reduces the amount of research capacity that the program is building, and it makes the program less cost-effective, as the fixed costs of the workshops and program administration are spread out over a small number of beneficiaries. The program

has the same number of resource persons as the corresponding capacity-building programs in Asia, the Economy and Environment Program for Southeast Asia (EEPSEA) and the South Asian Network for Development and Environmental Economics (SANDEE), yet the number of new projects that it funds annually per resource person is less than a third as large. Its average annual cost per funded project is about double SANDEE's.

Although the IDRC/SIDA program faces a greater challenge in identifying promising researchers than do the Asian programs, due to Africa's lower research capacity, I believe that the program should be able to identify 8-10 new projects per year that are worth funding. I attribute the small number of grants made by the program to an insufficient effort to identify promising researchers, as opposed to promising projects, and to assist promising researchers with proposal development. On paper, the process that the IDRC/SIDA program follows in determining which proposals to fund looks identical to the process followed by the Asian programs, but in practice there are important differences. In particular, at all steps, the program places more weight on the quality of the research proposal than do the Asian programs, which take the capacity-building value of the proposed project more into account. The program also provides much less support with proposal development during, and especially before, the workshop. As a result, applicants who likely would be invited to present a proposal at an EEPSEA or SANDEE workshop and would have their proposals funded are either not invited or, if they are invited, not funded in the case of the IDRC/SIDA program. The program expects applicants to jump over a quality bar that is set higher than in the Asian programs, both in the preliminary competition (who gets invited to a workshop) and the final competition (which invitees get funded), but it does less to train them to succeed in these competitions. As a result, fewer individuals are given an opportunity to take the leap, and fewer of them make it.

I recommend that the program should increase the weight it places on the capacity-building value of proposals when it evaluates them and should provide more support for proposal development during and, especially, before the research workshops. Experience from the two Asian programs suggests several ways that the program can do this, including some that are related to short courses. These various ways of providing more support for proposal development are described in the report.

The third and final issue follows from the previous one. The secretariat for the IDRC/SIDA program is small, consisting of just 3 part-time senior staff members. It is much smaller than the secretariats of EEPSEA and SANDEE. The full-time equivalent, PhD-level senior staff of the IDRC/SIDA program secretariat is only about a quarter as large as in EEPSEA and SANDEE. Given its much smaller size, it is not surprising that the secretariat does not provide as much substantive support to the research grants program and short courses as do the secretariats of the Asian programs. Compared to the EEPSEA and SANDEE secretariats, the secretariat for the IDRC/SIDA program is not only smaller, but it is responsible for implementing additional activities—the PhD scholarships and various fellowships—that are not part of the Asian programs. In a nutshell, the IDRC/SIDA program is trying to do more with less.

There are at least 3 ways that the program could achieve a better balance between the size of its secretariat and the scale of its activities. One would be to maintain its scale of activities but to increase the size of its secretariat, probably to include at least one full-time PhD-level member. This would require an increase in its total budget. A second, budget-neutral way would be to increase the size of its secretariat by using the savings generated by reducing or

eliminating some of its activities. A third way would be to maintain the size of its secretariat but to reduce or eliminate some of its activities, resulting in a smaller program budget. The second and third ways are less desirable from a capacity-building standpoint. The first way and also the second way face a potential obstacle, however: the current senior staff members do not appear to have more time to contribute to the program. The program director, in particular, has a heavy load of other responsibilities with CEEPA, the university, and his various international commitments. In some way or another, the program needs to develop a plan for achieving a more appropriate balance between the size of the secretariat and the scale of the program's activities, to enable the secretariat to provide more of the substantive services required by a research capacity-building program.

Recommendations

Recommendations related to research grants

Recommendation 1: CEEPA should consider various ways of improving the marketing of the IDRC/SIDA research grants program, including by making the program more prominent on its website (and updating information on the website), investing more in direct salesmanship through in-person visits to key universities and institutes, and organizing a general-purpose short course in environmental economics aimed at individuals who already have training in economics but not specifically environmental economics.

Recommendation 2: The program should consider targeting francophone Africa more heavily. It should also explore the merits of expanding into north Africa, taking into account IDRC's effort to establish a separate environmental economics network there.

Recommendation 3: CEEPA and EfD should continue to explore opportunities for collaboration that take advantages of the complementarities of their capacity-building programs, starting by improving the links between their websites.

Recommendation 4: The secretariat and Research Committee need to develop clear procedures for administering the senior researcher grants, paying particular attention to procedures for soliciting and reviewing proposals and making award decisions. These procedures should be rigorous and transparent and should ensure that grants are awarded to proposals for high-quality, new work. A definition of "senior researcher," presumably based on some objective measure such as age, years since completing the PhD program, or professional rank, is also needed in order to determine whether an applicant is qualified to apply to the senior researcher grants program instead of to the regular grants program.

Recommendation 5: The program should increase the weight it places on the capacity-building value of proposals when it evaluates them and should provide more support for proposal development during and, especially, before the research workshops. Experience from the two Asian capacity-building programs (EEPSEA and SANDEE) suggests several ways that the program can do this. In combination with the previous recommendations, this should enable the program to increase the number of new grants per year to 8-10.

Recommendation 6: The program should consider assigning resource persons to serve as individual advisors on funded projects.

Recommendation 7: The program should revert to holding research workshops every 6 months.

Recommendations related to research output, dissemination, and influence

Recommendation 8: The program should consider additional ways of assisting grantees who have completed the highest-quality projects in publishing their findings in top international field journals. One example might be additional peer review of manuscripts before submission to journals. It should also review the criteria used to select postdoctoral fellows, to ensure that the fellowships are being awarded to individuals who are likely to be productive researchers. Finally, it should discuss the merits of issuing targeted calls for proposals and preparing synthesis publications on specific research topics.

Recommendation 9: The program should consider reserving a portion of the funding for each research grant to enable grantees to present their research findings at seminars, conferences, or dissemination workshops organized specifically for the project. It could also consider the possibility of creating a similar dissemination mechanism for PhD scholars and postdoctoral fellows.

Recommendation 10: The program should consider various ways to monitor and expand its policy influence, which might include an annual request to current and past participants on their policy involvement and other professional activities, tracking information on views and downloads of Policy Notes (and Discussion Papers), organizing dissemination workshops, organizing a short course on policy analysis for grantees, and revisiting the idea of organizing short courses aimed at the policy community.

Recommendations related to short courses

Recommendation 11: The program should consider organizing a 2-3 week non-degree introductory course in environmental economics and making its 2-day short courses more advanced, with participants in the latter overlapping less with the participants in the workshops. As recommended earlier, it should also consider organizing a short course on policy analysis for grantees and revisiting the idea of organizing short courses aimed at the policy community.

Recommendations related to scholarships and fellowships

Recommendation 12: The program should reduce sharply, or maybe even suspend, the award of new PhD scholarships for at least one year. The decision to increase the number of awards should be made by the Research Committee, which should consult with the secretariat and the Department of Agricultural Economics, Extension and Rural Development in order to determine if problems related to student supervision, coursework quality, and student financial support have been satisfactorily resolved and if the Department's new procedures for PhD admissions and advancement are working as intended.

Recommendation 13: In view of the challenges in recruiting candidates for the sabbatical fellowships for African faculty and the international fellowships, the program should consider reducing the amount of funding budgeted for these two fellowships and merge them on a single budget line, to give it the flexibility to use the funds for the type of fellowship that attracts the strongest candidate(s) in a given year.

Recommendations related to program secretariat

Recommendation 14: In consultation with the Research Committee, the program secretariat should develop a plan for achieving a more appropriate balance between the size of the secretariat and the scale of the program's activities, to enable the secretariat to provide more of the substantive services required by a capacity-building program. This plan will need to take into account the availability of senior staff to provide those services.

Introduction

This report evaluates the “Capacity Strengthening Program in Environmental Economics and Policy Analysis,” which is implemented by the Centre for Environmental Economics and Policy in Africa (CEEPA) at the University of Pretoria, South Africa. The program was launched in June 2006 with funding from the Swedish International Development Cooperation Agency (SIDA). It has received additional support since April 2007 from Canada’s International Development Research Centre (IDRC). IDRC support ended in June 2012, and the program is currently using remaining IDRC funds under a no-cost extension. SIDA support is scheduled to end in December 2012. Both funders are considering renewing their support, which is one motivation for this evaluation.

The IDRC/SIDA program consists of 5 primary activities:

6. competitive research grants, which are associated with 3-day biannual research workshops where applicants present proposals for new projects and existing grantees present interim and final reports;
7. non-degree short courses¹ held in conjunction with the workshops, usually immediately after the workshops and lasting 2 days;
8. scholarships for students in environmental economics² PhD programs at African universities;
9. three types of fellowships that support stays at African universities by researchers who already have a PhD: postdoctoral fellowships for young African researchers, sabbatical fellowships for African faculty members, and international fellowships for faculty members from universities outside Africa;
10. material support (mainly library acquisitions) to departments of economics and agricultural economics at African universities and research institutions.

Table 1 provides summary information on these activities by year. The 3 panels of Figure 1 show that recipients of research grants, participants in short courses, and recipients of PhD scholarships have come from a range of African countries.

The evaluation focuses primarily on the first 3 program activities, which involve the largest number of participants and account for the largest share of expenditures. It does not evaluate all activities of CEEPA, which predates and is larger than the IDRC/SIDA program. CEEPA was established as a center within the Faculty of Natural and Agricultural Sciences of the University of Pretoria in 2001, with core budget support from the university. It has also received funding from external sources other than IDRC and SIDA (e.g., the World Bank). It has its own slate of research projects and other professional activities, including supporting a scientific journal, the *African Journal of Agricultural and Resource Economics*. It contributes to teaching programs at the university at three levels (undergraduate, MSC, and PhD), only one of which (the PhD program) has a connection to the IDRC/SIDA program. The IDRC/SIDA program represents a substantial portion of CEEPA’s total budget, however (about 50%), and the program and the centre share a common secretariat and advisory body (the Research Committee). Although this evaluation covers just the IDRC/SIDA program and

¹ Program documents often refer to these as “training courses” or “training of the trainers courses.”

² Throughout, I will use “environmental economics” to refer to the combined field of environmental and resource economics.

not CEEPA as a whole, it necessarily considers some aspects of CEEPA that affect program delivery even though they are not directly funded by IDRC or SIDA.

According to the terms of reference, the evaluation has 2 objectives:

1. to assess CEEPA's IDRC/SIDA capacity strengthening program effectiveness in building research, policy and teaching capacity related to environment-development economics in Africa, and to provide the program Advisory and Research Committee³—including donors—with information on benefits and impacts;
2. to provide recommendations on how CEEPA can strengthen the effectiveness and efficiency of the types of activities supported by the IDRC/SIDA component, and to identify new options and partnerships for such activities in the future.

To achieve these objectives, the terms of reference assign 4 tasks to the evaluator (Box 1).⁴ I have organized this report according to these tasks. To reduce overlap among them, under the first task I examine one aspect of the first program activity, the research grants: to what extent is the program identifying and funding an appropriate number of research projects? Under the second task, I examine the impacts of the projects thus funded. I examine the remaining 4 program activities under the third task, emphasizing the short courses and PhD. I also consider capacity-building in a collective, network sense under that task. Finally, I examine program-wide governance issues under the fourth task. I offer recommendations for improving program implementation throughout the report.

My work related to these tasks relied on 3 sources of information. The first was a large number of documents compiled by the program secretariat. An April, 2012 CEEPA technical report on the program was an invaluable source of statistics on the program and insights into the issues it faces (Hassan 2012). CEEPA's October 28, 2010 proposal for a second phase of funding from IDRC was similarly useful (CEEPA 2010). For additional detail, I reviewed: (i) a complete set of minutes of the 12 Research Committee meetings held from August 15, 2005, when the secretariat announced the initial grant from SIDA and worked with the Research Committee to develop governance procedures for the IDRC/SIDA program, to the latest meeting on May 31, 2012; (ii) participant evaluations of 10 of the first workshops and associated short courses⁵; (iii) spreadsheets containing summary information on research grant proposals received by the secretariat during 11 rounds of the grants competition from November 2006 to May 2011; (iv) the 10 Discussion Papers and 8 Policy Briefs published by the program so far; and (v) a complete set of application materials for PhD students who were considered for the first round of scholarships in 2006.

The second source was interviews with a wide range of individuals associated with the program, including:

- the 3 senior members of the program secretariat (including multiple interviews with the program director);
- all 5 current members of the program's Research Committee;

³ Now called the Research Committee.

⁴ I have reordered some of the points in Box 1, but aside from minor editing the text remains the same as in the terms of reference.

⁵ The evaluation was missing for the 9th workshop and was not yet available for the May 31, 2012 workshop.

- all 7 current resource persons for the program,⁶ who review proposals, comment on interim and final reports at the workshops, and advise grantees as they conduct their research;
- 2 grantees who presented final reports at the May 2012 workshop;
- 4 grantees who presented interim reports at the May 2012 workshop;
- 5 applicants who presented proposals at the May 2012 workshop;
- 3 observers at the May 2012 workshop;
- 1 senior researcher who presented a report at the May 2012 workshop;
- 5 current or past PhD students;
- 2 current or past postdoctoral fellows;
- 1 IDRC representative.

I conducted most of the interviews during the May 2012 workshop and associated short course, which were held at Roodevallei Country Lodge outside Pretoria on May 29-June 2, 2012. With one exception,⁷ I interviewed every individual who participated in that workshop and course. I interviewed a few individuals by skype after the workshop, and a few individuals in person at the 2012 annual conference of the European Environmental and Resource Economics Association, held June 27-30, 2012 in Prague, Czech Republic. The interviews typically lasted 30-60 minutes and were mostly 1-on-1, although in a few cases I interviewed small groups of 2-3 individuals. Appendix 1 provides a complete list of the individuals interviewed and the interview dates and locations. In addition to interviews, my observations at the workshop were an important source of information.

Two short email surveys were the final source of information. I sent one to all individuals who were invited to present a proposal at one of the first 11 workshops (through May 2011), and the other to all current and past recipients of PhD scholarships funded by the IDRC/SIDA program. I received responses from 22 and 17 individuals, respectively. Appendix 2 provides the text of these surveys.

At several points I draw comparisons to the 2 environmental economics capacity-building programs in Asia, the Economy and Environment Program for Southeast Asia (EEPSEA) and the South Asian Network for Development and Environmental Economics (SANDEE). Both programs have also received funding from IDRC and SIDA. Both are older than CEEPA's IDRC/SIDA program, and they have faced many of the same challenges. Despite the many differences between Africa and Asia, EEPSEA and SANDEE provide relevant points of comparison and, in my view, a potentially useful source of ideas for the IDRC/SIDA program. I have been a SANDEE resource person for a decade, and I have participated in EEPSEA as a lecturer and a project advisor, though not as a full-fledged resource person. I have also served as external evaluator of EEPSEA twice. I draw fewer comparisons to the fourth major environmental economics capacity-building program, the Latin American and Caribbean Environmental Economics Program (LACEEP), as I have little direct experience with it and because Latin America is even more different from Africa in several important ways that will be discussed in the next section.

⁶ One of the resource person positions is shared by 2 individuals, so no more than 6 resource persons attend a given workshop.

⁷ A recipient of a senior researcher grant, Dr. Mare Sarr.

Although I believe that the comparisons made to EEPSEA and SANDEE in this report are instructive, an important difference between these two programs and the IDRC/SIDA program must be recognized: the two Asian programs have full-time secretariats that are much larger than the IDRC/SIDA program's part-time secretariat. This enables the Asian programs to provide a higher level of support to program activities—in particular, research grants and short courses—than is feasible for the IDRC/SIDA program secretariat. This point should be borne in mind especially while reading the section on Task 1. I consider its overall implications for the program at the end of the report, in the section on Task 4.

This evaluation would not have been possible without the cooperation of the program secretariat, which responded to all of my requests promptly and efficiently. I am deeply grateful to the 3 senior members of the secretariat—program director Prof. Rashid Hassan, program coordinator Dr. Margaret Chitiga, and administration coordinator Dalène DuPlessis—for the assistance they so generously provided.

Task 1: Assess the extent to which the program is meeting its aims and objectives, assess how risks were identified and mitigated, and identify any modifications to objectives

As noted above, under this task I examine the extent to which the program is meeting its aims and objectives related to the number of research grants. The program is budgeted to support 8 new projects per year, or an average of 4 new projects per workshop. The last column in Table 2 shows that the number of proposals approved for funding has hit this target at only two of the workshops since the program began, with the average number of proposals funded during 2006-11⁸ being only about half of the target (3.8 per year).

The number of projects is also low compared to EEPSEA and SANDEE. The two Asian programs each have 6 resource persons who serve as advisors for funded projects, and each resource person is responsible for advising approximately 2 new projects per year.⁹ The IDRC/SIDA program has the same number of resource persons, but the average number of new projects per year during 2006-11 was equivalent to only 0.6 per resource person.

The small number of grants is a concern for two reasons. First, it reduces the amount of research capacity that the program is building. One participant at the May 2012 workshop worried that the program funds “too few proposals to really boost research in Africa.” Second, it makes the program less cost-effective, as the fixed costs of the workshops and program administration are spread out over a small number of beneficiaries. In his 2010 evaluation of SANDEE, Dale Whittington estimated that the average annual cost per SANDEE project was \$10,600. This estimate includes not only the annual grant payment to a researcher but also the annual per-project cost of honoraria for resource persons, running costs for workshops (travel, lodging, meals, etc.), publication costs, and secretariat costs associated with administering the research grants. Analysis of financial information provided by CEEPA indicates that the corresponding figure for the IDRC/SIDA program is approximately double this, \$20,000.¹⁰ This calculation ignores in-kind subsidies provided by CEEPA (e.g., uncompensated time by secretariat staff), but adjusting for these subsidies would not materially change the comparison. Whittington estimates that the average annual

⁸ I left out 2012 because final decisions have not yet been made on two revise-and-resubmit proposals.

⁹ EEPSEA awarded 22 new grants in the most recent year, but some were small grants supervised by individuals other than its regular resource persons. SANDEE made 14 new grants, all supervised by its resource persons.

¹⁰ This amount is the sum of four components: (i) **Research grant**, assumed to be \$12,500 over two years, or **\$6,250** per year (**31%** of the total). Grants were originally \$12,000 but were later increased to \$15,000; \$12,500 is the average of these two amounts. (ii) **Payments to resource persons**, assumed to be \$45,000 per year (6 persons @ \$3,750 per workshop, with 2 workshops per year). Based on typical participant numbers at a workshop—8 grantees, 2 applicants whose proposals will be approved, 3 applicants whose proposals will be denied, and 2 observers—I furthermore assumed that two-thirds of the time of resource persons at workshops is allocated to advising or training either grantees or applicants whose proposals will be approved. Per grant, this cost is $\$30,000/8 =$ **\$3,750** per year (**19%** of the total). (iii) **Running costs of workshops**, assumed to be \$90,000 per year (2 workshops @ \$45,000), with two-thirds of this amount associated with the advising or training of either grantees or applicants whose proposals will be approved. Per grant, this cost is $\$60,000/8 =$ **\$7,500** per year (**38%** of the total). (iv) **Secretariat costs** (salaries of the program director, program coordinator, and administration coordinator, plus overhead and office costs), assumed to be \$60,000 per year, with half associated with administration of the research grants programs. If, as in items ii and iii, two-thirds of the resulting amount is related to the advising or training of either grantees or new applicants whose proposals will be approved, then the cost per grant is $\$20,000/8 =$ **\$2,500** (**13%** of the total). The sum of these four items is **\$20,000**. This estimate excludes publication and dissemination costs, which Whittington included in his estimate for SANDEE.

cost per SANDEE project, inclusive of these subsidies, was \$13,100, which is still much lower than the subsidy-exclusive figure of \$20,000 for CEEPA.¹¹

The program secretariat is well aware of these issues. Its 2010 request for renewed funding from IDRC referred to “an undesirably high ratio of RPs [resource persons] to researchers that needs to be addressed” (CEEPA 2010). The secretariat reports that it is not limited by its capacity to administer more grants and the larger workshops they would entail. Instead, it blames the small number of high-quality proposals it receives. Table 2 shows that only about a fifth of the proposals received by the secretariat have been determined to be good enough to be presented at a workshop, with only about half of those that are presented being funded, for an acceptance rate of just 9%. The secretariat attributes the small number of quality proposals to several factors: the small pool of PhD-level researchers in Africa with environmental economics interests, competition for those individuals’ time by lucrative consulting opportunities, and competition from other sources of research funding, especially the SIDA-funded Environment for Development initiative, which is managed by the University of Gothenburg in Sweden and has established regional research centers in 4 African countries: Ethiopia, Kenya, South Africa, and Tanzania.

CEEPA’s proposal for the IDRC renewal suggested three responses to this problem: (i) making a greater effort to strengthen necessary research skills through the program’s short courses; (ii) creating a new category of grants for senior researchers, with a streamlined review process; and (iii) changing the number of workshops from two per year to one per year. The reduced frequency of workshops was intended to reduce costs and allow more time to accumulate more and, hopefully better, proposals. This change has been made, as there was a one-year gap between the May 2011 and May 2012 workshops. The senior research grants have also been launched, with two projects funded between the May 2011 and 2012 workshops. The 2010 proposal also noted that the program’s PhD scholarships and various fellowships are important investments in expanding the pool of skilled environmental economics researchers, which in the medium to long term is necessary for increasing the supply of quality proposals.

The reasons given by the secretariat for the small number of grants are clearly valid. My interviews, observations at the May 2012 workshop, and experience with EEPSEA and SANDEE lead me to conclude that they are not the only reasons, however. In addition, I attribute the small number of grants to an insufficient effort by the program to identify promising researchers, as opposed to promising projects, and to assist promising researchers with proposal development. Despite the obstacles identified by the secretariat, the program should be able to identify 8-10 new projects per year that are worth funding, especially if capacity-building and research quality are weighted more appropriately during the decision process. My conclusions about the steps that the program should take to increase the flow of projects are therefore somewhat different than those proposed by the secretariat, and in one case—reducing the frequency of the workshops—I believe that the program has taken a step that undermines capacity-building.

In the following pages, I develop my arguments by considering four broad reasons for the small number of projects. These reasons are not mutually exclusive, and they encompass the reasons given by the secretariat:

¹¹ The secretariat estimates that CEEPA’s subsidy to the program is on the order of \$32,000 per year. Whittington estimates that the SANDEE secretariat provides an annual subsidy of about \$150,000.

1. There are few promising researchers in the countries served by the program.
2. There are promising researchers in the countries served by the program, but they are unaware of the program and thus do not apply.
3. There are promising researchers in the countries served by the program who are aware of the program, but they chose not to apply.
4. There are promising researchers in the countries served by the program who apply to it, but their proposals are not funded.

By “promising researchers,” I mean individuals who, with appropriate support, are capable of completing a quality research project either from the first time they submit a proposal to the program or after completing one or two preliminary projects that develop their capacity. I consider each of these reasons in turn.

Are there many promising researchers in the countries served by the program?

Much evidence suggests that the pool of promising researchers in environmental economics is smaller in the countries served by the IDRC/SIDA program than those served by EEPSEA, SANDEE, or LACEEP. Collectively, countries served by the IDRC/SIDA program have a smaller population and much lower tertiary school enrollment percentage than countries served by the other three programs, and the second-lowest GDP per capita after the countries served by SANDEE (Table 3). The combination of a smaller population and lower tertiary enrollment results in sub-Saharan Africa accounting for only a very small portion of global tertiary enrollment (Table 4, panel A). Moreover, tertiary enrollment in sub-Saharan Africa has not experienced the large increases that have occurred in East Asia and the Pacific and Latin America and the Caribbean (Table 4, panel B). Given low tertiary enrollment, it is not surprising that the number of researchers per capita is much lower in Africa, especially countries other than South Africa, than in either Asia or Latin America and the Caribbean (Table 5).

The statistics in Tables 3-5 are about general education and research capacity. There is also more direct evidence of limited research capacity in environmental economics. A paper by Hassan and Mungatana (2005) completed just before the start of the IDRC/SIDA program estimated that, as of 2004, only 35 individuals in eastern, central, and southern Africa had PhD-level training in environmental economics, with another 41 having training at the MSc or MA level. The director of EEPSEA roughly estimates that, currently, there are 300-500 economists conducting environmental economics research or teaching in EEPSEA’s member countries (excluding Indonesia, due to missing data). The director of SANDEE reports that nearly 4,000 individuals have registered as members on its website and adds, “I don’t think we can untangle how many are economists, but I presume a majority are, since it takes at least a little bit of effort to fill in all the information and become a member.” The Brazilian Society for Ecological Economics reports that approximately 350 people attend its biennial meeting. Although these statistics from other regions are not strictly comparable to those reported by Hassan and Mungatana for Africa, due differences in dates and definitions of the types of individuals included, they are consistent with the pool of environmental and resource economists being smaller in the countries served by the IDRC/SIDA program than those served by EEPSEA, SANDEE, and LACEEP. It is therefore to be expected that the IDRC/SIDA program faces a greater challenge identifying promising researchers to support and might necessarily have a somewhat lower ratio of funded projects per resource person.

Are there promising researchers in the countries served by the program who do not apply to it because they are unaware of it?

CEEPA markets the IDRC/SIDA research grants in 4 ways, through its website, an email distribution list, its short courses, and word-of-mouth:

- The menu bar on CEEPA's website includes an "EE Capacity Support" button. Clicking on it reveals a drop-down menu with "Research Grants" as one of the choices.
- CEEPA's distribution list includes about 300 individuals, mainly contacts in departments at other African universities, authors of its discussion papers, and past grant applicants and participants in short courses. These individuals are asked to distribute the call for proposals widely.
- Participants in the short courses held in conjunction with the workshops are a mix of grantees and applicants along with individuals who have not yet applied for a grant. As part of their applications for the course, individuals in the latter group are required to submit preproposals for research projects related to the course topic. The preproposals serve the dual function of encouraging them to think about research ideas and enabling the secretariat to identify promising candidates for research grants.
- Many grantees and applicants reported having heard about the grants program from colleagues, resource persons, members of the secretariat and Research Committee, or others. Several reported learning about it by meeting the program director at a seminar or conference in Africa or elsewhere in the world.

The grantees and applicants that I interviewed at the May 2012 workshop mentioned all of these as ways that they had learned about the grants.

This marketing approach is comprehensive, but it can be improved. A couple of Research Committee members expressed concern that information on the grants is not obvious on the CEEPA website. This is true. CEEPA's home page consists of links to the daily schedules for the workshops and short courses held during 2008-2012 (Figure 2). Though up to date, this homepage does not provide the visitor with an overview of CEEPA's activities or the availability of grants through the IDRC/SIDA program. It looks more like an inner-layer webpage that would be linked to a general description of the grants program. Instead, as noted above, one discovers the availability of research grants by clicking first on "EE Capacity Support" and then on "Research Grants." The "Research Grants" page provides useful information on proposal guidelines and the proposal review process, but some of the information is out of date, referring to "Proposals submitted before 31 July 2009 will be considered ...," "the Sixth Biannual CEEPA Research Workshop to be held in November 2008," and "Applicants will be informed by October 2009."¹² A visitor could easily form the mistaken impression that the grants program is no longer active.

One Research Committee member also observed that the great increase in emails received by university and research institute staff members has reduced email's effectiveness as a marketing tool: people simply receive too many messages to consider them all carefully. The same Research Committee member and another one suggested that CEEPA needs to invest more in direct salesmanship, by visiting key universities and institutes and making

¹² Some other information is also outdated, including the members of the Research Committee.

presentations on the grants program. The burden of doing this need not fall only on the secretariat. Members of the Research Committee, Africa-based resource persons, and alumni of the grants program could be recruited to help. To generate additional interest, such visits could be linked to seminars presenting the results of recently completed grants.

The short courses organized by the program undoubtedly help spread the word about the research grants, but they likely appeal mainly to individuals who already have had some exposure to environmental and resource economics. In addition to specialized short courses, both EEPSEA and SANDEE annually offer a 3-week, general-purpose non-degree course on environmental economics. This course introduces economists and noneconomists without prior training in environmental economics to core concepts and methods in the subject. It has been an important source of grant proposals, with course graduates submitting proposals either at the next round of the grants competition or at a later round, after completing one or more additional, advanced short courses. The idea is to draw into the program not only individuals who already have relatively well-defined environmental economics interests, but also individuals who have had some training in economics but not specifically environmental economics.

These considerations lead to my first recommendation:

Recommendation 1: CEEPA should consider various ways of improving the marketing of the IDRC/SIDA research grants program, including by making the program more prominent on its website (and updating information on the website), investing more in direct salesmanship through in-person visits to key universities and institutes, and organizing a general-purpose short course in environmental economics aimed at individuals who already have training in economics but not specifically environmental economics.

So far, CEEPA has targeted mainly countries in southern and eastern Africa and anglophone western Africa for the various activities under the IDRC/SIDA program. It has avoided targeting countries in north Africa, to avoid competing with a nascent Mediterranean environmental economics network funded by IDRC. I have no direct information on the status of the Mediterranean network, but I have heard indirectly that it is struggling. If that is true, then the IDRC/SIDA program could potentially be expanded to include north African countries, which would increase the pool of researchers that it could fund.¹³

Despite not targeting francophone western Africa, the program has drawn a number of its funded projects from that region. Participants from francophone countries at the May 2012 workshop report that CEEPA and the program are not well known in francophone Africa. Several resource persons and Research Committee members expressed the view that CEEPA should consider becoming more active in francophone Africa. This is worth considering, as the language barrier there appears to be no more significant than the one that EEPSEA faces in the countries in its region, where only two member countries (Malaysia, Philippines) have an English-language heritage. EEPSEA has overcome the multiple language barriers in its region by a combination of identifying researchers who have adequate, if not proficient,

¹³ The program director reports that PhD capacity in environmental economics is weak in north Africa, however. If so, a strategy to retool nonenvironmental economists in the region would likely result in more proposals than a strategy to target existing environmental economists.

English language skills and by hiring bilingual regional economists who assist the secretariat and the resource persons in advising on these researchers' projects.

Recommendation 2: The program should consider targeting francophone Africa more heavily. It should also explore the merits of expanding into north Africa, taking into account IDRC's effort to establish a separate environmental economics network there.

Are there promising researchers in the countries served by the program who do not apply to it even though they are aware of it?

There are several reasons why promising researchers in Africa might chose not to apply for a research grant from the IDRC/SIDA program even though they are aware of it. One is a need to supplement meager salaries with income from consulting. Competition from consulting opportunities is not unique to Africa; EEPSEA and SANDEE face it in Asia, too. It might be more intense in Africa, however, due to the smaller share of researchers in the general population (Table 5) and, perhaps, lower university salaries. A similar problem is the promotion of talented faculty members into better-paying administrative positions, which is also not unique to Africa.

A second reason is competition from other sources of research funding. Participants at the May 2012 workshop reported that there are not many sources of funding for environmental economics research in Africa, but one source attracts a significant number of researchers who might otherwise apply to the IDRC/SIDA program: the Environment for Development (EfD) initiative, which is funded by SIDA and managed by the University of Gothenburg. EfD has established research centers at the Ethiopian Development Research Institute, the Kenya Institute for Public Policy Research and Analysis, the School of Economics at University of Cape Town, and the Department of Economics at University of Dar es Salaam. According to the secretariat, more than 10 PhD-level researchers are affiliated with these centers, but none has ever applied for a research grant from the IDRC/SIDA program. The centers assemble teams to work on particular issues. With funding in hand, members of these teams have a reduced incentive to apply for additional funding from the IDRC/SIDA program, especially as it is a lengthy process that entails not only submitting a written proposal but also, if one beats the odds and is invited to a workshop, committing a minimum of 3 days to present and receive comments on the proposal at the workshop.

It is easy to understand both the secretariat's dismay that a substantial portion of well-trained African environmental economists have a different, preferred source of funding, and those researchers' preference for EfD funding. But the two programs are in many ways complementary: the IDRC/SIDA program covers many countries, while EfD focuses on four; the IDRC/SIDA program focuses on individual projects, open to any researcher who is interested in submitting a proposal, while EfD focuses on team projects that have more restricted participation; and although they share a common funder, they are linked to largely different groups of other external organizations that provide potentially useful contacts for researchers: IDRC and, through CEEPA, the Beijer Institute of Ecological Economics in the case of the IDRC/SIDA program, and the University of Gothenburg and Resources for the Future in the case of EfD. Both make valuable contributions to environmental economics capacity-building in Africa.

Initial strains in the relationship between the two programs have seemingly lessened. At its May 2010 meeting, the Research Committee clarified that “CEEPA should welcome research proposals from researchers doing their PhDs overseas,” with questions about the eligibility of students at the University of Gothenburg having prompted the discussion of this issue. Leaders of both programs express an interest in greater collaboration. The CEEPA director will spend two months of his sabbatical later this year at the University of Cape Town in order to explore such opportunities. Leaders of the EfD initiative suggest that the EfD centers can help the IDRC/SIDA program identify promising projects and can provide additional support by reviewing proposals and reports and advising on funded projects. The possibility of greater collaboration is enhanced by the fact that four of the IDRC/SIDA program’s resource persons are affiliated with either an EfD center in Africa or EfD activities in Gothenburg. Some Research Committee members have similar connections.

As a step toward encouraging collaboration, the two programs’ websites could be linked better. A manual search¹⁴ of the CEEPA website did not uncover any mention of EfD. An automated search of the EfD website yielded 19 hits for “CEEPA,” but no mention of the IDRC/SIDA grants program. Nor does the EfD website list the program among several sources of external support under “Resources/Funding,” although it does include a link to the general IDRC homepage.

Recommendation 3: CEEPA and EfD should continue to explore opportunities for collaboration that take advantages of the complementarities of their capacity-building programs, starting by improving the links between their websites.

A third reason why capable researchers might decide not to apply to the IDRC/SIDA program was hinted at above: the program’s rigorous selection process. Several grantees and applicants at the May 2012 workshop reported that the program’s low acceptance rate discourages many individuals from applying. This implies that the problem of a small number of grants could become a vicious circle: the small number of grants reduces the number of proposals, which further reduces the number of grants, and so on.

The secretariat is especially concerned about more senior researchers deciding to opt out of the grants program. Both the 2010 proposal for renewed funding from IDRC (CEEPA 2010) and the April 2012 technical report (Hassan 2012) observed that “the long review process involved and the several layers and steps of close mentorship while essential for young researchers, has been discouraging more experienced senior researchers from taking advantage of this support.” The proposal review process is indeed time-consuming for applicants, as it involves participation in a 3-day workshop, and senior researchers have a higher opportunity cost of time than junior ones. In addition, for cultural reasons, some senior researchers are reportedly uncomfortable being asked challenging questions about their proposals in the presence of junior researchers, as at the workshops.

To encourage senior researchers to participate in the program, the secretariat has created a new category of grants. These senior researcher grants do not require applicants to “defend” their proposals at a workshop. Instead, the secretariat makes a decision based on written reviews of the applicants’ proposals. The secretariat issued a call for proposals before the May 2012 workshop, and it received two proposals. It funded one and requested a revision of the other, which was ultimately funded by a decision of the Research Committee at the May

¹⁴ I could not find the automated function.

2012 workshop. Both researchers participated in the May 2012 workshop and presented preliminary results from their projects.

The program director and others interviewed at the May 2012 workshop articulated several benefits of involving senior researchers in the program. These researchers are capable of doing research that is both more advanced, which results in better publications, and more policy-relevant, thanks to their greater experience. These attributes set desirable standards for junior researchers. Even though recipients of senior researcher grants do not present their proposals at a workshop, they still participate in a workshop when they present their findings, and this provides an opportunity for them to share their knowledge with other researchers. To the program director, the principal benefit of the senior researcher grants programs is to encourage senior researchers to stay engaged in research and spend less time consulting. The intention is not as much to build new research capacity as to retain existing capacity.

The senior researcher projects presented at the May 2012 workshop illustrate the promise of this new mechanism. Both presentations involved more theory than the norm for the program's projects, and both were presented very well. The two senior researchers commented on each other's presentations, and they offered excellent comments: insightful and challenging, but offered in a constructive way. They also offered useful comments on some of the other presentations made during the workshop. Their inclusion in the workshop raised the level of discussion and provided good examples for junior researchers.

There is a risk associated with this new mechanism, however, and it came out when I described the mechanism at a meeting of the SANDEE secretariat and resource persons in June. Participants in that meeting felt that such a mechanism would undermine one of the most cherished features of SANDEE, which is that its grant program applies the same, open rules to all applicants. Some of them commented that there is much cronyism in South Asia and that SANDEE provides a small but important counterexample of a transparent and meritocratic process by requiring all researchers, regardless of whether they are senior or junior, to present their proposals to the entire group. There was no sympathy for the view that senior researchers should be spared open questioning of their proposals, while junior researchers should be forced to endure it.

It is up to the IDCR/SIDA program secretariat and Research Committee to determine how significant this risk is for the program and how best to manage it. I note that there was confusion expressed at the May 2012 Research Committee meeting as to whether either of the senior researcher projects presented at the workshop had been funded and how the funding decisions had been reached. Minutes of the previous Research Committee meeting on May 2011 list discussion of a call for proposals from senior researchers on the agenda but provide no information on the nature of the discussion that occurred.

Recommendation 4: The secretariat and Research Committee need to develop clear procedures for administering the senior researcher grants, paying particular attention to procedures for soliciting and reviewing proposals and making award decisions. These procedures should be rigorous and transparent and should ensure that grants are awarded to proposals for high-quality, new work. A definition of "senior researcher," presumably based on some objective measure such as age, years since completing the PhD program, or professional rank, is also needed in order to determine whether an applicant is qualified to apply to the senior researcher grants program instead of to the regular grants program.

Are there promising researchers in the countries served by the program who apply to it but whose proposals are not funded?

On paper, the process that the IDRC/SIDA program follows in determining which proposals to fund looks identical to the process followed by EEPSEA and SANDEE. The secretariat issues a call for proposals. It screens the proposals it receives, rejecting without review those that are deficient in some obvious way (e.g., not research, or not environmental economics). It sends the remaining proposals out for review. Based on the reviews, it invites a subset of the applicants to present their proposals at the upcoming workshop. It forwards the reviews to the applicants and asks them to submit revised proposals by a specified date before the workshop. It also sends them presentation guidelines. It forwards the revised proposals to the resource persons before the workshop. The applicants present their proposals at the workshop, receiving comments from the resource persons, the secretariat, and other participants. Later in the workshop, they meet individually with the resource persons to discuss the comments received. At the end of the workshop, the resource persons transmit their funding recommendations to another body—the Research Committee in the case of the IDRC/SIDA program, and the secretariat in the case of EEPSEA and SANDEE—which decides which proposals to fund. After the workshop, the secretariat informs the applicants of the funding decisions and provides a written summary of comments from the various rounds of discussions at the workshop.

In practice, there are important differences between the way that the IDRC/SIDA program implements this process and the way that EEPSEA and SANDEE do. In particular, at all steps, the IDRC/SIDA program places more weight on the quality of the research proposal than do the Asian programs, which take the capacity-building value of the proposed project more into account. The IDRC/SIDA program also provides much less support with proposal development during, and especially before, the workshop. As a result, applicants who likely would be invited to present a proposal at an EEPSEA or SANDEE workshop and would have their proposals funded are either not invited or, if they are invited, not funded in the case of the IDRC/SIDA program. The IDRC/SIDA program expects applicants to jump over a quality bar that is set higher than in EEPSEA and SANDEE, both in the preliminary competition (who gets invited to a workshop) and the final competition (which invitees get funded), but it does less to train them to succeed in these competitions. As a result, fewer individuals are given an opportunity to take the leap, and fewer of them make it.

Note that my point here is not that the IDRC/SIDA program has funded projects that should not have been funded. All the information I have gathered and analyzed on the proposals received by secretariat, and the process followed to evaluate those proposals before and during the workshop, indicates that the program does an exceptional job of identifying the highest-quality projects. The average quality of the existing projects and proposed new ones presented at the May 2012 workshop was at least as good as the average quality of projects presented at EEPSEA and SANDEE workshops, maybe even higher. Although I am no expert on Africa, I agree completely with the resource persons' relative rankings of the quality of the proposals presented at the workshop. The resource persons' understanding is that their assignment is to identify the highest quality projects, and they do this diligently, objectively, and, in my view, successfully. My point is instead that there are additional promising researchers that the program should be inviting to workshops and funding, at least if capacity-building and not just project quality is an important program objective.

Here is a list of specific differences between the IDRC/SIDA grants process and the EEPSEA/SANDEE process, by stage of the process:

Before the workshop (proposal development and review)

- Before proposals are even submitted, EEPSEA and SANDEE provide more training on how to design a research project and write a research proposal. Although they offer stand-alone short courses on this, as has the IDRC/SIDA program (but only once), they also routinely integrate it into their short courses. Typically, the last one to two days of EEPSEA/SANDEE short courses, including their longer general-purpose environmental economics courses, focus on drafting proposals for research projects related to the course topic. Participants get coaching and feedback from the course instructors and secretariat. This is not a standard feature of the IDRC/SIDA program's short courses, although some participants report having had very helpful, informal discussions about their research ideas with the course instructors. Applicants to the program's short courses are required to submit preproposals as part of their applications. These are used to determine whether the applicants should be admitted to the courses, but they could also be used as input to proposal-writing exercises during the courses.
- Once proposals are submitted, the EEPSEA and SANDEE secretariats work much more with applicants before deciding whether to invite them to present their proposals at a workshop. Box 2 provides an example of the EEPSEA secretariat's multiple rounds of interaction with an applicant between the submission of the applicant's proposal on Sept. 1, 2002 and his presentation at a workshop on Nov. 22, 2002.¹⁵ The IDRC/SIDA program secretariat interacts much less extensively with applicants before the workshops. Its usual practice is to forward proposals to reviewers as is, without as much preliminary interaction and opportunity for improvement. It sometimes invites applicants who have submitted proposals that are promising but problematic to participate as observers ("preproposers") at workshops. This is a good practice, but it is possible that, with more intensive interaction before the workshop, some of those individuals might have been able to present fundable proposals at the workshop.
- Though relevant and clear, the pre-workshop reviews that I was provided for the proposals presented at the May 2012 workshop were less extensive than the norm for EEPSEA and SANDEE. The IDRC/SIDA program secretariat provides reviewers with guidelines based on EEPSEA's guidelines, and it also provides an example of an EEPSEA proposal review. The guidelines ask reviewers to prepare "an assessment, about two pages in length, suitable for transmission to the proposal's author." The example from EEPSEA exceeds this, being 5 pages long. The reviews of the proposals presented at the May 2012 workshop were much shorter than this (Table 6). Of course, there is no reason to believe that comments must be at least 2 pages in order to serve their purpose, but in many cases the reviews read more like they were intended for the secretariat—helping it make a decision—than for the applicants—helping them understand the strengths and weaknesses of their proposals and how to address the weaknesses. Another difference is that EEPSEA and SANDEE use local

¹⁵ This example is drawn from my 2005 evaluation of EEPSEA, which I conducted for IDRC.

experts as proposal reviewers more commonly than does the IDRC/SIDA program, which relies more heavily on its resource persons. One advantage of including local experts among the reviewers is that they might be better able to recognize projects that have a high capacity-building value, either for the applicant or for the institution where the applicant is based.

During the workshop (proposal presentation and evaluation)

- Proposal presenters in EEPSEA and SANDEE arrive at the workshop a day before other participants. The secretariat meets with them to review their presentations and ensure that the presentations are complete and well-organized. This improves the quality of the presentations and helps ensure that discussion following the presentations can focus more on substance than clarification. The IDRC/SIDA program provides presenters with guidelines but does not meet with the presenters to review their presentations before the workshop begins.
- EEPSEA and SANDEE assign discussants to proposals, but the IDRC/SIDA program does not. One discussant is typically a current grantee, while the other is a resource person. Assigning discussants helps ensure that every proposal receives a comprehensive set of comments, which is useful not only for the presenter but also for other participants who are still learning how to prepare and present a research proposal. It also helps set a constructive tone, if the discussants are asked to identify not only the weaknesses but also the strengths of a proposal. The discussion of some of the proposals at the May 2012 workshop was rather limited and would have been enhanced by the inclusion of discussants. Having a current grantee serve as a discussant also serves a useful capacity-building purpose for that person, even if his or her comments are not as insightful as those provided by a more experienced resource person.
- EEPSEA and SANDEE allocate twice as much time (60 minutes) for the 1-on-1 meetings between resource persons and applicants as the IDRC/SIDA program does (30 minutes). They are able to do this because the meetings are truly 1-on-1, or sometimes 2-on-1, whereas the meetings at the May 2012 workshop were actually all-on-1: all the resource persons met as a group with each applicant. At some workshops, the resource persons have reportedly split into two groups and met in parallel in order to accommodate a larger number of applicants, but the individual meetings were still only 30 minutes long. Due to my interview schedule I sat in on only parts of the 1-on-1 sessions, but my impression is that they were very similar to the first half-hour of an EEPSEA or SANDEE 1-on-1: the most important comments raised during the presentation and ensuing discussion were reviewed and, as necessary, clarified. There was not enough time to do the very important work that occurs during the second half-hour of an EEPSEA or SANDEE 1-on-1, however, which is to help the applicant understand how to modify the project in response to the comments. In my view—and again, I am no expert on Africa—the resource persons superbly identified and clearly communicated the main issues with the proposed projects during the 1-on-1, but they simply did not have adequate time to provide as much guidance for addressing those issues as would have occurred in EEPSEA or SANDEE.
- EEPSEA and SANDEE place less weight on the quality of the proposed research than the IDRC/SIDA program does. One piece of supporting evidence is that virtually all

of the completed projects funded by the IDRC/SIDA program have generated CEEPA Discussion Papers, whereas a sizable portion of EEPSEA and SANDEE projects have not generated analogous publications (about 30% in the case of EEPSEA; the figure is somewhat lower for SANDEE). In addition to research quality, EEPSEA and SANDEE place substantial weight on a project's capacity-building value: how much will the applicant develop as a researcher if the project is funded? Although they prize high-quality proposals, they also try to identify applicants who are worth investing in, even if their initial projects might not have much value from a research standpoint. The initial projects for such individuals are viewed as a kind of apprenticeship, which prepares them to submit higher-quality proposals in the future. EEPSEA and SANDEE also invite a larger number of applicants to their workshops than the IDRC/SIDA program does, in order to reduce the risk of screening out promising researchers. An individual's promise as a researcher is hard to judge from a written proposal if the individual has little experience writing proposals.

After the workshop (project implementation)

- Both EEPSEA and SANDEE assign individual resource persons to serve as advisors on funded projects. This particular resource person is the one who meets with an applicant during the 1-on-1 session, and he or she is responsible for mentoring the grantee through project completion. The IDRC/SIDA program sometimes informally assigns resource persons to take the lead on advising particular grantees, but the official arrangement communicated to applicants in their award letters is that they are free to contact any resource person between workshops as long as they copy their messages to the secretariat. SANDEE initially had a similar arrangement, but after a couple of years it switched to an EEPSEA-style advisor system. It abandoned the group advising system for two main reasons: there was too much inconsistency in the advice provided to the grantees from workshop to workshop, and the grantees were not sure about which resource person to contact if they needed help and, besides, were intimidated about contacting them. The advisor system has eliminated these problems. It might be similarly beneficial to the IDRC/SIDA program, especially if the program increases the number of projects. I discussed the idea of assigned advisors with 9 of the more experienced current or past grantees whom I interviewed at the May 2012 workshop, and all expressed strong support for it, echoing the reasons that led SANDEE to adopt it.
- A final way that the IDRC/SIDA program differs from EEPSEA and SANDEE is by having reduced the frequency of its workshops from two per year to one per year. As noted earlier, the reasons for this change were to save money and to accumulate a better set of proposals. The May 2012 workshop was the first one since this change was made. Cost savings of at least \$40,000-50,000 have evidently been achieved, as this is the average running cost of a workshop (travel, lodging, meals, facilities). The actual cost savings are probably even greater, as resource persons will presumably be paid less now that they are attending one fewer workshop per year. Several resource persons and Research Committee members commented that the quality of proposals was higher at this workshop than at most, so the second reason for the change might also have been fulfilled. In the view of all of the researchers and most of the resource persons and Research Committee members whom I interviewed, however, the change is not good for the program, primarily because researchers will not receive sufficient support during project implementation. Box 3 presents a selection of their concerns.

These concerns seem very valid to me. A couple of participants suggested that requiring researchers to submit a detailed interim report at the six-month point between workshops might be sufficient to make the new model work, but that would surely provide less opportunity for feedback and guidance than do the in-person discussions at a workshop. As a compromise, the secretariat has suggested holding workshops every 9 months instead of every 12 months, but the resource persons that I asked about this idea felt that it would create scheduling difficulties for them.

Recommendation 5: The program should increase the weight it places on the capacity-building value of proposals when it evaluates them and should provide more support for proposal development during and, especially, before the research workshops. Experience from the two Asian capacity-building programs (EEPSEA and SANDEE) suggests several ways that the program can do this. In combination with the previous recommendations, this should enable the program to increase the number of new grants per year to 8-10.

Recommendation 6: The program should consider assigning resource persons to serve as individual advisors on funded projects.

Recommendation 7: The program should revert to holding research workshops every 6 months.

Task 2: Document the results of the program including main research findings, outputs, and outcomes, and analyze their influence on policy

This section examines the program's research output. It is divided into 3 subsections: quantity and quality of publications, dissemination of findings, and policy influence. It focuses mainly on output from the research grants, but the first subsection also reviews publications by PhD scholars and postdoctoral fellows.

Quantity and quality of publications

CEEPA has its own Discussion Paper series, which provides an initial outlet for the findings from the research grants. This is a high-quality working paper series, comparable to EEPSEA's Research Reports and SANDEE's Working Papers. Eleven of the research grants had been completed as of the beginning of this year, and 10 of them have generated Discussion Papers. This is an impressively high rate, higher than EEPSEA's and SANDEE's, as mentioned earlier. Box 4 lists these papers.

The program encourages grantees to publish in refereed journals and provides a \$500 incentive payment if they do. Its budget assumes that 50% of its grantees will publish in refereed journals, which is an appropriate target. Box 5 lists the journal articles published by the grantees. Consistent with the 50% target, 5 grantees have published a total of 6 journal articles, and another 2 grantees have 5 manuscripts in review.¹⁶ The journals that have published the 6 articles are international ones, all in fields other than environmental economics. They are not top-tier field journals, but they are appropriate outlets given the applied, case-study nature of the studies and the audiences that are most likely to be interested in them. Three of the manuscripts in review have been submitted to 3 of the best field journals in economics (*Journal of Public Economics*, *Journal of Development Economics*, *American Journal of Agricultural Economics*).

When asked their opinion of the most impressive projects completed so far, the majority of resource persons mentioned ones by Wisdom Akpalu and Jane Kabubo-Mariara, who were among the earliest grant recipients and have each completed two projects. Both of Dr. Akpalu's projects concerned the regulation of inshore fisheries in Ghana. Some fishers illegally use lighting to attract fish. The first project was a theory-guided empirical investigation of the factors that determine whether fishers use this illegal technology and, if they do, the severity of the violation (proxied by the cost of the equipment). Conducting research on illegal activities is inherently difficult, but Dr. Akpalu managed to develop the trust of the chief fishermen in the study region, which resulted in a remarkably high response rate of 97% of the fishers he surveyed. He applied two econometric methods, one that is commonly used (a logit model) and a more unusual one (a nonparametric, maximum entropy Leuven estimator). He found an interesting effect of fisher age—younger fishers are more likely to violate the regulation but older ones violate it more severely—which suggests that the fishery department can use fisher age to guide its enforcement effort. The second project extended the analysis by developing a more realistic theoretical model, which accounted for the fact that fishers do not know with perfect certainty how much their catch will increase if they use the illegal technology. Like the earlier project, it was based on survey data (a new, larger sample). It confirmed the previous findings but turned up a new and interesting one:

¹⁶ Given the relatively small number of articles and their relatively recent publication dates, I do not analyze citation counts.

less skilful fishers are more likely to violate the regulation. This confirms the main result of the theoretical analysis and suggests that a training program for less skilful fishers could have the win-win outcome of raising their income while reducing their use of the illegal technology.

Dr. Kabubo-Mariara's projects both dealt with land-based resources in Kenya but were similar to Dr. Akpalu's in terms of seeking to understand the factors that determine household use of the resources and being based on survey data. The first project was a rich analysis of the contributions of forests (fuelwood, fodder, etc.) to household income. Despite much interest in the links between environmental resources and poverty, the number of careful studies on the topic remains relatively small. This study was the first for Kenya. It included a detailed analysis of forests' contributions across different income groups and different tenure arrangements (another topic of great interest, per the late Lin Ostrom's Nobel Prize-winning work). It found strong evidence of an important contribution to household income not only on average but especially during times of hardship. The second project investigated the adoption of soil conservation measures and their impacts on crop productivity. It is methodologically much more sophisticated than the first project, providing evidence of Dr. Kabubo-Mariara's impressive development as a researcher between the two projects. It found that institutional isolation—insecure tenure, restricted market access—depressed the adoption of soil conservation measures and, as a result, crop yields. There is thus the prospect of an outcome that would improve both farmer income and environmental quality, but the richness of her data and the sophistication of her analysis enabled Dr. Kabubo-Mariara to demonstrate that policy interventions would need to be differentiated according to type of soil conservation measure and implemented as a package, not as individual actions.

Only 5 PhD students sponsored by the program have graduated so far, but already 5 students sponsored by the program have published 8 articles in refereed journals (Box 6). Another 3 articles are in review, including one by a 6th student. In addition, the 3 articles in review at top field journals listed in Box 5 are by a grantee who is also a recent PhD graduate sponsored by the program. The journals that these students have published in or submitted manuscripts to are more prominent than those that the research grant recipients have published in, and they include some well-known environmental and resource economics journals (e.g., articles in *Ecological Economics* and *Natural Resource Modeling*, and manuscripts submitted to the *Journal of Environmental Economics and Management* and *Marine Policy*). Postdoctoral fellows sponsored by the program have published an additional 3 articles in journals, including one in the top journal that focuses on environmental and resource economics in developing countries, *Environment and Development Economics*. PhD scholars and postdoctoral fellows have also published an impressive number of working papers and book chapters (Box 7). Some of these are distinct from the journal articles listed in Box 6 and thus are likely to be published eventually as journal articles.

In sum, the program has generated a substantial number of publications, including a few articles in top international field journals and many more articles in other respectable journals. Based on the journals that have published these articles, the PhD scholars and postdoctoral fellows have published higher-quality articles than the recipients of research grants.¹⁷ The quantity of journal articles from the research grants is in line with the program's

¹⁷ The program director points to the quality of the publications by the PhD scholars as evidence that the research grants program is excluding some promising researchers, as hardly any of the students have had a

target, and the number of articles per PhD dissertation (around 2, it appears) is in line with expectations for a quality PhD program. The number of publications from the postdoctoral fellows is low in comparison, however: only 3 journal articles from 8 fellows, with all the publications from the same 2 fellows. This suggests that more care should be taken in selecting these fellows, as one would expect postdoctoral fellows to be especially productive researchers.

From the titles of the publications in Boxes 4 and 5, it is evident that the grants program has supported research on a variety of topics. Members of the Research Committee feel that these are important topics, but they also suggest various topics that remain relatively under-researched:

- biodiversity, conservation, and tourism;
- wildlife rangelands and livestock;
- climate change, water, and agriculture;
- contributions of natural resources to national economies, including the distribution of benefits from resource extraction.

If, as recommended in the discussion of Task 1, the program makes an effort to increase the number of grants approved each year, then it could consider giving these topics priority during award decisions. It could also consider issuing targeted calls for proposals related to them.

Building on this point, the program is reaching a point where it might have accumulated enough research findings on particular topics to support the publication of synthesis reports or books. EEPSEA and SANDEE both began doing this at a roughly similar number of years after their establishment. These synthesis publications are useful products for not only local audiences but also international ones. The value of two SANDEE books—one on environmental valuation, and one on common property resources—to international audiences is signaled by their being published by distinguished academic presses (Cambridge University Press and Oxford University Press, respectively).

Recommendation 8: The program should consider additional ways of assisting grantees who have completed the highest-quality projects in publishing their findings in top international field journals. One example might be additional peer review of manuscripts before submission to journals. It should also review the criteria used to select postdoctoral fellows, to ensure that the fellowships are being awarded to individuals who are likely to be productive researchers. Finally, it should discuss the merits of issuing targeted calls for proposals and preparing synthesis publications on specific research topics.

Dissemination of findings

The program relies on both written and oral means to communicate its research findings. Written means include the publications discussed above. The Discussion Papers can be downloaded from CEEPA's website. The program also produces Policy Notes, which can also be downloaded from CEEPA's website and are discussed in the next section. The

proposal funded by the program. He might be right, but PhD students' publications might be better for the additional reason that they are typically co-authored by PhD supervisors or other faculty members.

secretariat has an email distribution list that it uses to announce the publication of new Discussion Papers and Policy Notes. The list includes about 300 addressees and is the same as the list used to announce calls for proposals. No statistics are available on the number of times that Discussion Papers or Policy Notes have been viewed or downloaded from the website.

The workshops are the primary oral means of disseminating research findings. With about 30 individuals participating in each workshop, and about a fifth of the participants changing from one workshop to the next (due to the inclusion of observers and new applicants), the number of individuals exposed to a particular project over its typical two-year duration (around 50) exceeds the number at a typical seminar or conference. Presenting findings at seminars and conferences in addition to the workshops is important, however, for reaching audiences that are less directly tied to the program. The program has used this mechanism only sparingly, however. The proposal guidelines on CEEPA's website ask applicants to include the following section in their proposals:

Expected results and dissemination. This section should discuss the expected key findings of the intended research with respect to new knowledge, policy formulation and implementation, and methodological development. Discussion of a dissemination strategy through presentations at workshops, publications or policy briefs will have added value.

Although this mentions "presentations at workshops" (meaning workshops other than the biannual research workshops), most grantees either do not allocate funds for such outreach activities in their proposals or, if they do, end up reallocating the funds to cover overages on their direct research expenses. Presenting results at seminars, conferences, or dissemination workshops is the norm in EEPSEA and SANDEE. Developing a similar norm in the IDRC/SIDA program would help disseminate the program's research findings better within the region and internationally. Providing funding for similar activities related to research conducted by PhD students and postdoctoral fellows sponsored by the program could also be considered.

Recommendation 9: The program should consider reserving a portion of the funding for each research grant to enable grantees to present their research findings at seminars, conferences, or dissemination workshops organized specifically for the project. It could also consider the possibility of creating a similar dissemination mechanism for PhD scholars and postdoctoral fellows.

Policy influence

The program attempts to influence policy by funding policy-relevant projects, disseminating findings to a policy audience via Policy Notes, and inviting observers from policy agencies to participate in the workshops. The preceding excerpt from the proposal guidelines indicates that applicants for research grants are asked to "discuss the expected key findings of the intended research with respect to ... policy formulation and implementation." The overview of the grants program that precedes the guidelines also draws attention to policy, informing the applicant that "The Research Committee, in consultation with the Secretariat and resource persons, will apply the criteria below in evaluating new proposals," with the first criterion being "Policy relevance - Whether the question(s) being proposed is/are potentially useful to policymakers, academic community and/or civil society." The other two criteria are academic merit and collaborative arrangements for joint studies with members of sister departments.

My review of comments on proposed projects and my observations and interviews at the May 2012 workshop indicate that the secretariat and resource persons pay appropriate attention to proposed projects' potential policy influence, at least if one applies IDRC's definition of policy influence, which encompasses three categories of influence:

1. expanding policy capacities (improving the institutional framework);
2. broadening policy horizons (improving the intellectual framework);
3. affecting policy regimes.

Most of the program's projects fall into the second category, as they increase knowledge on the causes of environmental degradation, its costs, the benefits of addressing it, and, in some cases, the pros and cons of different interventions to address it. Achieving influence in the third category, which refers to "the development of laws, regulations, programs, or structures," is unlikely and unrealistic given the short duration of the projects and the limited contacts that their typically junior researchers have in the policy world. Due to inexperience, many grantees have a naïve view of what a policy recommendation is. Some of the "recommendations" made during presentations were more along the lines of policy objectives (e.g., "increase household income"). Even if a project does affect policy regimes, detecting it is difficult, as policy decisions are influenced by many factors whose effects are often indirect and gradual. As one Research Committee member put it, research findings "seep into policy."

Most grantees evidently interact little with the policy community during their projects. The April 2012 Technical Report states that "not many [grantees] have engaged with policy in terms of disseminating their results." As noted in the previous section, grantees do not typically present their findings at dissemination workshops. To encourage more interaction with the policy community, the program has invited a small number of observers from the policy community to the workshops, but it has concluded (correctly, by all accounts) that this mechanism has not been very successful, as the topics presented at the workshops are too varied to maintain the observers' interest and make the time spent at the workshop worth their while. The program has also organized one short course for policymakers, in 2008.

The program does not poll current and past grantees about their policy involvement and other professional achievements as regularly as EEPSEA and SANDEE do. At my request, the secretariat requested information on policy influence from past recipients of research grants. It drafted and sent the following 5 questions via email:

1. Briefly describe the policy implications of your key research findings.
2. Did you have any engagements with policy makers?
3. Has your work been referred to by any policy makers and if any, in which context?
4. If you answered yes in question 3, did your work lead to other related or unrelated projects?
5. Was your project used for research or used for advice to government?

The secretariat forwarded 4 responses to me, which is additional evidence that few grantees interact much the policy community. So are 2 of the responses: one reported that the project did not involve any engagement with policymakers, was not referred to by them, and did not lead to any other project, and the other reported a contact with a member of a presidential technical committee but no other engagement and no reference to the project. On the other hand, the remaining 2 responses indicate that the projects affected policy regimes. One of the researchers reported being invited to make a presentation to a parliamentary subcommittee on

the environment and to train staff in the Ministry of Environment and other agencies on matters related to his project. He also reported that his project led to a follow-up government project. The other reported having had two meetings with the director of a government department and additional meetings with the department's regional staff. Although he is not aware of any specific reference to his work by policymakers, he notes that some of the department's recent actions are consonant with recommendations made in his study. So, although the amount of contact between grantees and the policy community has been limited overall, and although it is unrealistic in general to expect small research projects to affect policy regimes, at least two of the program's projects appear to have had such effects so far.

The program has produced 8 Policy Notes so far. They are exceedingly well done. They are 4-page, bifold publications that are written clearly and in an engaging style, and they are laid out in an appealing way, with eye-catching maps, photos, graphs, and tables. Like the Discussion Papers, they are announced via CEEPA's email distribution list and can be downloaded from CEEPA's website. Their influence is difficult to assess, however, as no information is available on the number of views or downloads. I suspect that they are read with interest if they make it onto the desks or screens of individuals in the policy community who are working on the same or related topics.

There is no proven formula for influencing policy through research. The program is already taking important steps to increase the likelihood that this will happen, by considering policy influence when it evaluates proposed projects and by publishing Policy Notes. Tracking views and downloads of Policy Notes (and Discussion Papers) could help it identify topics that interest the policy community. As discussed in the previous section, it could place more emphasis on organizing dissemination workshops, which would complement the "broadcast" dissemination approach of the Policy Notes. All of these steps could be made more effective if grantees had a better understanding of and practical training in policy analysis. EEPSEA has developed an effective short course on this, which has recently been picked up by SANDEE. The SIDA/IDRC program could consider offering it too. Finally, the secretariat might revisit the idea of organizing short courses for policymakers like the one offered in 2008, which evidently was well-received but was not replicated due to a lack of funding in the program's budget. Such courses perhaps could be organized in collaboration with a regional or international policy agency, as a couple of Research Committee members suggested. EEPSEA has had success with this model.

Recommendation 10: The program should consider various ways to monitor and expand its policy influence, which might include an annual request to current and past participants on their policy involvement and other professional activities, tracking information on views and downloads of Policy Notes (and Discussion Papers), organizing dissemination workshops, organizing a short course on policy analysis for grantees, and revisiting the idea of organizing short courses aimed at the policy community.

Task 3: Describe other outcomes, their sustainability, and the strategies that contributed to them

This task concerns capacity-building in its various forms. I start by presenting some cross-regional information, which indicates that environmental economics capacity has grown in Africa and has resulted in relatively strong participation by African researchers in major international environmental economics conferences. I then revert to focusing on the IDRC/SIDA program, beginning with evidence on individual capacity-building through the research grants process and continuing with evidence on individual capacity-building through the short courses. I turn next to the PhD scholarships. I round out the section by considering capacity-building in terms of a network, not just individuals.

Cross-regional evidence on growth in environmental economics capacity

To my knowledge, the only available cross-regional data on environmental economics publications come from statistics on the authors of submissions to and published articles in the journal *Environment and Development Economics (EDE)*.¹⁸ Although this is just one of many environmental economics journals, it is a highly relevant one, being the premier one that focuses on topics relevant to developing countries. Africa's share of both submissions to and published articles in *EDE* increased between the first five years of the journal (1995-2000) and the most recent five years (2007-2012) (Table 7). The increased share of published articles is especially noteworthy, as *EDE*'s rejection rate rose sharply between the two periods. Africa's shares of submissions and published articles were smaller than Asia's and Latin America's, but this is to be expected considering its much lower levels of tertiary enrollment and researchers per capita (Tables 3-5).

Researchers from countries served by the IDRC/SIDA program¹⁹ have also been well-represented at major international conferences in environmental economics compared to researchers from other regions. The number of participants from countries served by the program exceeded the number from EEPSEA countries and matched the number from SANDEE countries at the 2010 World Congress of Environmental and Resource Economists (Table 8).²⁰ According to the organizers of the World Congress, the number of participants across countries was highly correlated with the number of competitively accepted papers from those countries, which enables one to calculate an acceptance rate for each region by dividing the number of participants by the number of submitted papers. This rate is the best available indicator of the relative quality of submitted papers across regions. It was higher for participants from countries served by the IDRC/SIDA program than for both groups of Asian countries. Statistics from the 2012 annual conference of the European Association of Environmental and Resource Economists tell a similar story: a higher share of accepted papers were from countries served by the IDRC/SIDA program than from EEPSEA or SANDEE countries, as was the acceptance rate (Table 9).²¹

¹⁸ These statistics were presented by the journal editor, Anastasios Xepapadeas, at the 2012 annual conference of the European Environmental and Resource Economics Association, held in Prague, Czech Republic, in June 2012.

¹⁹ Note that this is not the same as researchers who actually received a research grant, PhD scholarship, or fellowship from the IDRC/SIDA program or participated in a short course organized by it.

²⁰ These statistics were kindly provided by Gérard Gaudet.

²¹ These statistics were kindly provided by Milan Scasny.

It would be inappropriate to ascribe this relatively strong performance entirely to the IDRC/SIDA program, as other capacity-building efforts might also have played a role (e.g., other CEEPA activities and EfD). I attended both conferences and encountered numerous participants who had some kind of affiliation with the program, however, so there is no doubt that it contributed.

Building individual capacity through research grants

It is possible to conceive of using modern impact evaluation methods (Ravallion 2008) to conduct a rigorous quantitative analysis of the impact of the IDRC/SIDA program on the individuals who participate in it. Such an analysis is not practically possible, however, as the number of individuals who have participated in the program is still relatively small, with few having completed their grants, scholarships, or fellowships and few years having elapsed since they did so. Instead, in this subsection and the remaining ones in this section, I rely on comments and responses by participants and my own observations to evaluate the program's capacity-building impact.

Participant ratings of program activities can be assumed to be correlated with the value the participants perceive they gain from those activities. There are two sources of participant ratings on the research grants program. One is the evaluation administered by the secretariat at the end of each workshop. Figures 3 and 4 show percentage shares of responses pooled across all individuals who completed the evaluation forms during the 2nd–8th and 10th–11th workshops.²² The responses indicate a very high overall level of satisfaction with the workshops (Figure 3A) and widespread satisfaction with the comments offered by discussants (Figure 3B) and interactions with the resource persons (Figure 4).

The other source is a survey that I emailed in July 2012 to all individuals who presented a proposal for a research grant at one or more of the first 11 workshops.²³ At these workshops, a total of 55 proposals were presented by 44 distinct individuals. After excluding individuals with nonfunctioning email addresses (mainly due to full mailboxes), the sample frame contained 38 individuals. I received replies from 22 (58% response rate). The survey was short, just 7 questions. Appendix 2 shows the full text. The two main substantive questions were:

Which of the following terms best describes your overall level of satisfaction with the CEEPA research grants program: Very satisfied, Somewhat satisfied, Neither satisfied nor dissatisfied, Somewhat dissatisfied, Very dissatisfied?

Which of the following terms best describes the impact of the CEEPA research grants program on your career development so far: Very positive, Somewhat Positive, Neither positive nor negative, Somewhat negative, Very negative?

Responses to both questions were very favorable, with a large majority of respondents giving the highest or second-highest ratings (Figure 5). This is striking given that the respondents included nearly as many presenters whose proposals were not funded (9) as presenters whose

²² The 1st workshop used a somewhat different form, and evaluation results were not available for the 9th.

²³ I excluded the May 2012 workshop.

proposals were funded (13).²⁴ A majority of even the individuals whose proposals were not funded feel that they have benefited from their association with the grants program.²⁵

During interviews and on the survey, applicants and grantees expressed great appreciation for the advice they received on their proposals and projects from the resource persons and secretariat. Box 8 presents a selection of comments from a mix of current and past applicants and grantees. Based on my observations at the May 2012 workshop, I am not surprised by these laudatory comments. The resource persons are a mix of well-known experts from Africa, Europe, and North America who have great experience as teachers and have collectively worked on an appropriately wide-ranging set of theoretical and empirical topics in environmental economics. They are clearly committed to the program's capacity-building mission and are comfortable interacting with the applicants and grantees. The same is true of the secretariat.

The survey also included questions about presenters' professional positions at the time they first presented a proposal at a workshop and their current positions. About two-thirds (15 respondents) were in academic positions at the time they first presented. This includes two who were on leave while enrolled in PhD programs. The remainder was split between positions in non-academic national or international research institutes (4) and PhD students who had not held a prior research position (3). Clearly, the program is targeting individuals with research experience or aspirations. Interestingly, none of the 13 presenters whose proposals were funded has left a position at a university or research institute, while 2 of the 9 whose proposals were not funded have left such positions (both at universities) to become consultants. Nine of the 13 whose proposals were funded have received promotions within universities (5), joined universities from research institutes or PhD programs (3), or gone on for further study (2), while only 4 of the 9 whose proposals were not funded have progressed similarly in the academic world (3 received promotions within universities, while 1 joined a university from a research institute).

These responses indicate that grant recipients have been more likely to remain in research positions and advance along an academic career path than presenters who did not receive a grant. This is a very desirable outcome for a program that seeks to build research capacity. There are at least 3 possible explanations for it: (i) the program selected individuals who are predisposed toward being researchers and academics; (ii) the receipt of a research grant boosted the capacity, or morale, of those whose proposals were funded; and (iii) sheer chance. Determining the relative importance of these explanations is unfortunately impossible due to the small sample size, but 2 of the 3 (the first 2) are consistent with the program functioning well. Moreover, at the very least the responses do not indicate that participation in the program has negatively affected grant recipients' propensities to remain in research and to advance in academia.

Building individual capacity through short courses

The program organized 12 non-degree short courses during 2006-2012 (Box 9). The courses were held immediately after the workshops and typically lasted 2 days. The topics include an

²⁴ The numbers of responses in panels A and B total to 21, not 22, because in each case one respondent did not answer one of the questions.

²⁵ All the ratings of 1 (Very dissatisfied/Very negative), 2 (Somewhat dissatisfied/Somewhat negative), and 3 (Neither satisfied nor dissatisfied/Neither positive nor negative) in Figure 5 were from 5 respondents whose proposals were not funded.

appropriate mix of theory, methods, and policy issues. The number of participants was usually in the range of 12-18 (excluding instructors and members of the Research Committee), with the participants being the same or nearly the same as the participants in the workshops. Instructors were sometimes the program's resource persons, but in other cases they were experts from within the region or from Europe or North America. Some of the instructors are among the most distinguished environmental economists in the world.

Responses on evaluations administered by the secretariat indicate that the short courses met or exceeded the expectations of nearly all participants (Figure 6). Half or more of the respondents found the lecturers to be above average according to various performance indicators; nearly all of the rest found them to be average (Figure 7). Nearly all respondents reported that the amount of material covered, the difficulty of the lectures, and the opportunity to ask questions were "about right" (Figure 8). Overall, course participants have been satisfied with the courses, with a large portion of them being very satisfied.

The main suggestion for improvement that I received during interviews was to lengthen the courses. One participant in two courses expressed a view repeated by several others:

I think it would be good to see if there is a possibility of offering them [short courses] for more days. AERC also offers those kinds of courses but they generally last two weeks. I cannot say that the experience of AERC is the best, but I think that for someone to get an overview of a topic, a week or two weeks of training should be sufficient. From the experience I now have with the two short courses I have attended with CEEPA, I think that given the importance of the issues to be covered and the necessity of building real capacities, the time devoted to the course is too insufficient. The consequence of this is that people end up having general ideas on just a few issues related to a course's topic.

Short courses of 2-3 days are also common in EEPSEA and SANDEE. As mentioned in the previous section, what is missing in the IDRC/SIDA program is a longer (2-3 week), general-purpose, non-degree environmental economics short course. Having such a course would enable the program to provide more basic training to those who need it. It could then use the 2-3 day courses to cover more advanced material than it currently does. Currently, the program is trying to meet the training needs of a very heterogeneous group of participants in the short courses. The course participants are essentially the same participants as in the workshops, and thus they include very inexperienced researchers along with ones who are more skilled. The secretariat recognizes that combining the audiences for the workshops and courses is not ideal, but it notes that the program budget for training activities is very small and that appending the courses to the workshops is a cost-saving measure.

Reduced overlap between the participant groups for the workshops and the short courses would be beneficial. It would enable the short courses to be more advanced, with only the workshop participants who have sufficient prior training being invited to stay for them. Other individuals who are not current grant applicants or recipients but have sufficient training could be invited to participate in the courses too; such individuals might include PhD students or EFD researchers. Workshop participants with less training would instead need to complete the longer, basic course in environmental economics before being invited to one of the advanced 2-day courses.

Recommendation 11: The program should consider organizing a 2-3 week non-degree introductory course in environmental economics and making its 2-day short courses more advanced, with participants in the latter overlapping less with the participants in the workshops. As recommended earlier, it should also consider organizing a short course on policy analysis for grantees and revisiting the idea of organizing short courses aimed at the policy community.

Building individual capacity through PhD scholarships

The program's PhD scholarships provide 3 years of financial support to up to 4 qualified students each year (2 funded by IDRC, 2 funded by SIDA). To qualify for a scholarship, a student must be admitted to a PhD program at an African university that offers the necessary coursework and has faculty members who conduct research in environmental economics. The program awarded 23 scholarships during 2006-12. All of the recipients were admitted by the University of Pretoria's Department of Agricultural Economics, Extension and Rural Development, where CEEPA is based.²⁶ This monopoly is not surprising: until very recently, the University of Pretoria was the only institution in Africa with a PhD program in environmental economics.²⁷ Most, but not all, of the students currently enrolled in the environmental economics PhD program at the University of Pretoria are current or past recipients of an IDRC/SIDA scholarship.

Students in the environmental economics PhD program at the University of Pretoria take their core economics courses in the university's Department of Economics and a set of 3 specialized courses in environmental economics in the Department of Agricultural Economics, Extension and Rural Development. Five scholarship recipients have completed their PhD studies so far. One is employed as a postdoctoral fellow at CEEPA funded by the IDRC/SIDA program, 3 are employed by national or international research institutes, and one has not yet found employment. Two recipients have discontinued their studies. Some amount of attrition is inevitable in any PhD program, and this is not a high attrition rate.

My information on the PhD scholarships comes from interviews and a survey. I interviewed 4 scholarship recipients, a 5th PhD student in environmental economics at the University of Pretoria who was funded by other sources, a faculty member at the university who supervises many of the students and has regularly taught one of the 3 specialized courses, and the head of the Department of Agricultural Economics, Extension and Rural Development. Several resource persons, Research Committee members, and grant recipients at the May 2012 workshop also expressed views on the PhD scholarships. I also discussed the PhD program extensively with the program director.

Given that I was able to interview only a small number of scholarship recipients, to obtain more representative information I sent a short email survey to 22 of the 23 scholarship recipients in July 2012.²⁸ I did not survey students in the environmental economics PhD program at the University of Pretoria who were funded by other sources. I received responses from 17 scholarship recipients (77% response rate). The responses were spread evenly over time, as I received responses from 8 of the 11 students who began their PhD studies during

²⁶ Three of them subsequently transferred to the university's Department of Economics, and a fourth transferred to an interdisciplinary environmental management PhD program at the university.

²⁷ The African Economic Research Consortium (AERC) now has a PhD program in this field, too.

²⁸ I was not provided an email address for the 23rd student, who began the program very recently (2012).

2006-8 and 9 of the 12 who began their studies during 2009-12. The survey asked the students to rate their satisfaction with the overall PhD program and 4 program aspects—the courses they took, advising provided by their dissertation supervisor, assistance with finding employment when they finished, and financial support—on a scale of 1 to 5, with 1 being very dissatisfied and 5 being very satisfied. Appendix 2 contains the survey instrument.

In contrast to the high level of satisfaction expressed by most research grant recipients, a majority of the survey respondents expressed dissatisfaction with one or more aspects of the PhD program (Figure 9). Only one of the 17 respondents answered 4 or 5 to all 5 questions, and barely a third (6 out of 17) answered 4 or 5 to the question about overall satisfaction. The same number (6 out of 17) answered 1 or 2 to the question about overall satisfaction,²⁹ and nearly all respondents (14 out of 17) answered 1 or 2 to at least one of the other 4 questions. More than half (10 out of 17) answered 1 or 2 to the question about financial support, and nearly half (7 out of 16) answered 1 or 2 to the question about advising. Five respondents answered the question about assistance finding employment, and 4 of them answered 1 or 2. Dissatisfaction with the program is not a recent development: the number of respondents who answered 1 or 2 to the question about overall satisfaction was split evenly between students who began their PhD studies during 2006-8 and students who began during 2009-12. Nor is dissatisfaction concentrated among students who began during 2009-10, which the program director identifies as ones who have faced particular difficulty with their coursework and dissertation proposals: this group's responses to the question about overall satisfaction were spread evenly across the range from 1 to 5.

The final question on the survey was an optional one that allowed respondents to provide additional comments. Nearly all of the respondents answered this question, and most of the answers were quite critical, even ones by respondents who answered 3, 4, or 5 to the question about overall satisfaction. The concerns were consistent with ones expressed during interviews. Three major concerns were voiced on the surveys and during interviews. First, students receive too little supervision, because there are too many students and too few faculty members to supervise them. Students repeatedly mentioned that there are only 2 environmental economists in the Department of Agricultural Economics, Extension and Rural Development, who simply do not have the time to supervise the large number of PhD students. One wrote, "we are doing the work on our own with no supervision at all." A second, whose own overall satisfaction as a PhD student was high (an answer of 4 to that question on the survey), wrote "I really pity the kind of ... supervisorship ... rendered to the students." A third, who answered 3 to the question about overall satisfaction, elaborated as follows:

The centre [CEEPA] works completely independent from students. There are no seminars, no paper presentations, and no general meeting with all students at least each month. The students need to work together and know about each other's topics. ... CEEPA should come closer to the students and discuss their problems.

That student recommended that the Department of Agricultural Economics, Extension and Rural Development program should admit fewer PhD students in environmental economics, "to create a good and healthier environment."

The secretariat provided a spreadsheet with detail on the applicants for the initial round of scholarships. The spreadsheet contained the secretariat's notes on its scholarship award

²⁹ Answers by the two respondents who have discontinued their studies did not drive the high level of dissatisfaction: although one of them answered 1 to the question about overall satisfaction, the other answered 3.

decisions. One of the notes said, “two [students] per year is optimal—supervision otherwise a problem.” Yet, since its inception, the program has awarded on average over 3 scholarships per year.

The second concern is financial support. This has two aspects. One is the duration of the scholarships, 3 years. This is less than the expected length of the PhD program (4-5 years) and is shorter than the PhD scholarships awarded by the African Economic Research Consortium (AERC). Support from the scholarships ends as the students are starting their dissertation research. Students report difficulty finding continuing sources of funding and receiving little help with it. One wrote, “CEEPA doesn’t inform the students about other links for financial support and job opportunities or at least involve the students in research projects to help them overcome financial problems.” The second financial concern is the monthly level of support, which many students report is inadequate given the cost of living in Pretoria. This concern was voiced more strongly by students who began during 2006-8: their mean response to the question about satisfaction with financial support was only 1.7, compared to 2.9 for students who began during 2009-12. The mean response to this question is the only one that differed substantially between the two groups. The modest increase in satisfaction with financial support (a rating of 2.9 is still only at the midpoint of the 1-5 range) probably reflects the fact that the program has increased the monthly stipend twice since 2006, from 2500 rand in 2006 to 4000 rand today.

The final concern is coursework. This came out more during interviews than on the survey, and unlike the other two concerns it emerged more recently. As mentioned, the PhD program includes 3 specialized courses in environmental economics: Environmental Valuation and Policy, Natural Resources Economics and Management, and Quantitative Skills. MSc students also enroll in these courses. The first course has been taught regularly by the University of Pretoria faculty and received favorable comments. The other 2 courses have reportedly deteriorated in quality in recent years, since the university launched a regional collaboration with the AERC. Under this collaboration, MSc students affiliated with the AERC’s partner universities come to the University of Pretoria to take the 3 courses. Most of the students in the courses are now MSc students from universities other than the University of Pretoria (according to one estimate, 80%), and lecturers for the courses are now selected by a regional committee. Over time, responsibility for teaching the latter 2 courses has shifted from University of Pretoria faculty to faculty from other universities. Students, and others who have knowledge of these courses, report a decline in the quality of pedagogy and the effectiveness of the courses in training students to conduct research. The decline in the quality of the Natural Resources Economics and Management course has reportedly been the sharpest, as it was by all accounts formerly taught at a very high level, including for some years by the program director.

The concerns expressed on the survey and during interviews are too widespread and too consistent to be the result of students blaming the environmental economics PhD program for problems of their own making or having unrealistically high expectations about the PhD program. I believe they are signs of real problems. Two of the problems—financial support and advising—stem from the program awarding too many PhD scholarships. Granting fewer scholarships would have allowed the program to increase the number of years of support or the monthly amount of each award, or at least made it possible for the secretariat to propose such modifications of scholarship terms to IDRC and SIDA. Regarding advising, although the IDRC/SIDA program does not determine the number of PhD students that a university department admits, it has the authority to determine whether an admitted student is entering a

program with sufficient supervisory capacity. A smaller number of scholarships would have been more in line with the small number of available supervisors in environmental economics at the University of Pretoria. It would also have been more in line with the small size of the PhD applicant pool. The annual number of applicants to the PhD program in environmental economics at the University of Pretoria has fallen from around 8 during the initial years of the IDRC/SIDA program to around 4 recently.³⁰ Even 8 applicants is a small pool to draw 3-4 quality students from, which suggests that some of the admitted students were marginal scholarship candidates. Consistent with this, several sources reported that many of the PhD students have performed more poorly than the MSc students in the 3 specialized courses. One source estimated that a quarter to a third of the PhD students were not qualified to be in the program. The third problem—the quality of instruction in 2 of the 3 specialized courses—has a different cause, the transfer of control over selection of instructors from CEEPA to a regional AERC committee.

To its credit, the secretariat highlighted the problems with financial support at the May 2012 Research Committee meeting. In response, the Research Committee asked the secretariat “to come up with reasonable amounts” for the monthly stipend and “to explore possibilities of funding for the thesis research once one successfully defends this at the university.” Moreover, as noted above, the program has increased the monthly stipend over time, and student dissatisfaction with the level of the stipend has correspondingly declined. Several recent developments in the Department of Agricultural Economics, Extension and Rural Development could help alleviate the other problems. First, the Department has adopted new procedures for admitting PhD students and determining whether students who have completed their coursework are qualified to advance to PhD candidacy and begin their dissertation research. The new admissions procedures involve more extensive interviewing and testing of applicants and more careful consideration of the match between their interests and the availability of faculty advisors. Second, it has added two faculty members in environmental economics, one at the associate professor level and the other at the senior lecturer level. Both appear to be highly qualified: the associate professor, who is Nigerian, studied both economics and statistics during his PhD program in environmental economics at Iowa State University, and the senior lecturer, who is Ethiopian, was a highly productive postdoctoral fellow funded by the IDRC/SIDA program. The program director reports that CEEPA has succeeded in regaining control over selection of lecturers for the 3 specialized courses and that the addition of these faculty members will enable it to staff the courses with a strong set of lecturers. The addition of the associate professor also increases the number of potential supervisors for PhD students in environmental economics at the University of Pretoria.

These developments are very positive. In combination, they have the potential to address the concerns that scholarship recipients have raised about financial support, advising, and coursework, and to ensure that students who are admitted to the University of Pretoria’s PhD program in environmental economics are strong candidates for PhD scholarships from the IDRC/SIDA program. They are new and untested, however, and the number of current or past scholarship recipients who have not yet completed their PhD programs remains large (16 students). I therefore believe it is advisable for the IDRC/SIDA program to reduce sharply, or maybe even suspend, the award of new PhD scholarships for at least one year, with the

³⁰ The secretariat attributes this decline to competition from other PhD programs that offer more support, but the survey results lead me to suspect that negative word-of-mouth could be contributing to it.

number of awards remaining at a reduced level until the Research Committee is satisfied that the problems discussed above have been satisfactorily resolved.

Recommendation 12: The program should reduce sharply, or maybe even suspend, the award of new PhD scholarships for at least one year. The decision to increase the number of awards should be made by the Research Committee, which should consult with the secretariat and the Department of Agricultural Economics, Extension and Rural Development in order to determine if problems related to student supervision, coursework quality, and student financial support have been satisfactorily resolved and if the Department's new procedures for PhD admissions and advancement are working as intended.

Building regional capacity by creating a network

When asked, “What is the greatest contribution of the IDRC/SIDA program to Africa?,” the first thing mentioned by a large number of participants in the May 2012 workshop—grantees, resource persons, Research Committee members—was the creation of a network of environmental economists. They mentioned several benefits that flow from the network:

One is able to meet others from Africa who have an interest in environmental economics. This enables the creation of personal networks, which are crucial in research.

It not just the quality of the research it funds, but how it brings together experts from across the continent. It provides a venue for people of like interest to meet and to get to know who's who, and where they're located. The spillover is big: better teaching, more publications.

It creates a continent-wide platform for interaction. This is especially important for researchers who don't have access to senior researchers and peers within their countries. It gives them people to bounce ideas off of.

Participants in the May 2012 workshop were clearly eager to interact with their fellow researchers during the sessions. The discussions following the presentations of the interim and final reports were impressively lively, as was the large number of participants who contributed to them. As one grantee put it, “People are really talking here, contrary to other places where I have attended meetings in Africa.” The only time there was a lull was following the presentations of the new proposals. As suggested earlier, the inclusion of discussants in these sessions could have helped prompt discussion, and it would have contributed to capacity-building if some of the discussants were grantees.

The program has already spawned at least one initiative to generate at a national level the types of network benefits that the program provides to the continent. This initiative is the Center for Environmental Economic Research and Consultancy (CEERAC) in Ghana. CEERAC, whose name even echoes CEEPA's, was founded by Dr. Wisdom Akpalu, a two-time grantee, postdoctoral fellow, and the first recipient of a senior researcher grant. Dr. Akpalu describes CEERAC's genesis as follows:

During the period of implementing my projects in Ghana, I met a number of individuals including junior lecturers who assisted with data collection and processing. Due to the experience, they have become interested in receiving training and pursuing research in environment and development economics. As a result, with the support of CEEPA, I have organized two summer training workshops in quantitative research methods in the country. Currently I have also established a center [CEERAC] to help them publish ongoing research works as working papers which are accessible to the general public including policy makers. So far we have published 5 working papers.

More information can be found at CEERAC's website (www.ceerac.org).

The secretariat designed the IDRC/SIDA program to maximize the likelihood that it would foster the creation of a strong, sustainable network. The research workshops and associated short courses are the most obvious and largest-scale ways that it brings together and encourages interaction among researchers from across the continent, but the various other components of the program are intended to play complementary roles in network-building. The PhD scholarships seek to augment the existing, small supply of trained environmental economics researchers in the region. Although all the students have been enrolled at the University of Pretoria so far, they come from across the continent (Figure 1C). In addition, the program director has opened discussions with the University of Cape Town about using the program's PhD scholarships to support students enrolled there. A primary purpose of the postdoctoral fellowships is to attract African PhD students at European universities to return to the continent when they have completed their programs. The sabbatical fellowships for faculty at African universities are intended to enable recipients to forge new research relationships with faculty at other universities. Originally, all of these fellows reportedly wanted to come to the University of Pretoria, but recently they have elected to spend time at other universities, too. The international fellowships are intended to connect African researchers to leading researchers from other parts of the world, and thus to help them be part of a larger, global network.

The main issues with the PhD scholarships were discussed in the previous subsection. The main issue with the postdoctoral fellowships is the low productivity of most of the fellows, which was mentioned earlier in this report and implies that the selection process for the fellows needs to be reviewed. The sabbatical fellowships for African faculty have been underutilized. The October 2010 proposal for renewed support from IDRC attributes this to "The fact that most scholars at African universities are overburdened by heavy teaching loads particularly at undergraduate level," which makes their universities reluctant to grant them leave. Recruiting international fellowships has also proved to be more difficult than expected. The idea was for them to stay at an African university for 3 months, but the program has instead brought them in for much shorter periods and used them mainly as additional experts at workshops, instructors at short courses, and for assistance with designing teaching modules for the PhD program.

Recommendation 13: In view of the challenges in recruiting candidates for the sabbatical fellowships for African faculty and the international fellowships, the program should consider reducing the amount of funding budgeted for these two fellowships and merge them on a single budget line, to give it the flexibility to use the funds for the type of fellowship that attracts the strongest candidate(s) in a given year.

Task 4: Describe CEEPA's governance structure and institutional set-up, and identify any mechanisms to make the structure more effective

Program secretariat

The secretariat for the IDRC/SIDA program is small, consisting of three senior staff members: a program director (Prof. Rashid Hassan), a program coordinator (Dr. Margaret Chitiga), and an administration coordinator (Ms. Dalène DuPlessis). The senior staff members work on the program on a part-time basis. The program director is a professor in the Department of Agricultural Economics, Extension and Rural Development at the University of Pretoria, and he also serves as the CEEPA director. He allocates about 15% of his time to the program (Hassan 2012), with the rest allocated to other CEEPA activities and his duties as a professor. The program coordinator is a former faculty member in the Department of Economics at the University of Pretoria. She now serves as executive director of the Economic Performance and Development Research Programme at the Human Sciences Research Council, which is the leading South African policy think-tank. Her appointment to this senior position is a testament to her professional abilities. She allocates 30% of her time to the program (Hassan 2012). The administration coordinator also serves as CEEPA's coordinating assistant. She allocates 50% of her time to the program (Hassan 2012). These three senior staff members receive support from a senior lecturer in the Department of Agricultural Economics, Extension and Rural Development who edits the Discussion Paper series (Eric Mungatana), an accountant (Yvonne Samuels), and, currently, one post-doctoral fellow (Dambala Gelo).

This is a much smaller secretariat than either EEPSEA's or SANDEE's. EEPSEA and SANDEE both have full-time directors, effectively if not nominally. Until 2007, EEPSEA had both a full-time director and a full-time deputy director. Since then, the director has been supported by 4 part-time regional economists who are faculty members at universities in Indonesia, the Philippines, Thailand, and Vietnam. SANDEE's director is supported by a full-time environmental economist and, on a part-time basis, a faculty member at an Indian university. The full-time equivalent, PhD-level senior staff of the IDRC/SIDA program secretariat is thus only about a quarter as large as in EEPSEA and SANDEE.

Given its much smaller size, it is not surprising that the secretariat does not provide as many services to the research grants program and short courses as do the secretariats of the Asian programs. I am referring here to the sorts of substantive services described in the sections of this report on Tasks 1 and 3—identifying promising researchers, helping them develop their proposals, assisting them during project implementation, and organizing a set of short courses that are differentiated by participants' ability—not administrative services. Participants in the May 2012 workshop and respondents to my survey on the research grants program praised the secretariat's administrative efficiency. As one survey respondent wrote, "In most academic and research institutions, the staff complain about the inefficiency of the administrative support. To my observation, Ms. Dalène DuPlessis is well-organized, informative, and ready to help."

Compared to the EEPSEA and SANDEE secretariats, the secretariat for the IDRC/SIDA program is not only smaller, but it is responsible for implementing additional activities—the PhD scholarships and various fellowships—that are not part of the Asian programs. In a nutshell, the IDRC/SIDA program is trying to do more with less. There are at least 3 ways that it could achieve a better balance between the size of its secretariat and the scale of its

activities. One would be to maintain its scale of activities but to increase the size of its secretariat, probably to include at least one full-time PhD-level member. This would require an increase in its total budget. A second, budget-neutral way would be to increase the size of its secretariat by using the savings generated by reducing or eliminating some of its activities. A third way would be to maintain the size of its secretariat but to reduce or eliminate some of its activities, resulting in a smaller program budget. The second way would make more sense if the retained activities were ones that required greater support from the secretariat, while the third way would make more sense if they were ones requiring less support.

The second and third ways are less desirable from a capacity-building standpoint. As documented earlier, environmental economics capacity is lower in Africa than in other developing regions, and the IDRC/SIDA program and CEEPA more generally have made important contributions toward enabling Africa to catch up. The first way and also the second way face a potential obstacle, however: do the current senior staff members have more time to contribute to the program? The program director, in particular, has a heavy load of other responsibilities. He is a remarkably productive researcher—10 publications last year—who participates actively in regional and international projects, conferences, and other professional activities. Universities in South Africa receive payments from the South African Department of Higher Education based on the number of faculty publications in ISI and IBSS journals and South African journals. During the latest year, Prof. Hassan was by far the most productive researcher in Department of Agricultural Economics, Extension and Rural Development, accounting for nearly half of the payments received by the department and nearly 5 times the amount generated by the next most productive faculty member. This level of productivity is evidently not atypical for him. Whether it is feasible for him to contribute more time to the IDRC/SIDA program is not clear. It might not even be desirable, if it came at the cost of disrupting his research program and interfering with his other duties as a professor and CEEPA director. Obviously, he is in the best position to evaluate these tradeoffs.

Recommendation 14: In consultation with the Research Committee, the program secretariat should develop a plan for achieving a more appropriate balance between the size of the secretariat and the scale of the program's activities, to enable the secretariat to provide more of the substantive services required by a capacity-building program. This plan will need to take into account the availability of senior staff to provide those services.

Research Committee

The program's Research Committee consists of 5 regular members plus a rotating representative of the resource persons. The current members come from different parts of the continent (Ethiopia, Kenya, Mauritius, Namibia, Tanzania), which is appropriate and provides valuable representation from outside CEEPA's home country of South Africa.³¹ They have experience in both research institutions and policy agencies, which is also appropriate. They include individuals who were involved in CEEPA's founding, participated in prior or affiliated capacity-building initiatives,³² or were among the initial participants in activities of the IDRC/SIDA program. They are vested in the program's success and provide

³¹ Although it is to be noted that the staff of CEEPA and the IDRC/SIDA program secretariat come from a range of African countries in addition to South Africa, including Kenya, Sudan, and Zimbabwe.

³² The Environmental Economics Network for Eastern and Southern Africa (EENESA) and the Resource Accounting Network for Eastern and Southern Africa (RANESA).

the secretariat with diverse but well-informed views on opportunities and challenges related to environmental economics capacity-building in Africa.

The Research Committee plays a number of advisory and approval roles in the program (Box 10). These seem appropriate, although it is not clear that the committee needs to have final approval authority on grants. In EEPSEA and SANDEE, these decisions are made by the program secretariats, in consultation with the resource persons. The involvement of the Research Committee in approving grants means that the committee needs to meet at every research workshop when proposals are presented. If there are two workshops a year, then the committee needs to meet twice a year. The other roles of the Research Committee could probably be fulfilled if it met just once a year, which is the frequency of advisory committee meetings in EEPSEA and SANDEE. This would reduce the cost of holding the workshops and would allow the committee more time to discuss strategic issues facing the program. The committee could still review grant decisions that had been made during the prior year.

Conclusions

Much evidence indicates that the IDRC/SIDA program is developing an active, continent-wide community of skilled environmental economics researchers and generating high-quality research output. Despite this success, the program faces three serious issues that require attention: dissatisfaction by the recipients of PhD scholarships, the small number of research projects that the program has funded, and the relatively low level of substantive services provided by the secretariat to the research grants program and short courses. My most important recommendations pertain to these three issues, and they include:

- reducing sharply, or maybe even suspending, the award of new PhD scholarships for at least one year, with the number of awards remaining at a reduced level until the Research Committee is satisfied that problems with PhD training have been satisfactorily resolved;
- increasing the weight placed on the capacity-building value of research grants during the proposal evaluation process, and providing more support for proposal development during and, especially, before the research workshops;
- developing a plan for achieving a more appropriate balance between the scale of the program's activities and the size of its secretariat, which is very small compared to the secretariats of capacity-building programs in Asia and constrains its ability to provide the substantive services required by the program.

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Box 1. Specific evaluation tasks, according to the terms of reference

1. Assess the extent to which the program is meeting its aims and objectives, assess how risks were identified and mitigated, and identify any modifications to objectives.
 - Describe and assess the progress of the program towards reaching its objectives as laid out in program documents.
 - Assess success in attracting applicants, and responding to demand, meeting identified needs/gaps.
 - Identify any modifications in program objectives and any adaptations that the program is making to changing contexts, opportunities and constraints.
2. Document the results of the program including main research findings, outputs and outcomes, and analyze their influence on policy.
 - Review the program's outputs since 2006, and comment on their quality as perceived by the appropriate sectoral/regional experts, intended audiences, users and/or stakeholders.
 - Describe and analyze the program's main research findings on the research questions and themes:
 1. Assess the overall quality of the research findings and their contribution(s) to international, policy, and academic debates, discourse, and/or understanding of the topic(s) under study.
 2. Comment on whether the program occupies a niche in the field(s) in which it operates, and in what ways.
 3. Identify key conclusions that can be drawn from the projects' research findings and any contracted research, working papers, and/or synthesis work conducted by the program and/or its partners. If appropriate, identify any particularly innovative methodologies or research findings.
 4. Assess the effectiveness of the program at promoting the dissemination, communication, and utilization of research findings.
 5. Assess the contributions of the program to influencing policy and management of environmental issues.
3. Describe other outcomes, their sustainability and the strategies that contributed to them. This should take into account the following:
 - The contributions of the program to building or strengthening the capacities of researchers, teachers, research users, and institutions.
 - Tracking what trainees have done since.
 - Describe and analyse CEEPA's contribution to teaching of environmental and resource economics in the region including the contribution to teaching and curriculum development.
 - The effectiveness of the program in terms of number of Masters and PhD students trained (graduated) during the agreement period.
 - Any changes in relationships, actions or behaviours of project partners and other project stakeholders which contributed to development results (e.g., formation of networks, involvement of stakeholders, new projects collaboration among researchers, etc.).
4. Describe CEEPA's governance structure and institutional set-up and identify any mechanisms to make the structure more effective. This should take into account:
 - Staff skills and needs and changes required, if any.
 - The use and involvement of existing CEEPA staff in research and capacity building activities.
 - The structure and role of the Research Committee.

Box 2. Example of EEPSEA secretariat’s multiple rounds of comments on a grant proposal

Key

R = Researcher

DG = David Glover (EEPSEA director)

S = Secretariat

RP = Resource Person

HF = Hermi Francisco (EEPSEA deputy director)

Date	Interaction between EEPSEA and applicant
Sept. 1, 2002	<i>R submits original proposal.</i> Topic of proposal is pollution from agriculture. Proposed completion date is November, 2003 (1-year project).
Sept. 5, 2002	DG forwards proposal to RP, with comments by HF and himself. HF observes that the proposal is missing a discussion of the institutional context for pollution regulation. DG suggests dropping a proposed health damage valuation study and focusing instead on farmers’ incentives to adopt mitigation measures (including a financial benefit-cost analysis, BCA). He notes that “We should help design these projects to match the researchers’ skills, and this person is a novice.” He observes that even a simplified version is “a bit risky.”
Sept. 16, 2002	RP submits 2-page review to S. RP confirms agreement with comments by HF and DG. RP suggests including a damage valuation study (not specifically on health) but using the hedonic property method instead of an epidemiological approach. RP suggests that R use a previous EEPSEA study as a model.
Sept. X, 2002	DG forwards RP’s review to R, with additional comments of his own. He suggests background reading on the hedonic property method and asks R to respond by Sept. 24 with information about property markets in the study area.
Sept. 24, 2002	R provides verbal description of property markets in the study area.
Sept. 27, 2002	DG informs R that, based on R’s description, information appears sufficient to implement the hedonic property method. He provides additional explanation of the rationale for using the hedonic property method. He asks R to submit a revised proposal by Oct. 4, with detail on the implementation of the hedonic property method and financial BCA.
Oct. X, 2002	<i>R submits first revision of proposal.</i>
Oct. 7, 2002	DG sends comments on revised proposal to R. He notes that, despite “some progress from the previous version,” “you still have not responded to some of the comments raised before.” He lists the three most important ones and states that “If the next version does not respond fully ... EEPSEA will reject the proposal. He gives a deadline of Oct. 10 for a second revision.
Oct. 10, 2002	<i>R submits second revision of proposal.</i>
Oct. 11, 2002	DG sends message to HF, cc: RP. He notes that R has responded to one of the comments and partly to another but not to the third. He seeks HF’s advice before “drop[ping] the axe,” asking whether the lack of response is “because he [R] disagrees & deliberately refuses” or “because he does not understand what we’ve told him?”
Oct. 16, 2002	RP informs DG and HF that, despite problems with the revised proposal, he is willing to assist R and to ensure that “a realistic approach is adopted” (i.e., one within R’s capabilities, in particular a simplified hedonic analysis).
Nov. 22, 2002	<i>DG and RP meet with R at biannual workshop.</i> RP submits 3-page written comments to S, laying out the base case and alternatives for the financial BCA and steps required to collect data for it and the hedonic property study.
Dec. 10, 2002	DG forwards RP’s comments to R and ask for revised proposal by Jan. 15.
Jan. 15, 2003	<i>R submits third revision of proposal,</i> with cover message providing a synopsis of observations based on visits to the study area.
Jan., 2003	Following discussion with HF and RP, DG sends 2-page memo to R with a list of 8 remaining points that must be addressed.
Feb., 2003	<i>R submits fourth revision of proposal.</i>
March 3, 2003	<i>DG approves the revised proposal.</i>

Box 3. Concerns expressed by researchers, resource persons, and Research Committee members about holding research workshops once a year instead of twice a year. These are the comments of 14 different individuals.

“I can imagine that it is costly to run workshops twice a year, but it is a disadvantage for researchers to have workshops only once a year. Researchers who are nearing completion shouldn’t have to wait a full year to present their final reports and get final approval.”

“It is not a good idea. When doing research, we need pressure. Researchers will just delay completion of their projects. Having workshops at intermediate points helps us address issues that otherwise would be unresolved.”

“Having workshops every 12 months is a constraint, because we will not get feedback soon enough.”

“Now, if I miss a workshop, for example due to a war in my country, I will need to wait two years! That is too long.”

“Changing the frequency from twice a year to once a year, to some extent, will have negative impacts on us because we won’t get as much time to share our views and get comments from different minds.”

“My project is proposed for one year. But if the workshop is every year, then I will not present my intermediate report until after one year. My project will be delayed. Having workshops every six months would improve my project and enable me to finish sooner.”

“Twice a year would be better.”

“I am not sure that waiting a year is a good idea. I would have completed my current project 6 months ago if didn’t have to wait a year for this workshop.”

“Twelve months is a bit long to wait for feedback. If it’s a one-year project, then you don’t get feedback until the end.”

“It will kill the network. If you miss one workshop, then you’re out of it for 2 years. We won’t build capacity or a network if we are not interacting frequently. People might fall off if they are not getting feedback. The idea of presenting an intermediate report is to get feedback, not just to present for its own sake.”

“It jeopardizes the program. Someone who submits a proposal and is invited to a workshop but can’t come to it might lose interest if they have to wait a full 12 months instead of only 6 for the next workshop.”

“It’s a bad decision. Such decisions should have academic merit, research merit. Is this decision in the interest of capacity-building? I don’t think so. People will forget things, and there will be more and more problems with the projects. Projects will take longer to finish. It’s a disaster.”

“If workshops are held once a year, problems with variable progress and slow progress could get worse. A larger fraction of projects might linger uncompleted.”

“Without more frequent feedback, researchers will get frustrated, and they will resent it. They will give up, or their projects will be delayed.”

Box 4. Publications from IDRC/SIDA research grants: CEEPA Discussion Papers

<i>Grantee</i>	<i>Country</i>	<i>Discussion Paper No.</i>	<i>Title</i>	<i>Date</i>
Akpalu Wisdom	Ghana	40	Determinants of non-compliance with light attraction regulation among inshore fishers in Ghana	Oct-08
Mariara Jane	Kenya	41	Forest dependence and household welfare: empirical evidence from Kenya	Oct-08
Ziramba Emmanuel	South Africa	44	Economic instruments for environmental regulation in Africa: an analysis for the efficacy of fuel taxation for pollution control in South Africa	Apr-10
Kasirye Ibrahim	Uganda	45	Household environmental conditions and disease prevalence in Uganda: The impact of access to safe water and improved sanitation on diarrhoea	Mar-10
Molua Ernest	Cameroon	46	Global Warming and Coastal Property: Assessing the options and cost of adaptation to households in the Southwest coastal region of Cameroon	Mar-10
Fonta William	Nigeria	48	Forest extraction, poverty and income inequality: empirical evidence from a community forest area in Southeastern Nigeria	Oct-10
Jane Kabubo-Mariara	Kenya	49	Soil Conservation and Crop Productivity in Kenya: The Role of Institutional Isolation	Apr-2011
Milu Muyanga & Raphael Gitau	Kenya	50	The effect of land disputes on investment on land and agricultural productivity in rural Kenya	May-2011
Wisdom Akpalu	Ghana	51	Fisher skills and compliance with effort-limiting fishing regulations in a developing country	July-2011
Bernard Bashaasha & Rosemary Emegu	Uganda	52	The impact of an environmental disamenity on the value of land in central Uganda	Aug-2011

Box 5. Publications from IDRC/SIDA research grants: journal articles and other external publications

Year shown in first column is year when grant was awarded. Grantee's name is in bold.

Journal articles: published

- 2006 **Molua**, Ernest. L., 2009, Accommodation of Climate Change in Coastal Areas of Cameroon: Selection of Household-Level Protection Options, *Mitigation and Adaptation Strategies for Global Change (Journal)*, Volume 14, Issue 8 (2009), Page 721-735 (doi: 10.1007/s11027-009-9194-5)
- 2008 Akinola [**Ajetomobi**], Abiodun and Hassan. 2011. Impact of climate change on rice agriculture in Nigeria, *Tropical & Subtropical Agro-ecosystems 14 (2011): 613-622*
- 2008 Isoto R.E., **Bashaasha**, B., Basamba, A.T.A. and Mburu, J. 2011. The Impact of Environmental Disamenity on land values: case of Kiteezi landfill in Uganda, *Int. J. Environmental Engineering, Vol 3, Nos. 3/4, pp371-387.*
- 2008 William M. **Fonta**, Hyacinth Eme Ichoku and Elias Ayuk., 2011. The Distributional Impacts of Forest Income on Household Welfare in Rural Nigeria, *Journal of Economics and Sustainable Development*
- 2009 **Akpalu**, W. 2011. Fisher skills and compliance with effort-limiting fishing regulations in a developing country, *International Journal of Social Economics*, 8(8): 666-675.
- 2009 **Akpalu**, W: 2011: Determinants of noncompliance with light attraction regulation among inshore fishers in Ghana, *Journal of Socio-Economics*, 40 (2):172–177.

Journal articles: in review

- 2006 **Kabubo-Mariara** J. 2011. Safety nets or poverty traps? The contribution of forests to household welfare in Kenya. *Under review: International Journal of Environment and Sustainable Development*
- 2008 **Kabubo-Mariara**, J. 2012. Institutional Isolation, Soil Conservation and Crop Productivity: Evidence from Machakos and Mbeere Districts in Kenya. *Under review: African Journal of Social Sciences*
- 2010 **Gelo**, D and Koch, F. S. 2011. The Welfare Effect of common Property Forestry Right: Evidence from Ethiopian Villages, *under review, American Journal of Agricultural Economics*
- 2010 **Gelo**, D and Koch, F. S. 2012. Common Property Right Forestry and the Welfare Distribution: Evidence from Ethiopian Villages, *under review, Journal of Development Economics*
- 2010 **Gelo**, D., and Koch, F. S. 2011. On mechanism design of afforestation subsidy in developing countries: Does capital market imperfection matter? *under review, Journal of Public Economics*
Note: Gelo is also the recipient of a PhD scholarship. See Boxes 6-7 for additional publications by him.

Box 6. Journal articles published by PhD students and postdoctoral fellows supported by IDRC/SIDA program

Year shown in first column is year when scholarship or fellowship was awarded. Recipient's name is in bold.

PhD students: articles published

- 2006 **Abusin**, Hassan and Hertzler. 2012. Allowing for inconstant probability of detection and frequency measures of violation within dynamic deterrence fishery models, *Natural Resource Modelling* (forthcoming)
- 2006 **Jogo**, W & Hassan, R. 2010. Determinants of household labour allocation for wetland and other livelihood activities in the Limpopo basin of southern Africa, *Agrekon (Journal of South African Agricultural Economics Association)*, 49: (2) 195 - 216.
- 2006 **Jogo**, W & Hassan, R. 2010. Balancing the use of wetlands for economic well-being and ecological security: the case of the Limpopo basin wetland in southern Africa. *Ecological Economics* 69 1569-1579.
- 2006 Hassan R. & C. **Nhemachena**. 2008. Adaptation to climate change in Africa: multinomial choice analysis of determinants of farm strategies. *African Journal of Agricultural and Resource Economics*. Vol 2 (1): 83-104
- 2006 **Nhemachena** C. 2009. African agriculture needs to adapt to climate change. *Science Scope*. Vol 3 (4): 22-23.
- 2006 **Nhemachena** C, R. Hassan & P. Kurukulasuriya. 2010. Measuring the economic impact of climate change on African agricultural production systems. *Climate Change Economics*, Vol 1 (1) : 1-23.
- 2007 **Abebe** Damte. 2008. Determinants of off-farm work participation decision of farm households in Ethiopia: ***Agrekon* 47(1):140-161.**
- 2007 **Gelo**, D and Koch, F. S. 2012. Does one size fit all? Heterogeneity in valuation of community forestry programs, *Ecological Economics*, 74: 85-94
Note: Gelo also received a research grant in 2010; see Box 5 for additional publications by him.

PhD students: articles in review

- 2006 **Abusin** and Hassan. 2012. Determinants of frequency of violating fishery regulation in dynamic deterrence models, *under review -Marine Policy*
- 2006 **Honlonkou** and Hassan Developing countries' supply response to the clean development mechanism under asymmetric information and Transaction costs, *under review JEEM*
- 2007 **Abebe** Damte and Steven F Koch. 2011. Forest Dependency, Property Rights and Local level institutions: Empirical Evidence from Ethiopia, *under review*

Postdoctoral fellows: articles published

- 2006 **Akpalu**, W., Muchapondwa, E., and Zikhali, P. (2009). Can the restrictive harvest period policy conserve mopane worms in southern Africa? A bio economic modeling approach, *Environment and Development Economics*, 14: 587-600,
- 2006 **Akpalu**, Wisdom; Hassan, R., Claudia, R. (2011). Climate variability and maize yield in the Limpopo region of South Africa: Results from GME and MELE methods, *Climate and Development*, 3: 114-122
- 2010 **Deressa**, T., Hassan, R., and Ringler, C. 2011. Perception of and adaptation to climate change by farmers in the Nile basin of Ethiopia, *Journal of Agricultural Science*, 149, 23–31.

Box 7. Other external publications by PhD students and postdoctoral fellows supported by IDRC/SIDA program

Year shown in first column is year when scholarship or fellowship was awarded. Recipient's name is in bold.

PhD students

- 2006 **Honolonkou** and Hassan. 2012. On optimal contract for monitoring illegal exploitation of co-managed forests in Benin, in Barrett, Maler (eds.) Cambridge University Press forthcoming
- 2006 Morardet, S., Masiyandima, M., **Jogo**, W and Juizo, D. 2010. Modelling trade-offs between livelihoods and wetland ecosystem services: the case of Ga-Mampa wetland, South Africa. *Proceedings of the 11th Biennial Conference of the International Society for Ecological Economics (ISEE)* "Advancing sustainability in a time of crisis", 22 – 25 August 2010, Oldenburg and Bremen, Germany
- 2006 Mano R & **Nhemachena** C. 2008. Results of country level analyses (Chapter 4). In: Climate Change and Agriculture in Africa: Impacts Assessment & Adaptation Strategies Dinar, Hassan, Mendelsohn & Benhin (eds). Earthscan, Dunstab House, 14A St Cross Street, London, EC1N 8XA, UK. ISBN-13: 978-1-84407-547-8.
- 2006 **Nhemachena** C. & R. Hassan. 2008. Farm-level adaptation to changes in climatic conditions in Southern Africa: farmer perceptions and determinants of adaptation strategies. In: Mapiki A. & Makegetlaneng S. 2008. Land and Water Management in Southern Africa: Towards better water use in semi-arid and arid areas. Africa Institute of South Africa, Pretoria, South Africa. ISBN: 978-0-7983-0215-9.
- 2007 **Gelo**, D and Koch, F. S. 2011. Contingent Valuation of Community Forestry in Ethiopia: Should we care about preference anomalies in double-bounded CVM?, University of Pretoria (forthcoming), Economic Research Southern Africa (ERSA), Working Paper No.272
- 2007 **Gelo**, D and Koch, F. S. 2011. Does one size fit all? Heterogeneity in valuation of community forestry programs, Economic Research Southern Africa (ERSA), Working paper No.248
- 2007 **Gelo**, D and Koch, F. S. 2011. The Welfare Effect of common Property Forestry Right: Evidence from Ethiopian Villages, Economic Research Southern Africa (ERSA), Working Paper No. 277
- 2007 **Abebe** Damte and Steven F. Koch. 2011. Covariates of Fuel Saving Technologies in Urban Ethiopia: A duration Analysis, published in ERSA working paper.
- 2007 **Abebe** Damte and Steven F Koch. 2011. Property Rights and Choice of Fuel Wood Sources in Rural Ethiopia. Published in ERSA working paper.
- 2007 **Abebe** Damte, Steven F. Koch and Alemu Mekonnen. 2011. Coping with Fuel Wood Scarcity: Households responses in Rural Ethiopia, University of Pretoria, Department of Economics Working Paper Series 2011-25
- 2007 Alemu Mekonnen and **Abebe** Damte. 2011. Private Trees as Household Assets and Determinants of Tree - growing in Rural Ethiopia, Environment for Development Discussion paper series, EfD DP 11-14.
- 2007 Alemu Mekonnen, **Abebe** Damte, Haruna Gujba, Zenebe Gebreegziabher, Yacob Mulugetta and Rahel Deribe. 2011. Fossil Fuels in Africa in the context of a carbon Constrained Future, UNECA, ACPC, working paper 12.

Post-doctoral fellows

- 2006 **Akpalu**, Hassan and Ringler. 2009. Climate Variability and Maize Yield in South Africa: Results from GME and MELE Methods. IFPRI Discussion Paper, IFPRI, Washington D.C.
- 2010 **Deressa**, T., C. Ringler and R.M., Hassan. 2010. Factors affecting the choices of coping strategies for climate extremes: the case of farmers in the Nile Basin of Ethiopia. IFPRI discussion paper, 01032.
- 2010 **Deressa**, Hassan and Ringler. 2010. Assessing household vulnerability to climate change: Nile Basin farmers, In Karstone, C. (ed.), Finance and banking developments, Nova Science Publishers, New York
- 2010 **Deressa**, T. 2011. Effects of climatic conditions and agro-ecological settings on the productive efficiencies of small-holder farmers in Ethiopia, Economic Research Southern Africa ERSA Working Paper 223.

Box 8. Selected comments by current and past applicants and grantees on the IDRC/SIDA research grants program. These are the comments of 9 different individuals.

“At the workshop, you get so many comments. They put you on the right track.”

“I received very good feed-back, comments and suggestions before and during the CEEPA workshop. I also had to slightly modify the project when I could not find the perfect sample of subjects ... and CEEPA was open to this.”

“In almost all cases, comments on my proposal and reports were very constructive. They were superior. They are not what you get at regular conferences.”

“The workshops are the best place for receiving comments I have ever attended. It’s a rigorous process, which is very useful for an academician like myself. I don’t just want praise. The resource persons tell you the truth. They criticize for the sake of improvement.”

“I personally learned a lot. I am not from environmental economics originally. Participating in the program gave me confidence to do research.”

“It has done a big job for me, pushed the boundaries of my understanding. I have now developed a keen interest in resource economics.”

“It opened my eyes to environmental economics and has really shaped my research interests. It has been a turning point of my career.”

“For researchers like me, the research grant program may be the only way to strengthen the research skill and to explore issues in environment with the appropriate experts in the field. The research work was important for the University to consider my permanent appointment for the post.”

“In my opinion CEEPA stands out as the very best capacity building institution in environmental economics in Africa. Unlike other institutions and centers, the CEEPA research funding process is transparent and truly aims at building capacity on the continent. Moreover, the resource persons are very helpful and dedicated to helping the researchers. They are always available to guide the researcher through the processes of developing a research proposal to a complete research output.”

Box 9. Short courses organized by the IDRC/SIDA program: topic, instructor, dates

<i>STATA</i>	James Benhin (May 25-26, 2006)
<i>Welfare Economics</i>	K-G Mäler (November 5-7, 2006)
<i>Game Theory</i>	Partha Dasgupta (June 10-12, 2007)
<i>GAMS</i>	Rob Dellink (November 19-21, 2007)
<i>Econometrics</i>	Hala Abou-Ali (May 14, 16, 2008)
<i>Topics in Env. Economics</i>	Tekie Alemu, Aart de Zeeuw, R. Hassan, David Glover (Nov. 6-7, 2008)
<i>Biofuels</i>	Bill Jaeger (May 11-12, 2009)
<i>Climate Change</i>	Thomas Sterner (November 12-13, 2009)
<i>Water and Sanitation</i>	Dale Whittington (May 13-14, 2010)
<i>Social Capital and Ecosystems</i>	K-G Mäler and Partha Dasgupta (November 18-20, 2010)
<i>Stated Preference Methods</i>	Joe Cook (May 12-13, 2011)
<i>Property Rights</i>	Marty Luckert (June 1-2, 2012)

Box 10. Roles of the Research Committee

1. Provide overall direction and guidance on all activities under this program
2. Approve thematic contents and objectives proposed by the Secretariat for workshops to be organised under this program
3. Develop the criteria for selecting research proposals for funding under the mini-research grants' component and for granting all fellowships and doctoral students' candidates
4. Approve recommendations (based on approved review and evaluation procedures) from the Secretariat on final selection of proposals to be funded under the mini-research grants
5. Approve recommendations (based on approved review and evaluation procedures) from the Secretariat on final selection of fellows to be funded under the various fellowship components of this program
6. Approve recommendations (based on approved review and evaluation procedures) from the Secretariat on final selection of students to be funded under the PhD scholarship component
7. Advise the Secretariat on the list of books and journals to be funded under the library component of this program
8. Advise the secretariat on all aspects related to the CEEPA publications' component to be funded under this program
9. Approve recommendations from the Secretariat on appointment of resource persons to serve as co-opted members of the Research Committee
10. Approve recommendations from the Secretariat on appointment of an Editor and Associates Editors of CEEPA Publications
11. Approve recommendations from the Secretariat on appointment of new members to the Research Committee and revise rules for the duration of service for members and Chair of the Research Committee

Table 1. Activities and outcomes of the IDRC/SIDA program (2006-2011). Source: Hassan (2012).

<i>Activity</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>Total</i>
<u>Research Grants Awarded</u>	3	4	6	4	2	1	20
- Number completed	3	4	3	1			11(55%)
<u>Biannual Research Workshops</u>	2	2	2	2	2	1	11
-No. of researchers/workshop	6	7	9	12	10	10	54
-No. of policy observers/workshop	1	2	2	2	2	2	11
- No. of resource persons/workshop	6	5	5	5	5	6	32
<u>Short courses</u>	2	2	2	2	2	1	11
-No of participants per workshop *	28	35	32	34	36	21	186
<u>PhD Scholarships Awarded**</u>	4	4	3	3	3	3	20
- % females	25%	25%	67%	33%	33%	33%	36%
Number completed by year of entry	4	1					5
<u>Post-Doctoral Fellowships Awarded</u>	1	1	0.0	2	2	2	8
- % females	0%	100%	0%	100%	50%	50%	63%
<u>Visiting International Fellows</u>	0	2	3	3	1	0	9
<u>Visiting African Scholars</u>	1	0	2	2	2	1	8
<u>Library Support</u>							
- <i>Books purchased (No of titles)</i>	0	8	14	1	0	0	23
No of copies	0	165	259	30	0	0	454
No of departments received	0	19	20	20	21	0	21
No of receiving countries	0	10	21	14	14	0	21
<u>CEEPA Publications Supported</u>							
No of Discussion Papers	0	0	2	1	3	4	10

* This is an expanded list including resource persons, Research Committee members, and workshop observers.

** Three more PhD scholarships have been awarded in 2012.

Table 2. Number of grant proposals received, presented, and funded.

<i>Workshop date</i>	<i>Proposals received</i>	<i>No. proposals presented</i>	<i>No. proposals funded</i>
May 2006	25	6	3
November 2006	21	3	1
May 2007	29	4	3
November 2007	22	7	2
May 2008	21	4	4
November 2008	39	4	1
May 2009	13	6	0
November 2009	18	5	2
May 2010	12	3	2
November 2010	37	9	4
May 2011*	22	6	1
May 2012	26	5	2**
Total	285	56	25

*There was only one workshop in 2011.

**Two other proposals are revise and resubmit. Total does not include 2 senior researcher grants.

Table 3. Basic statistics on countries served by 4 capacity-building programs in environmental economics. Source: World Development Indicators.

	<i>IDRC/SIDA program</i>	<i>EEPSEA</i>	<i>LACEEP</i>	<i>SANDEE</i>
Population (2010)	443,938,000	1,876,222,000	490,766,688	1,597,719,000
GDP pc (US\$, 2010)	1,676	4,005	8,882	1,295
Tertiary school enrollment (% population, 2008)	4.5	23.2	37.0	13.4

IDRC/SIDA program (based on countries served so far): Cameroon, Cote d'Ivoire*, Ethiopia, Ghana*, Kenya*, Mauritius, Nigeria*, South Africa*, Swaziland*, Uganda, Zimbabwe*

EEPSEA: Cambodia, China, Indonesia, Lao PDR, Malaysia, Philippines, Thailand, Vietnam

LACEEP: Argentina, Bolivia*, Brazil, Chile, Colombia, Costa Rica*, Ecuador, Guatemala*, Jamaica, Mexico, Peru*, Uruguay

SANDEE: Bangladesh, India, Nepal*, Pakistan, Sri Lanka*

*Excluded from tertiary school enrollment calculation due to missing data.

Table 4. Trends in tertiary enrollment by region. Source: UNESCO Institute for Statistics, *Global Education Digest 2009: Comparing Education Statistics Across the World* (Montreal, 2009).

A. Tertiary enrollment as a percentage of global tertiary enrollment

<i>Region</i>	<i>2000</i>	<i>2007</i>
Sub-Saharan Africa	3	3
South and West Asia	11	12
East Asia and Pacific	29	31
Latin America and Caribbean	11	12

B. Tertiary gross enrollment ratios

<i>Region</i>	<i>2000</i>	<i>2007</i>
Sub-Saharan Africa	4	6
South and West Asia	9	11
East Asia and Pacific	15	26
Latin America and Caribbean	23	34

Table 5. Researchers per million inhabitants. Source: UNESCO Institute for Statistics, *UIS Fact Sheet No. 13* (Montreal, August 2011).

<i>Region or country</i>	<i>Number</i>
Africa	164
South Africa	393
Sub-Saharan Africa	57
Asia	746
China	1071
India	137
Latin America and the Caribbean	443
Brazil	657
Mexico	353

Table 6. Information on reviewer comments on grant proposals presented at May 2012 workshop.

<i>Researcher</i>	<i>No. reviews</i>	<i>Length (pages)</i>
A	1	$\frac{2}{3}$
B	2	$\frac{1}{3}, \frac{1}{3}$
C	2	$\frac{1}{3}, \frac{1}{2}$
D	2	$\frac{1}{2}, 1\frac{1}{3}$
E	2	$\frac{1}{2}, 1\frac{1}{2}$
F	3	$\frac{1}{3}, \frac{1}{3}, 1$

Table 7. Nationality of corresponding authors of submissions to and published articles in *Environment and Development Economics*. Source: Anastasios Xepapadeas.

<i>National of country in:</i>	<i>Submissions</i>		<i>Published articles</i>	
	<i>1995-2000</i>	<i>2007-2012</i>	<i>1995-2000</i>	<i>2007-2012</i>
Africa	7	11	4.5	6.3
Asia*	25	34	10.0	15.7
Latin America	6	7	3.0	8.2

*Includes Japan and South Korea.

Table 8. Nationality of authors of papers submitted to and participants in 2010 World Congress of Environmental and Resource Economists. Source: Gérard Gaudet.

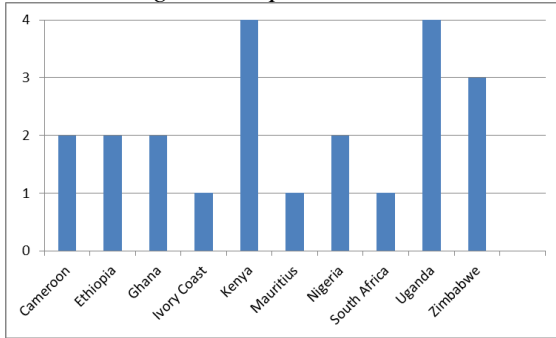
	<i>From country served by:</i>			
	<i>CEEPA</i>	<i>EEPSEA</i>	<i>LACEEP</i>	<i>SANDEE</i>
% submitted papers	2.2%	3.7%	3.3%	4.6%
% participants	1.0%	0.7%	2.3%	1.0%

Table 9. Nationality of authors of papers at 2012 Conference of European Association of Environmental and Resource Economists. Source: Milan Scasny.

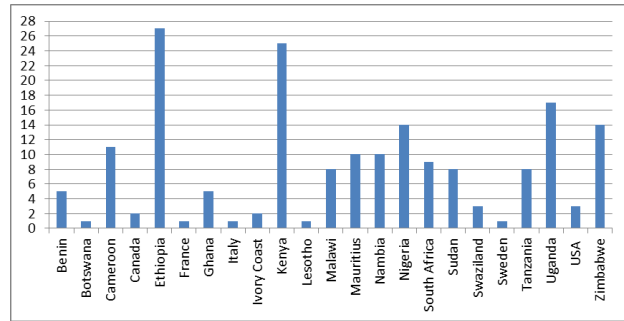
	<i>From country served by:</i>			
	<i>CEEPA</i>	<i>EEPSEA</i>	<i>LACEEP</i>	<i>SANDEE</i>
% submitted papers	2.2%	2.4%	3.1%	4.2%
% accepted papers	1.5%	0.8%	2.1%	0.8%

Figure 1. IDRC/SIDA research grant recipients, short course participants, and PhD scholarship recipients by country. Source: Hassan (2012).

A. Research grant recipients, 2006-2011.



B. Short course participants, 2006-2011.



C. PhD scholarship recipients, 2006-2012.

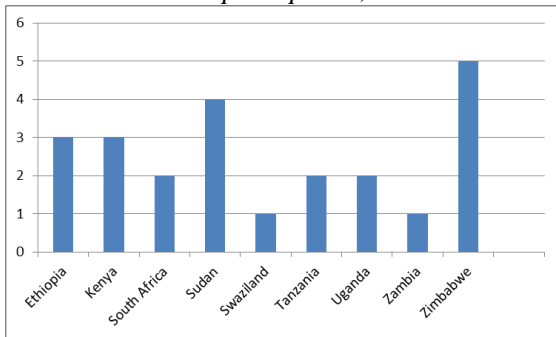


Figure 2. Screenshot of CEEPA homepage.

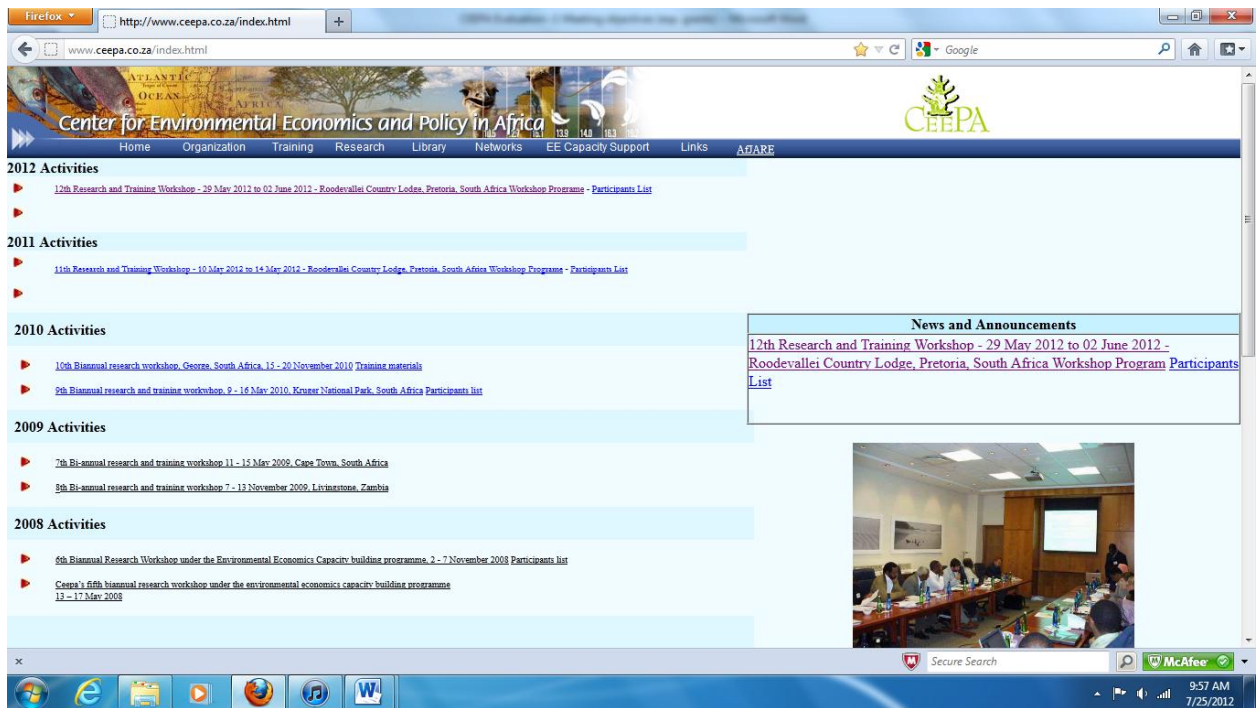
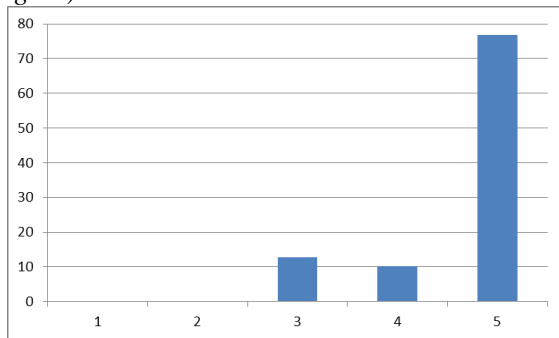


Figure 3. Evaluations of biannual research workshops. % of responses by respondent rating (varies by question). Responses are pooled across workshops.

*A. Overall satisfaction with the workshop
(1 = poor, 3 = good, 5 = excellent)
agree)*



*B. I found the comments offered by the
discussants to be very useful
(1 = strongly disagree, 3 = agree, 5 = strongly
agree)*

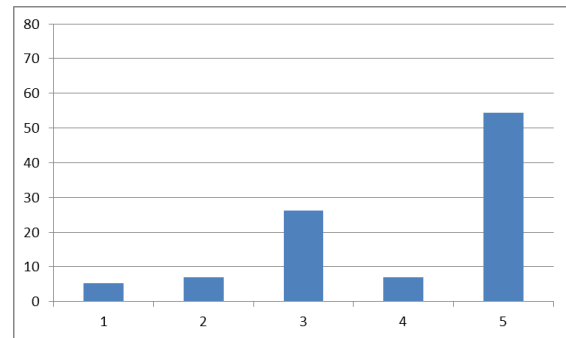
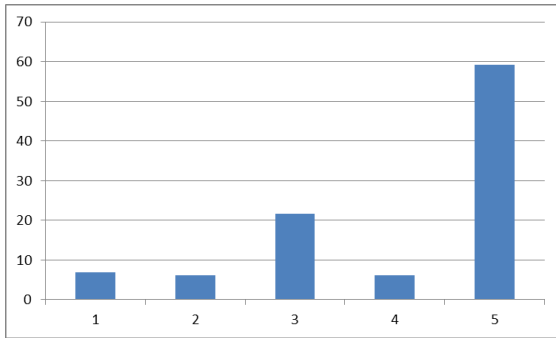
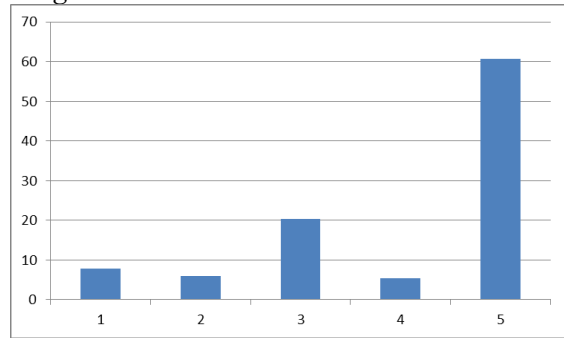


Figure 4. Evaluations of interactions with resource persons at biannual research workshops. % of responses by respondent rating (1=strongly disagree, 3=agree, 5=strongly agree) for the statement, “I found his/her comments on my work at the workshop...” Responses are pooled across workshops.

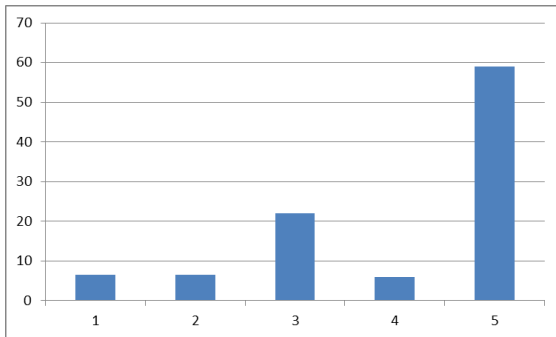
“understandable”



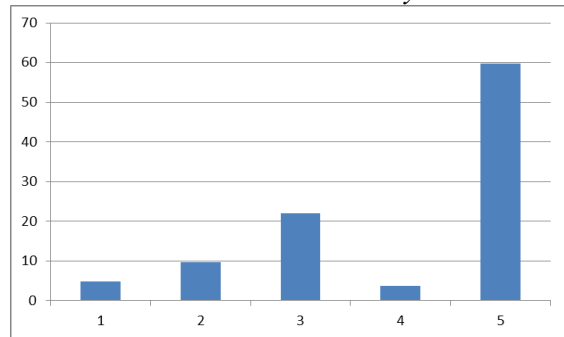
“logical and consistent”



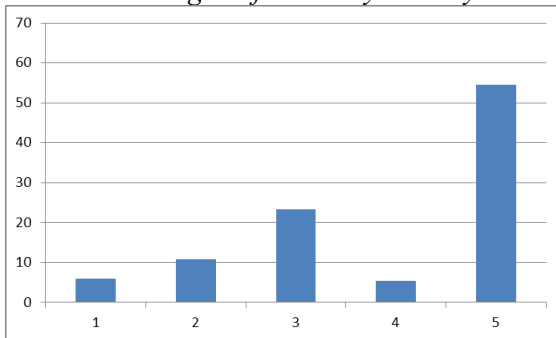
“constructive”



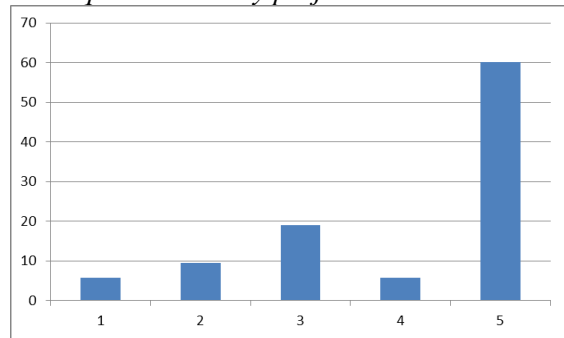
“address most serious issues in my work”



“demonstrated good familiarity with my work”



“demonstrated familiarity with analytical techniques used in my project”



“referred me to suitable literature when required”

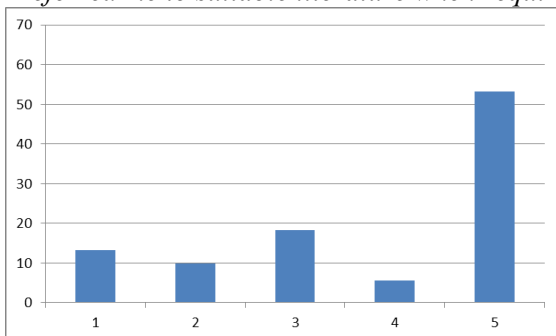
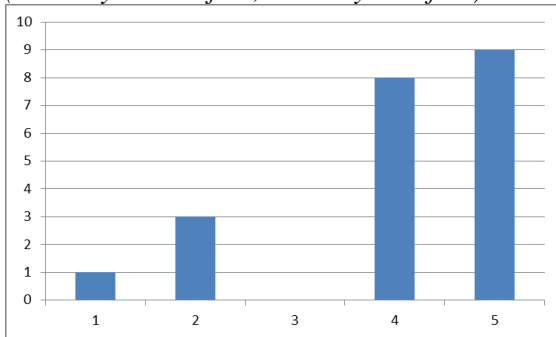


Figure 5. Responses to email survey of proposal presenters in research grants program. Number of responses by respondent rating (varies by question). Responses are pooled across workshops.

A. Overall satisfaction

(1 = very dissatisfied, 5 = very satisfied)



B. Impact on career development

(1 = very negative, 5 = very positive)

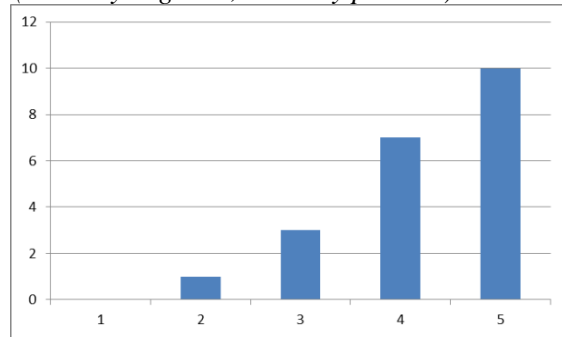
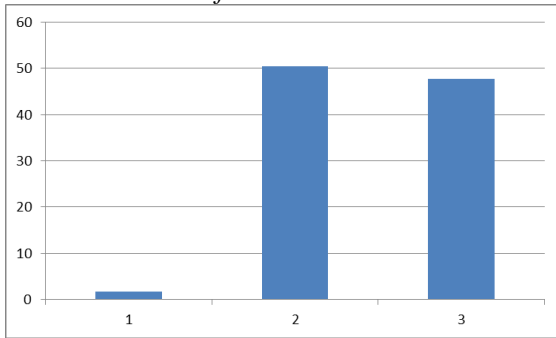
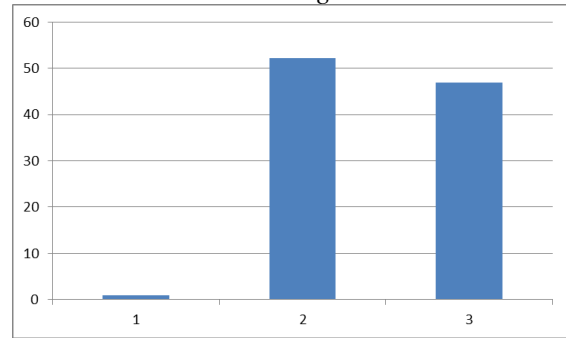


Figure 6. Evaluation of short courses, I. % of responses by respondent rating (1 = worse than expected, 2 = as expected, 3 = better than expected) for the question, “Compared to your expectations of the training course, how did you find the following?” Responses are pooled across courses.

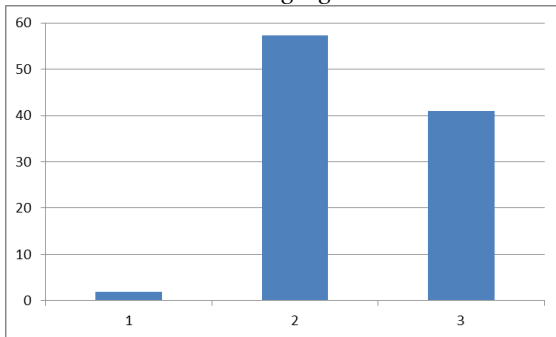
The course was informative



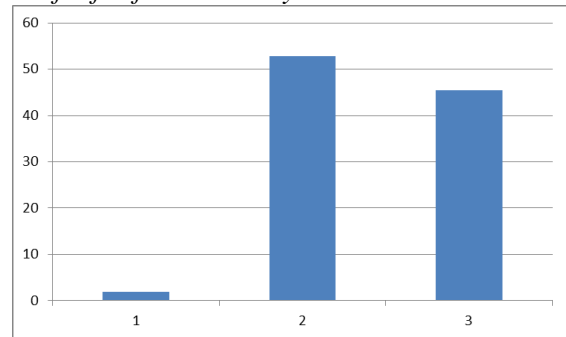
The course was stimulating



The course was challenging



Useful for feedback on your work



Useful for building network of contacts

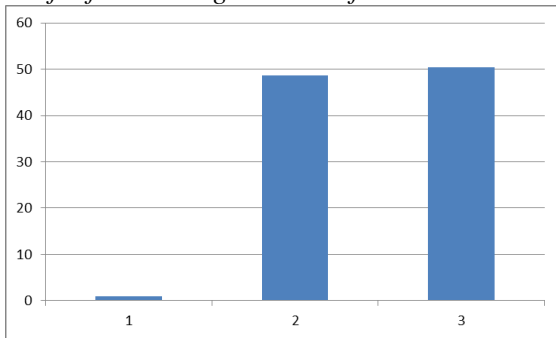
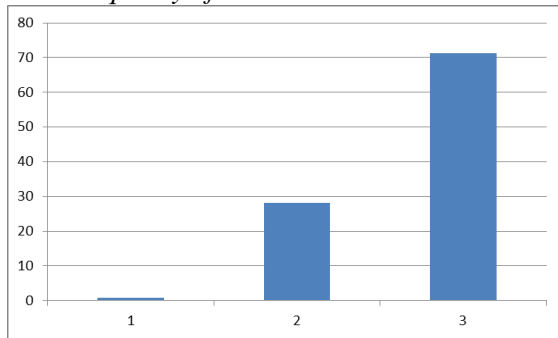
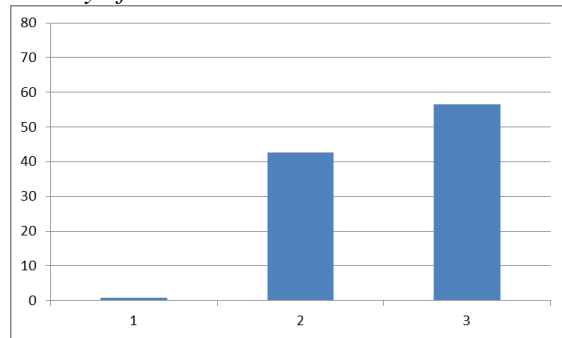


Figure 7. Evaluation of lecturers at short courses, I. % of responses by respondent rating (1=below average, 2=average, 3=above average). Responses are pooled across courses.

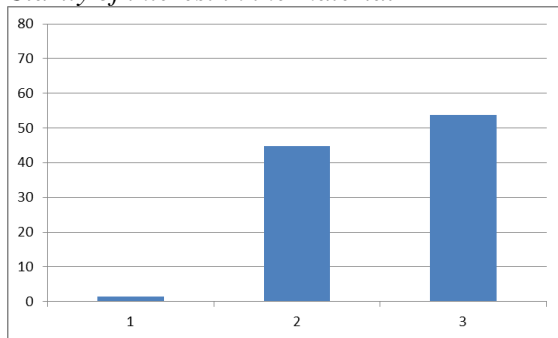
Overall quality of the lectures



Clarity of the lectures



Clarity of interest in the material



Support material provided for the lectures

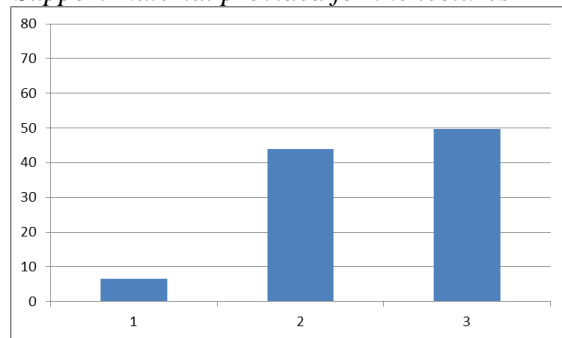
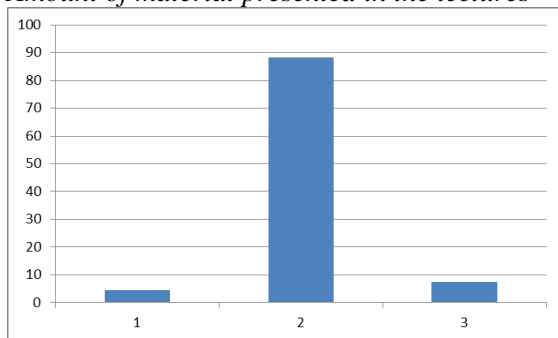
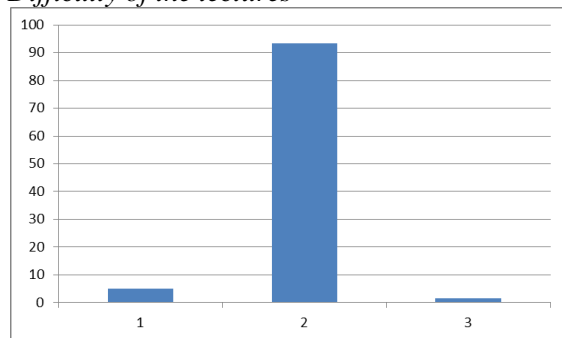


Figure 8. Evaluation of lecturers at training courses, II. % of responses by respondent rating (1 = too little/too easy, 2 = about right, 3 = too much/too difficult). Responses are pooled across courses.

Amount of material presented in the lectures



Difficulty of the lectures



Opportunity to ask questions

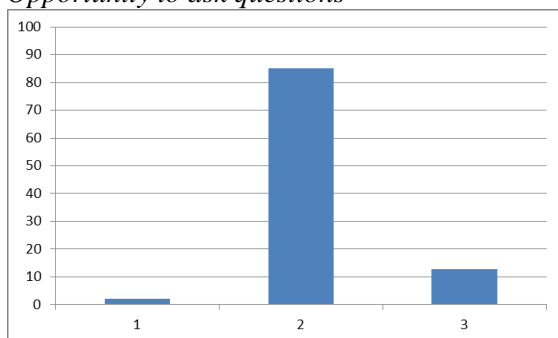
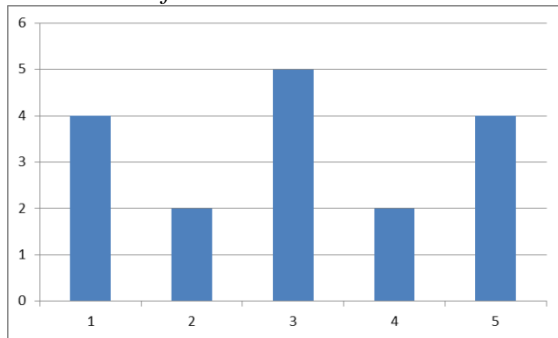
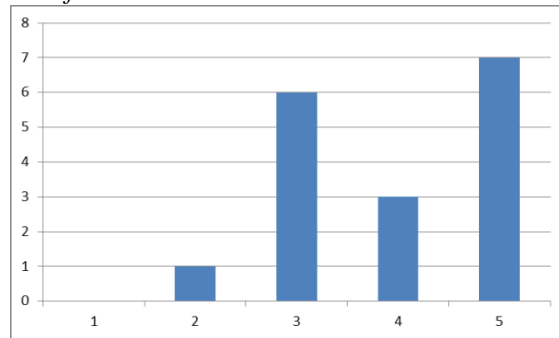


Figure 9. Responses to survey of PhD scholarship recipients. Number of responses by respondent rating (1 = very dissatisfied, 5 = very satisfied).

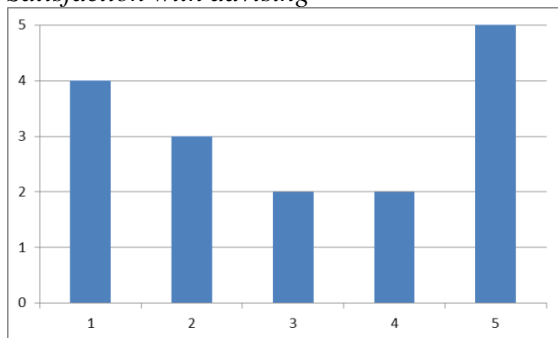
Overall satisfaction



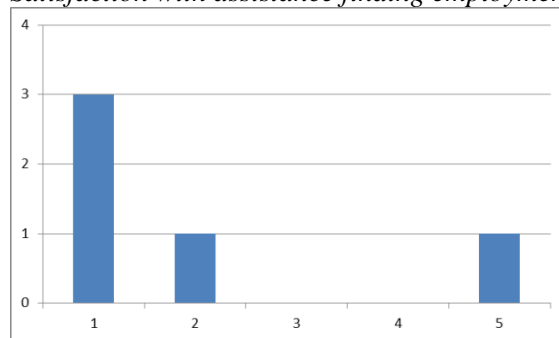
Satisfaction with courses



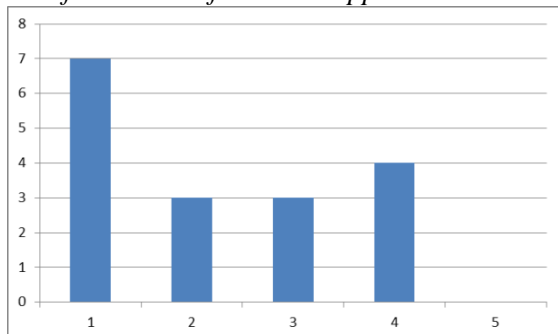
Satisfaction with advising



Satisfaction with assistance finding employment



Satisfaction with financial support



Appendix 1. Individuals interviewed for the evaluation.

<u>Name</u>	<u>Program affiliation</u>
Rashid Hassan	Program director
Margaret Chitiga	Program coordinator
Dalène DuPlessis	Administration coordinator
Tekie Alemu	Research Committee/Resource person
Jon Barnes	Research Committee
Hema Boolell	Research Committee
Kassim Kulindwa	Research Committee
Jane Mariara	Research Committee/Grant recipient
Joe Cook	Resource person
Marty Luckert	Resource person
Edwin Muchapondwa	Resource person
David Starrett	Resource person
Thomas Sterner	Resource person
Dale Whittington	Resource person
Wisdom Akpalu	Grant recipient/Postdoctoral fellow/ Senior researcher
Ayalneh Bogale	Grant recipient
Dambala Gelo	Grant recipient/PhD student
Euphrasie Kousame	Grant recipient
Riad Sultan	Grant recipient
Gladman Thonlahan	Grant recipient
Emmanuel Ziramba	Grant recipient
Tadele Ferede	Grant applicant
Christina Kamala	Grant applicant
Makarius Lalika	Grant applicant
Befikadu Legesse	Grant applicant
Luc Totouom	Grant applicant
Robertson Khataza	Observer*
Anthony Onyekuru	Observer*
Joseph Wasswa	Observer*
Hiywot Menker Girma	PhD student**
Albert Honlonkou	PhD student
Charles Nhemachena	PhD student
Ndiadivha Sikhweni	PhD student
Bhim Adhikari	IDRC
Aart de Zeeuw (University of Tilburg)	Short-course instructor
Johann Kirsten (University of Pretoria)	Head, Department of Agricultural Economics, Extension, Rural Development
Gunnar Köhlin (University of Gothenburg)	EfD
Eric Mungatana (University of Pretoria)	Lecturer and supervisor in PhD program

*Submitted proposal that was not accepted for presentation at workshop.

**Not funded by IDRC/SIDA program.

Appendix 2. Text of email surveys.

A. Presenters of research grant proposals

Dear <name>,

I am a professor at Duke University in the United States. The Canadian International Development Research Center (IDRC) and the Swedish International Development Cooperation Agency (SIDA) have hired me to conduct an independent evaluation of CEEPA's programs since 2006. My evaluation report will be considered by IDRC and SIDA when they make future decisions about funding CEEPA's programs. It will also be a source of recommendations to CEEPA about ways to improve its programs.

Based on information received from CEEPA, I understand that you were invited to present a research proposal at a CEEPA workshop during 2006-12. I am writing to confirm this information and to ask a few related questions. My questions are below, after my signature. I would be grateful if you could reply no later than **Wednesday, July 25**. I recognize that this is a short deadline, but answering the questions should require only a few minutes. You can enter your answers below and then click reply. I will treat your answers as confidential and will not divulge your identity in the report.

I appreciate your cooperation, which will help ensure that my evaluation report is complete and accurate. Thank you in advance.

Sincerely yours,

Jeffrey Vincent

QUESTIONS

1. Were any of the research proposals that you presented at any CEEPA workshop during 2006-12 approved for funding? (Yes/No)
2. In what year during 2006-12 did you **first present** a proposal for a CEEPA research grant at a CEEPA workshop?
3. What was your position at that time (job title and organization)?
4. What is your current position (job title and organization)?
5. Which of the following terms best describes your **overall** level of satisfaction with the CEEPA research grants program: Very satisfied, Somewhat satisfied, Neither satisfied nor dissatisfied, Somewhat dissatisfied, Very dissatisfied?
6. Which of the following terms best describes the impact of the CEEPA research grants program on your **career development** so far: Very positive, Somewhat Positive, Neither positive nor negative, Somewhat negative, Very negative?
7. OPTIONAL: If you have any other comments on the CEEPA research grants program, please feel free to provide them here.

Thank you for your cooperation!

B. Recipients of PhD scholarships

Dear <name>,

I am a professor at Duke University in the United States. The Canadian International Development Research Center (IDRC) and the Swedish International Development Cooperation Agency (SIDA) have hired me to conduct an independent evaluation of CEEPA's programs since 2006. My evaluation report will be considered by IDRC and SIDA when they make future decisions about funding CEEPA's programs. It will also be a source of recommendations to CEEPA about ways to improve its programs.

Based on information received from CEEPA, I understand that you have either completed or are currently enrolled in a PhD program funded by CEEPA. I am writing to confirm this information and to ask a few questions about your level of satisfaction with the PhD program. My questions are below, after my signature. I would be grateful if you could reply no later than **Wednesday, July 25**. I recognize that this is a short time to reply, but answering the questions should require only a few minutes of your time. You can enter your answers below and then click reply. I will treat your answers as confidential and will not divulge your identity in the report.

I appreciate your cooperation, which will help ensure that my evaluation report is complete and accurate. Thank you in advance.

Sincerely yours,

Jeffrey Vincent

QUESTIONS

1. In what year did you begin the PhD program?
2. In what year did you complete the PhD program?
3. Was the PhD program at the University of Pretoria or another university?
4. What is your current position (job title and organization)?
5. On a scale of 1 to 5, with 1 being very dissatisfied and 5 being very satisfied, what is your **overall** level of satisfaction with the PhD program?
6. On a scale of 1 to 5, with 1 being very dissatisfied and 5 being very satisfied, what is your level of satisfaction with the **courses** that you took during the PhD program?
7. On a scale of 1 to 5, with 1 being very dissatisfied and 5 being very satisfied, what is your level of satisfaction with the **advising** provided by your dissertation supervisor?
8. On a scale of 1 to 5, with 1 being very dissatisfied and 5 being very satisfied, what is your level of satisfaction with the **financial support** provided by the PhD program?
9. On a scale of 1 to 5, with 1 being very dissatisfied and 5 being very satisfied, what is your level of satisfaction with the assistance provided to find **employment** when you completed the PhD program?
10. OPTIONAL: If you have any other comments on the PhD program, please feel free to provide them here.

Thank you for your cooperation!