Evaluating Commonwealth Scholarships in the United Kingdom:

Assessing impact in environmental sustainability

COMMONWEALTH SCHOLARSHIPS

The **Commonwealth Scholarship Commission in the United Kingdom** (CSC) is responsible for managing Britain's contribution to the Commonwealth Scholarship and Fellowship Plan (CSFP), established in 1959. The five core principles stated at its foundation remain a feature of the CSFP today, and provide a valuable framework for the CSC's work. The Plan would, it was agreed:

- be distinct and additional to any other schemes
- be based on mutual cooperation and the sharing of educational experience among all Commonwealth countries
- be flexible, to take account of changing needs over time
- be Commonwealth-wide, and based on a series of bilateral arrangements between home and host countries
- recognise and promote the highest level of intellectual achievement

Since 1960, the Commonwealth Scholarship Commission in the United Kingdom has offered the following awards:

Commonwealth Scholarships: also known as 'general' Scholarships; available for postgraduate (Master's and PhD), and in some cases undergraduate, study at any UK university.

Commonwealth Academic Staff Scholarships: targeted at academic staff in specific developing country universities. These awards were merged with 'general' Commonwealth Scholarships in 2006.

Commonwealth Academic Fellowships: aimed at mid-career staff in specific developing country universities, providing for up to six months' work at a UK institution.

Commonwealth Shared Scholarships: for developing country students who would not otherwise be able to undertake Master's-level study in the UK, and supported jointly by the CSC and host universities.

Commonwealth Split-site Scholarships: to support candidates who are undertaking doctoral study at a university in their home country to spend up to one year at a UK university as part of their academic work.

Commonwealth Professional Fellowships: offering mid-career professionals from developing Commonwealth countries the opportunity to spend a period (typically three months) with a UK host organisation working in a relevant field.

Commonwealth Distance Learning Scholarships: enabling developing country students to secure Master's-level qualifications from UK institutions through distance learning study.

Commonwealth Medical Scholarships: from the same pool, and offered on the same terms, as 'general' Scholarships, to candidates with basic medical or dental qualifications, to enable them to pursue a higher professional qualification or advanced clinical training. These awards were merged with 'general' Commonwealth Scholarships in 1996.

Commonwealth Medical Fellowships: offering up to twelve months' clinical and/or research experience at an advanced level in the candidate's field of specialisation. These awards were merged with Commonwealth Academic Fellowships in 1996.

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The Commonwealth Scholarship Commission in the UK (CSC) and its secretariat would like to extend their gratitude to the many alumni who have taken the time to respond to the impact evaluation survey, and to all those who have supported and continue to support the work of the CSC.

This report was written by Sarah Hinz, Kathryn Scurfield, Faruk Barabhuiya and Rachel Day (of the CSC secretariat), and published in June 2013.

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Foreword

Ensuring environmental sustainability is a key Millennium Development Goal. It is also, of course, an increasingly important imperative for all of us, in the developed and developing worlds alike. The impact of our local environments, especially if they are degraded and fragile, on the quality of our lives cannot be overestimated. And the growing impact of climate change, with its weather extremes, its flooding and drought and landslips, its sea level rise and its potential impact on human health, threatens the entire globe, but especially some of the poorest parts of the world.

Tackling the twin challenges of local environmental degradation and global climate change is vital work, everywhere. And it's work that we all need to help with. That's why I was so impressed, a while ago, to meet with some of the environmental protection staff who had come over from Nigeria, Ghana and Kenya to spend time with us in the Environment Agency in England and Wales, to share their thoughts and their insights, to learn and to teach, and to start a dialogue that has continued long since.

The Environment Agency has been hosting fellows through the Commonwealth Professional Fellowship Programme since 2003, and this is one of the most valuable parts of our international work. We learn a lot, and I hope we have the chance to give a lot in return, too.

The increasing importance of global environmental issues is reflected in the growing number of Commonwealth Scholars and Fellows undertaking an award in this area. Award holders have shown the impact they can have in key areas like food security, sanitation, safe drinking water, renewable energy, waste management, flood risk management, and environmental resources, as well as the broader issues of climate change.

Commonwealth Scholarships provide an invaluable opportunity to enhance the knowledge and skills of key individuals; and in turn, those individuals can have a catalytic effect on both development objectives and the condition of the environment in their home country. This report showcases the hugely important work on environmental and agricultural issues conducted across the globe by Commonwealth Scholars and Fellows. And it reinforces the importance of continued support for Commonwealth Scholarships. They can have a tremendously valuable development impact.

I congratulate the Commonwealth Scholarship Commission, and above all the alumni, Scholars and Fellows themselves, on the achievements of the programme over the years, and on the work highlighted in this report in particular. Environmental change is becoming increasingly insistent. Our response is becoming ever more urgent. Commonwealth Scholarships help us – around the world – in undertaking that task.

Rt Hon Lord Smith of Finsbury
Chairman
Environment Agency

Executive summary

The Commonwealth Scholarship Commission in the United Kingdom (CSC) has been offering Commonwealth Scholarships and Fellowships for postgraduate study and research for over 50 years. In the past decade, the CSC has not only established an alumni association and actively sought to trace and engage with alumni, but has also added targeted evaluation activity to its longstanding monitoring work. The CSC's initial approach to impact evaluation involved building on monitoring and alumni work already in place and distributing an impact evaluation survey to almost 6,000 alumni. Over 2,200 responded, and it is their answers that have formed the basis of a number of evaluation reports, which seek to provide evidence that the CSC's scholarship and fellowship programmes have had a lasting impact on development, at both local and national levels. This report forms the seventh in this series of reports, the first of which looked at the overall evidence reported by respondents to the survey, and the remainder of which have focused on specific regions or areas of developmental interest such as health or, in this case, the environment.

The significance of environmental sustainability and related topics such as climate change to international development is reflected in its explicit mention in the Millennium Development Goals, specifically MDG 7. The pledge toward promoting environmental sustainability is further evident in the Commonwealth Secretariat's second goal of 'pro-poor growth and sustainable development' under the Environmental Sustainability Development Programme. With issues such as climate change having a major impact across the globe and a good proportion of Commonwealth Scholars and Fellows having held awards in the field, exploring the scheme's impact in this sector was a natural next step.

This report begins by outlining the awards that the CSC has offered to Scholars and Fellows in the area of environment, providing background on the numbers and types of award held and on those who held them. In the following section, the report moves on to its main source of data, namely the responses of a subset of the 2,226 alumni who completed an in-depth impact evaluation survey in 2008. In all, 47% (1,050) reported having an impact in one of three relevant areas: Environment Protection, Physical Infrastructure, and Agricultural/Rural Productivity. Further data was obtained from a follow-up survey sent out in December 2011 to 390 alumni who had reported having an impact on projects and on policy in relation to the aforementioned three environmental priority areas. This survey yielded 65 case studies, some of which are explored in the fourth and fifth chapters of the report.

Overall, the findings support those of previous CSC reports in suggesting that higher education, and ultimately postgraduate scholarship and fellowships, lead to positive outcomes for international development objectives. As with previous reports, we find it clear that Commonwealth Scholarships and Fellowships not only provide invaluable opportunities for award holders to gain personal skills, but also enable them to contribute to society as a whole. In particular, we note that:

- **Subjects relevant to environmental sustainability are becoming increasingly popular among award holders.** Findings show that 17% of all awards since 1960 have been in areas we define as relevant to the environment or agriculture; this has grown from 12% in the first five years of the programme to over 20% in 2005-2009. There has also been a strong increase in the number of Scholars and Fellows reporting impact in environmental sustainability over the years – 6% of those holding awards in the 1960s did so, compared with 46% of those in the 2000s – demonstrating the increasing relevance of the sector and the ever-growing urgency to address environmental issues.

- **Awards in the sector are benefiting countries that are often disproportionately affected by environmental issues.** In the 2000s, over half of all awards in the sector were offered to applicants from sub-Saharan Africa, with a further third (35%) going to applicants from South Asia. In addition, over two-thirds (over 70%) of respondents reporting an impact in the field of environmental sustainability were from either sub-Saharan Africa (37%) or South Asia (35%), with 93% of them reporting that they were living and working in their home country.

- **Higher education has a key role to play in tackling environmental issues.** The overwhelming majority of respondents involved in the area of environmental sustainability are employed in the education sector (62%), which is roughly the same as for the overall survey population (63%). Of these 62%, almost all (97%) are working in higher education, reflecting the CSC's conviction that higher education has a core role to play in tackling obstacles to development such as environmental sustainability and agricultural issues.

- **Commonwealth Scholarships and Fellowships can have a catalytic effect in the sector.** Almost all (97%) of the respondents (1,019 people) who reported having impact in the area of environmental sustainability stated that their award increased their ability to have influence and make changes in their work, with even more (98%) reporting that they used specific skills and knowledge gained during their award in their work. In addition, 94% of respondents said that they were able to introduce new practices or innovations in positions, whether voluntary or professional, that they have held since their award, as a result of the skills and knowledge acquired.

- **Impact is often far reaching.** Impact from awards was reported at three levels: through involvement in projects, socioeconomic impact, and through influencing government policy. Our results show that, for almost all three priority areas under review, the highest impact was made through specific projects, followed by socioeconomic impact, and then influence on government policy.

In conclusion, this report provides further evidence to suggest that international scholarships and fellowships have an impact on development, and particularly in the environmental and agricultural sectors. Awards enable individuals to gain skills and knowledge that can be transferred back to home institutions and communities and, as can be seen through the individual stories included in this report, can directly impact on international development in both tangible and intangible ways.

Introduction

The Commonwealth Scholarship Commission in the United Kingdom (CSC) was established through an Act of Parliament to manage the UK's contribution to the international Commonwealth Scholarship and Fellowship Plan (CSFP). Over the past 50 years, the CSC has awarded scholarships and fellowships based on applicants' academic merit and achievement, as well as their future potential in areas such as leadership and development. In recent years, the latter in particular has been given greater prominence, with a growing emphasis on selecting candidates whose study plans are more closely aligned with international development objectives. Alongside this focus on development impact, the CSC also recognises the importance of evidence-based policy and procedures, and in 2007 added a formal evaluation programme to its existing monitoring activity. This activity includes the publication of a number of reports, of which this is the seventh.

The focus of this report is environmental sustainability and the impact of Commonwealth Scholars and Fellows in this area. The sector is a natural choice, as there is global recognition of its importance as enshrined in Millennium Development Goal (MDG) 7: 'ensure environmental sustainability'. Furthermore, it is widely accepted that environmental sustainability is closely related to wider issues of development, particularly food security, which plays an integral role in MDG 1: 'eradicate extreme poverty and hunger'. It is against this backdrop that the CSC took the opportunity to evaluate the impact that scholarship and fellowship holders in the environment sector have had on promoting environmental sustainability and related issues at policy, research, and technical levels.

The main data sources for this report are our alumni and scholar database and an in-depth alumni survey distributed in 2008, to which 2,226 alumni responded. Among other questions, alumni were asked to identify their perceived impact in development and leadership in one or more of 12 key areas identified by the CSC as being priorities for development. For the purposes of this report, a follow-up survey was also sent to a number of respondents who reported having a socioeconomic or policy impact in at least one of the three priority areas of Environmental Protection, Physical Infrastructure, and Agricultural/Rural Productivity.

The report begins by examining the role of higher education and scholarships in environmental sustainability and development, before moving on in the second chapter to describe the potential contribution of Commonwealth Scholarships in this context by looking at all awards offered in the sector. The third chapter focuses on those responding to the 2008 survey who report an impact in the aforementioned relevant priority areas, with the fourth chapter demonstrating this impact through individual case studies. This focus on individual stories is continued in the fifth chapter, which consists of focused in-depth interviews with individual award holders about their specific achievements in environmental sustainability. Finally, the report concludes with a summary of the results, demonstrating that Commonwealth Scholars and Fellows are indeed well placed to have a positive impact on environmental sustainability and related issues, and that the programme itself contributes to this.

1. Higher education, scholarships, environmental sustainability, and development

Higher education, scholarships, and development

Throughout the Commonwealth, higher education (HE) fulfils a crucial development need across many disciplines, through both research activity and the training of professionals. Within HE, international scholarships can play a specific role by enabling the wider acquisition of qualifications and skills and through intangible benefits, such as the confidence and exposure that often comes with international experience and collaboration. As such, scholarships can be seen as a key element of development activity, particularly in relation to HE, but also on a wider level.

It is within this context that the Commonwealth Scholarship Commission in the United Kingdom (CSC) has been providing scholarships and fellowships to Commonwealth citizens for over 50 years, as part of the wider Commonwealth Scholarship and Fellowship Plan (CSFP).[1] As with other funders, its rationale for funding scholarships can be seen as three-fold:

1. To support talented and able individuals by providing opportunities that might not otherwise be available for study and research, enabling the acquisition of skills and expertise, and facilitating networking and collaboration, leading to enhanced employment prospects and professional development.

2. To assist institutional capacity building through providing training and research in key sectors, boosting the human capital and skills base of employing organisations (including higher education institutions) where acquired expertise may be utilised, and through the provision of opportunities for international research collaboration.

3. To have a wider impact on communities and societies, not only through the institutional and individual benefits mentioned above, but also by funding research into specific subject areas that offer benefits to environmental sustainability and to societies as a whole. Scholarships provide an environment for the exchange of ideas and practices, as well as the development of novel solutions, and encourage research and innovation essential for poverty elimination and socioeconomic progress, including sustaining the environment.[2]

The CSC focuses particularly on the first – supporting talented and able individuals – not least as it believes this in turn assists institutional capacity building and, as a consequence, has an influence on the wider community and society.

1 Under the CSFP, over 26,000 individuals from all over the Commonwealth have held awards – mainly scholarships for postgraduate study and fellowships at postdoctoral level – in over 20 host countries. Over 18,000 of these have held awards offered by the CSC.

2 This three-fold approach is widely shared among scholars, who define capacity development through international scholarships as the process by which individuals, organisations/institutions and societies develop abilities to perform functions, solve problems, and set and achieve objectives through better skilled individuals and more effective institutions aiming at poverty alleviation. See Karen Medica, *International Students – Understanding the Motives for Higher Education as Development Aid* (2010)

In recent years, international development objectives have come very much to the forefront as a major focus for the scheme, along with other longstanding objectives such as maintaining the international profile of institutions, promoting international collaboration, and identifying future leaders. This is reflected in the fact that, since the late 1990s in particular, CSC policy has emphasised development impact and leadership, as well as international collaboration and partnerships, and has aimed to ensure the relevance of its awards to award holders' home countries. The CSC explicitly takes potential in these areas as well as academic merit into account when selecting candidates, as well as retaining the bilateral nature of the programme and enabling institutions and governments in home countries to nominate candidates in areas they themselves prioritise.

The importance of environmental sustainability and development

Environmental sustainability is well recognised globally as a significant component of national development. In 2000, international leaders dedicated one of the Millennium Development Goals to the issue, with the seventh MDG covering the following issues:

MDG 7: Ensure environmental sustainability
A Sustainable development & environmental resources & deforestation & climate change
B Biodiversity conservation & overfishing
C Sustainable access to safe drinking water & basic sanitation, both particularly in rural areas
D Improving lives of slum dwellers, particularly in Sub-Saharan Africa[3]

Combating climate change, managing deforestation, and ensuring the sustainable use of natural resources are closely linked to soil-related issues and the impact on agriculture and food production. The importance of food security, particularly in rural areas, is further acknowledged by MDG 1: 'eradicate extreme poverty and hunger'.[4]

The relationship between environmental sustainability and socioeconomic and human development is explicitly described by the CSC's main funder, the UK Department for International Development (DFID): 'climate change and environmental degradation are two of the biggest challenges to sustaining progress on saving lives and reducing poverty'.[5]

More specifically, DFID prioritises 'urgent action to tackle climate change, and support adaption and low carbon growth in developing countries', as well as 'improving forest management and tackling illegal logging in order to reduce deforestation',[6] in addition to other environmental sustainability issues such as 'increasing access to clean water [and] sanitation'.[7]

Challenges for environmental sustainability and development

As part of its Evaluation Programme (see Appendix 1), in 2008 the CSC sent a survey to almost 6,000 alumni for whom contact details were held, inviting them to report on the outcomes of their awards and their subsequent ability to influence their institutions and wider societies. In particular, respondents were asked to report whether they had had an impact on one or more of 12 key priority development areas (see box on right) in one, or more, of the following ways: involvement in a project, influencing government policy, and having a wider socioeconomic impact.

3 See http://www.un.org/millenniumgoals/environ.shtml
4 See http://www.un.org/millenniumgoals/poverty.shtml
5 Operational Plan 2011-2015, DFID Climate and Environment Department (2012), p.2
6 Business Plan 2011-2015, Department for International Development (2011), p.17
7 Department for International Development, p.7

Key priority areas for development

- Health
- Agricultural/Rural Productivity
- Quantity and Quality of Education
- Governance
- International Relations
- Poverty Reduction
- Social Inequalities and Human Rights
- Physical Infrastructure
- Environment Protection
- Conflict Resolution/Humanitarian Assistance
- Scientific and Research Applications
- Job Creation

For this study, which focuses on the impact of Commonwealth Scholarships and Fellowships on areas relevant to sustaining the environment, the following three priority areas were selected for further analysis:

- Environment Protection
- Physical Infrastructure
- Agricultural/Rural Productivity

Environment Protection is an obvious focus area for this report, as is Physical Infrastructure, elements of which are evident in MDG 7C and 7D (sustainable access to safe drinking water, basic sanitation, and housing, particularly with regard to slum dwellers). Agricultural/Rural Productivity is also included because of the strong relationship between food production, crop and soil science, sustainable land management, and climate change, and the impact of all these areas on socioeconomic development, as already touched upon earlier.

Environment Protection

Governments from high, middle, and low income countries recognise the importance of Environment Protection, with climate change being a particular concern. Negative consequences of climate change and global warming such as desertification, droughts, floods, typhoons, and other environmental disasters often fall disproportionately on poorer communities and countries, despite them having contributed the least to climate change. Hence, climate change adaption such as disaster risk reduction measures and also forestry are crucial to DFID, as emissions from deforestation and forest degradation account for a large share of human-induced emissions.[8] Equally, DFID supports emissions reduction through clean and efficient energy measures as part of its support for low carbon development, because Southern countries have a comparative advantage when it comes to alternative sources of energy, particularly solar energy.[9] We consider that our alumni are often in positions to make a significant impact on MDG 7A and 7B socioeconomically and politically, for instance, in the context of advising on environmental policy or involvement in international climate change negotiations, or through research and innovation and the application of relevant technology.

Physical Infrastructure

DFID recognises that MDG 7C on sanitation and water is the most off-track target in Africa, with only 31% of the population having access to sanitation. While water seems to be globally on track, in Africa, approximately one-third of hand pumps are not functional. This is significant because access to clean (drinking) water, hygienic sanitation facilities, and sewerage are essential to good health and poverty reduction.[10] In addition, sound infrastructure such as housing, hospitals and schools, as mentioned in MDG 7D, lays the foundation for education in particular and social development in general. Infrastructure is vital, not only for rebuilding communities and economies where environmental damage or disaster has occurred, but also to prevent any further environmental damage caused by waste, polluted water, and other man-made pollutants. A number of our alumni work in the water and sanitation industry and are therefore well placed to influence outcomes in this area, as are alumni in other related sectors.

8 DFID Climate and Environment Department, p.6

9 DFID Climate and Environment Department, p.5

Agricultural/Rural Productivity

Agricultural/Rural Productivity is, as already mentioned, another area of importance to environmental sustainability. The consequences of agricultural policy and land management, including the use of natural resources, application of chemicals, and deforestation can have widespread implications on the environment such as soil and crop quality and carbon emissions. Major environmental concerns such as global warming and other climate change issues can lead to droughts and floods, potentially causing malnutrition and even famines. If the eradication of hunger as stressed in MDG 1C is to be met, food security and sustainable livelihoods for rural communities are essential. In order to guarantee this, methods of sustainable food production, including access to healthy and productive seeds, adequate tools, and training in farming are vital. Furthermore, the importance of combating deforestation, protecting biodiversity, and having access to clean drinking water, as outlined in MDG 7, are also all vital in promoting agricultural and rural productivity. The activity of our alumni within this sector is therefore of great interest to a number of our stakeholders.

Professor Azizan bin Abu Samah completed his PhD in Meteorology as a Commonwealth Academic Staff Scholar at the University of Reading in 1996. He is now Professor at the Department of Geography at the University of Malaya.

'As Director of the Malaysian Antarctic Research Programme, I foster Malaysia's effort vis-a-vis the Antarctic Treaty System. I develop Malaysian research in ***Climate Change*** *and Climate Variability as Head of the Ocean and Earth System Observation and Simulation and Climate Change Unit at the Institute of Ocean and Earth Sciences, University of Malaya.'*

10 Operational Plan 2011-2015, DFID Human Development Department (2012), p.2 and p.6

2. Can Commonwealth Scholars and Fellows play a role in sustaining the environment?

As suggested in the previous section, Commonwealth Scholars and Fellows have the potential to influence socioeconomic development in the field of environment and agriculture in high, middle, and low income countries alike. This influence can range from the transfer of relevant skills and knowledge to carrying out new and potentially innovative research on important global issues such as climate change. In this report, we seek to illustrate the contribution of Commonwealth Scholarships and Fellowships to the sector, and examine how they impact on our award holders and alumni who, in turn, are able to contribute to environmental sustainability.

In this chapter, we set later chapters in context by providing some background information on the nature and breadth of alumni activity in the field of environmental sustainability, through a brief look at those individuals who have held Commonwealth Scholarships and Fellowships in the UK since 1960. As mentioned in the previous chapter, environmental and agricultural issues are both integral parts of environmental sustainability, interlinked through issues such as climate change and soil and crop quality. This chapter, therefore, covers Scholars and Fellows who held awards categorised as environment-related, including earth sciences and subjects targeting physical infrastructure, such as town and country planning.[11] It also includes agriculture-related subjects, for example, food science and technology.[12] Analysis of awards is by decade, gender, region, discipline, and institution.

Commonwealth Scholars and Fellows: who are they?

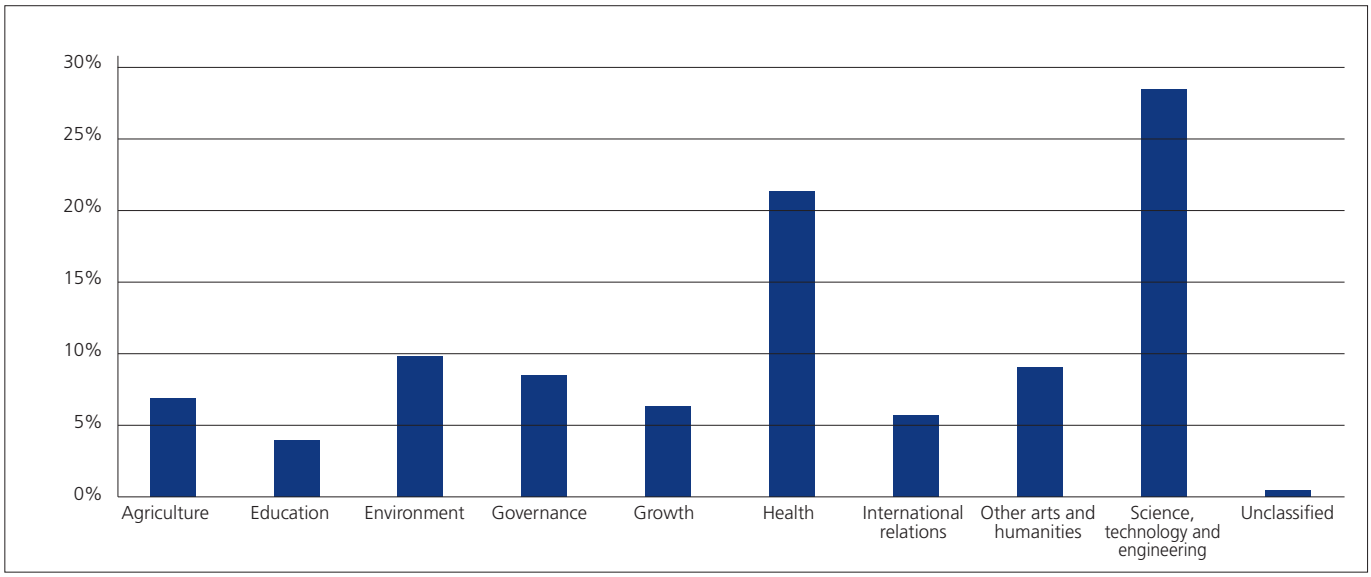
Looking at the awards held by our 17,000-plus alumni,[13] our data shows that 2,811 awards (17%) were made in the disciplines under consideration. Specifically, there were 1,644 awards in environment and 1,167 awards in agriculture. Figure 1 shows these numbers in relation to all awards held since 1960.

11 The category of environment contains the following disciplines of study: archaeology (physical science), built environment, civil engineering, earth sciences, environmental studies, geography (physical sciences), and town and country planning. See Appendix 6 for further details.

12 The category of agriculture contains the following disciplines of study: agriculture, food science and technology, and veterinary science. See Appendix 6 for further details.

13 Over 17,000 awards had been offered by the CSC at the time of the Evaluation Programme's initial Phase Two analysis in 2009.

Figure 1: Commonwealth Scholars and Fellows 1960-2009, by category of study



As Figure 2 shows, the proportion of award holders studying environment-related subjects has risen since the early years of the scheme, peaking in 1985-1989 and again in 2000-2004, but dropped in 2005-2009[14]. This strong increase from the early 1960s until the late 1980s could be due to a general increase in environmental awareness and scientific knowledge on climate change. The second peak in the early 2000s could be related to the adoption of the MDGs, specifically MDG 1 on environmental sustainability, followed by an increased offer and take up of environmental subjects at universities.

With regard to agriculture-related subjects, the picture is similar; there was a steady increase in numbers with a peak in 1990-1994 and the highest peak in 2000-2004, dropping sharply in 1995-1999 and slightly in 2005-2009. As with environment-related subjects, the MDGs and especially MDG 1 on hunger and food production could be the reason for the rising number of award holders engaged in agricultural studies from the late 1990s until 2004.

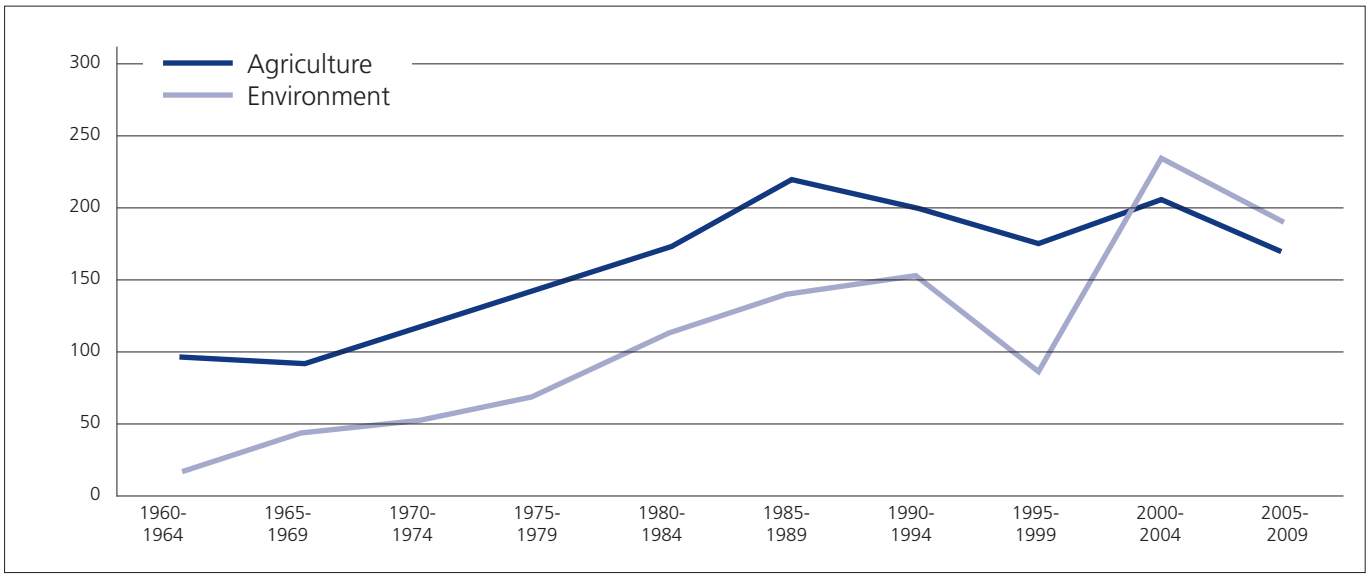


Figure 2: Commonwealth Scholars and Fellows studying environment- and agriculture-related subjects 1960-2009, by decade

Gender balance

The gender gap among those studying environment- and agriculture-related subjects has progressively narrowed since the first decade of Commonwealth Scholarships, as visible in Figure 3. Whereas only 1% of award holders studying environmental and agricultural subjects were women in the 1960s, in the 2000s more than a third (32%) in the fields under examination were female. The female share for these two categories of study was and still is at all points in time slightly lower than the average for all disciplines overall (9% women in the 1960s, and 41% women in the 2000s). Yet, if recent trends continue, the gender gap for sustainability-related subjects will narrow even further.

Regional allocation

As illustrated in Figure 4, the majority of environment- and agriculture-related awards have been made to Commonwealth Scholars and Fellows from sub-Saharan Africa (41%) and South Asia (37%), the two regions with the largest number of award holders overall. The share increased for both regions over time, especially in sub-Saharan Africa, which had 25% in the 1960s (24% of all awards) and 55% in the 2000s (50% of all awards). Looking at country level, India (17%) has the largest share of award holders in the pertinent fields, shortly followed by Bangladesh (12%), Nigeria (10%), and Ghana (6%). India is by far the most populous country in the Commonwealth, and Bangladesh and Nigeria also have fairly large populations. A larger number of Commonwealth Scholars and Fellows overall could be one reason for the high number of Indian, Bangladeshi, and Nigerian awards in the field of environmental sustainability. Having a very large

14 This figure may rise a little once the PhD Scholars who started their awards in the 2005-2009 period complete their studies.

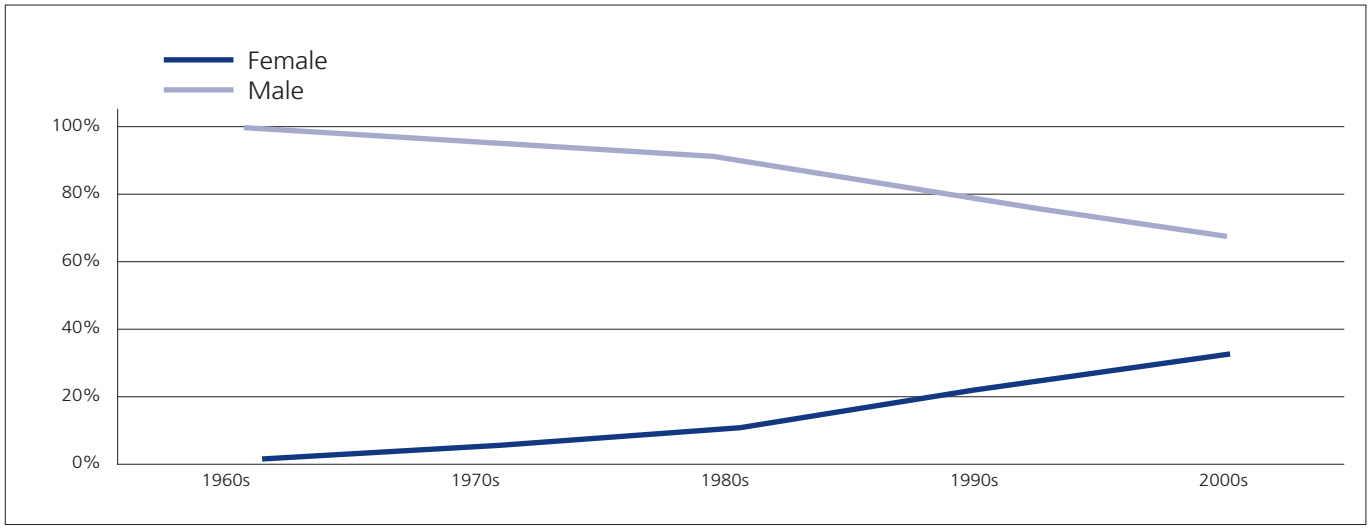


Figure 3: Commonwealth Scholars and Fellows studying environment- and agriculture-related subjects 1960-2009, by gender and decade

national population could also heighten a country's demand for deeper knowledge in, and further research on, environment protection, physical infrastructure, and agricultural production because issues such as food security, housing, and pollution become increasingly significant in countries with an ever-growing population.

Type of award

With regard to type of award, interestingly, a relatively large share of award holders studying environment and agriculture held an agency-nominated 'General' scholarship funded by DFID (52%), compared with only 40% of all award holders. As DFID funds Commonwealth Scholars and Fellows from developing countries only, this further indicates that environmental and agricultural studies are of specific importance to socioeconomic development. Moreover, proportionally twice as many award holders studying environmental and agricultural subjects held Distance Learning Scholarships compared to the overall share of award holders (9% and 4% respectively). This may be due to the nominating processes of these awards, which favour a focus on such subjects. Newer programmes such as the Distance Learning Scholarship and Professional Fellowship schemes have also had a distinct development focus from the outset.

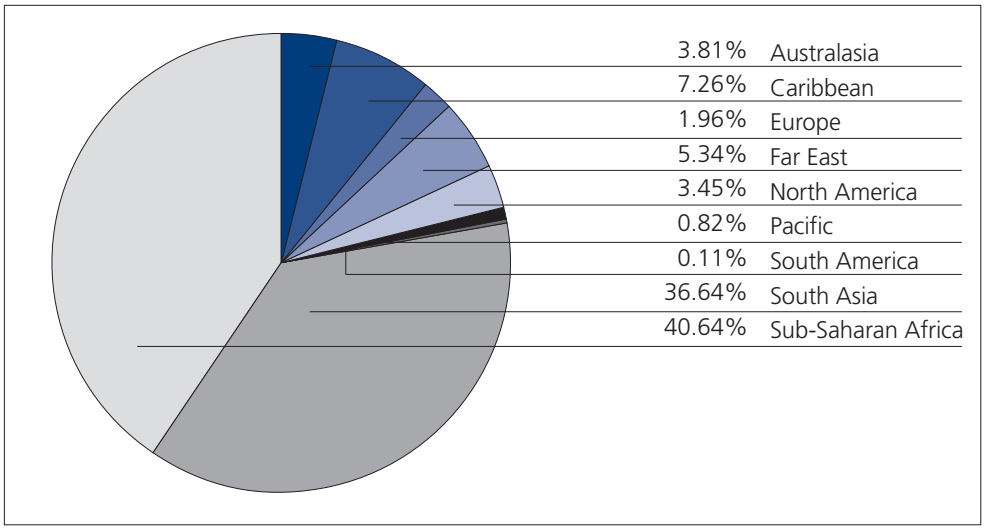


Figure 4: Commonwealth Scholars and Fellows studying environment- and agriculture-related subjects 1960-2009, by region

Disciplines of study

Within the broad category of study of environment and related areas, civil engineering is the discipline most often represented (35%), followed by earth sciences (20%), 'pure' environmental studies (19%), and town and country planning (11%), as illustrated in Figure 5. With regard to agriculture-related studies, as visible in Figure 6, 71% of these award holders studied 'pure' agriculture, 20% veterinary science, and 9% food science and technology.

Summary

- Our data shows that, out of 17,000 alumni (as of 2009), 2,811 (17%) of awards held were undertaken in the subject areas of environment and agriculture. Specifically, 1,644 (10%) awards were in the area of environment, and 1,167 (7%) awards in agriculture.
- The proportion of award holders studying environment-related subjects has risen since the early years of the scheme, peaking in 1984-1989 and again in 2000-2004, but dropped in 2005-2009.
- There was also a steady increase in the proportion of those studying agriculture, with a peak in 1990-1994 and the highest peak in 2000-2004, but dropping sharply in 1995-1999 and slightly in 2005-2009.
- With regard to gender balance, only 1% of award holders studying environmental and agricultural subjects were women in the 1960s. In the 2000s more than a third (32%) in the fields under examination were female.
- At regional level, the majority of environment- and agriculture-related awards have been made to Commonwealth Scholars and Fellows from sub-Saharan Africa (41%) and South Asia (37%),
- At country level, India (17%) has the largest share of award holders in the pertinent fields, shortly followed by Bangladesh (12%), Nigeria (10%), and Ghana (6%).
- A relatively large share of award holders studying environment and agriculture held an agency-nominated 'General' scholarship funded by DFID (52%), compared with only 40% of all award holders.

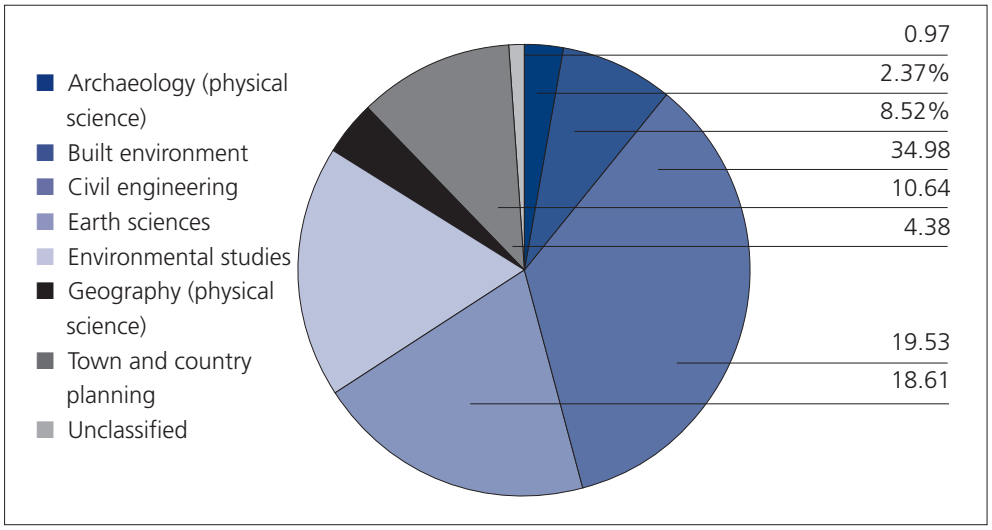


Figure 5: Commonwealth Scholars and Fellows studying environment-related subjects 1960-2009, by discipline

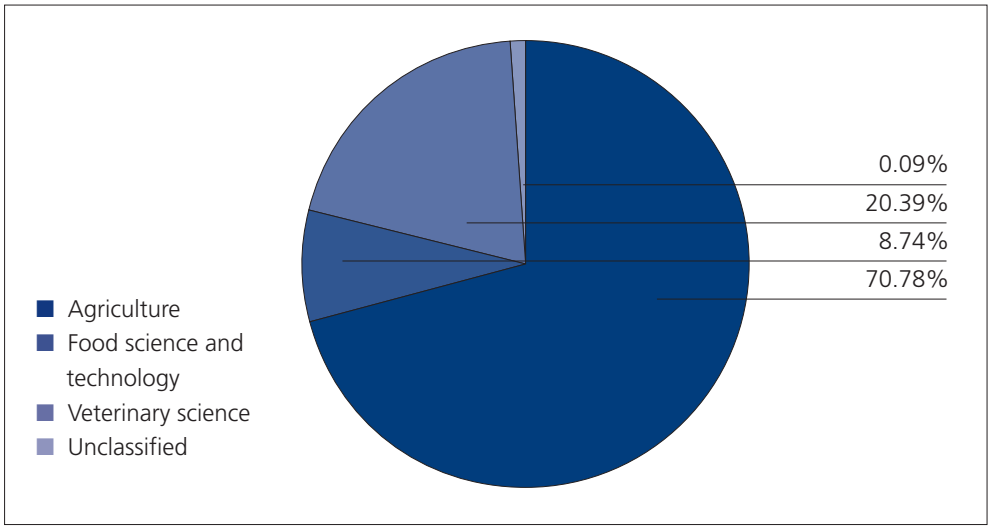


Figure 6: Commonwealth Scholars and Fellows studying agriculture-related subjects 1960-2009, by discipline

3. Assessing impact in environmental sustainability: survey responses

The impact of Commonwealth Scholarships on environmental sustainability

In this chapter, we will provide quantitative analysis of the impact on environmental sustainability reported by respondents to the 2008 survey, before moving on in following chapters to provide some specific examples of activity given by individual respondents.

In the 2008 survey and subsequent reports, we sought to examine the impact of awards upon individuals – measured by knowledge and skills they gained – and also whether they had been able to apply these skills and had any influence on their workplaces. Furthermore, and most importantly for sustaining the environment, we looked at the impact of our scholarships and fellowships on wider society. It should be recognised that the survey results represent alumni self-assessment of their own impact. The responses are not therefore an independent assessment, but they nevertheless provide an extremely valuable insight into the work and influence of our respondents and our awards.

Who reported an impact?

Of the 2,226 respondents to the evaluation survey, 1,050 (47%) reported having an impact in at least one – but frequently more than one – of the CSC's three priority areas under examination in this report, namely Environment Protection, Physical Infrastructure, and Agricultural/Rural Productivity. Analysis of the 2,226 responses has been previously published,[15] so here we will focus on the responses of these 1,050 individuals, taking the three areas together as well as examining them separately.

Looking at the period between the 1960s and 2000s, there has been a strong increase in the number of respondents reporting an impact in the three priority areas (see Figure 7). Whereas only 6% of respondents who received awards in the 1960s had an impact in environmental sustainability, 46% of alumni from the 2000s reported impact, with a particularly large increase of 12% from the 1980s to the 1990s and an even larger increase of 21% from the 1990s to the 2000s. These increases, especially the latter, might be due to the adoption of the Millennium Development Goals and strengthened global awareness of environmental issues such as climate change and pollution and their negative effects on socioeconomic development. A further reason for this growth over time might be a simultaneously increasing academic interest in environment- and sustainability-related subjects and the creation of Master's and postgraduate courses in this field.

With regard to the origin of respondents, more than 70% (752 individuals) reporting impact in the field of environmental sustainability were from either sub-Saharan Africa (37%) or South Asia (35%), as visualised in Figure 8. This is slightly more than the total number of all respondents to the survey from these regions, which lies at 61%. This involvement in environment is very positive, as these two regions are particularly vulnerable to weather fluctuations and food insecurity, and any engagement in addressing MDG 7 and MDG 1 is therefore potentially highly valuable. This argument is further strengthened

15 See Commonwealth Scholarship Commission in the United Kingdom (CSC), *Evaluating Commonwealth Scholarships in the United Kingdom: Assessing impact in key priority areas* (2009)

by the fact that, compared with the other two priority areas under examination, Agricultural/Rural Productivity is the area with the largest share of respondents from sub-Saharan Africa and South Asia (78%), which is likely to be explained by the fact that these regions have a comparatively large agricultural sector, including crop production.

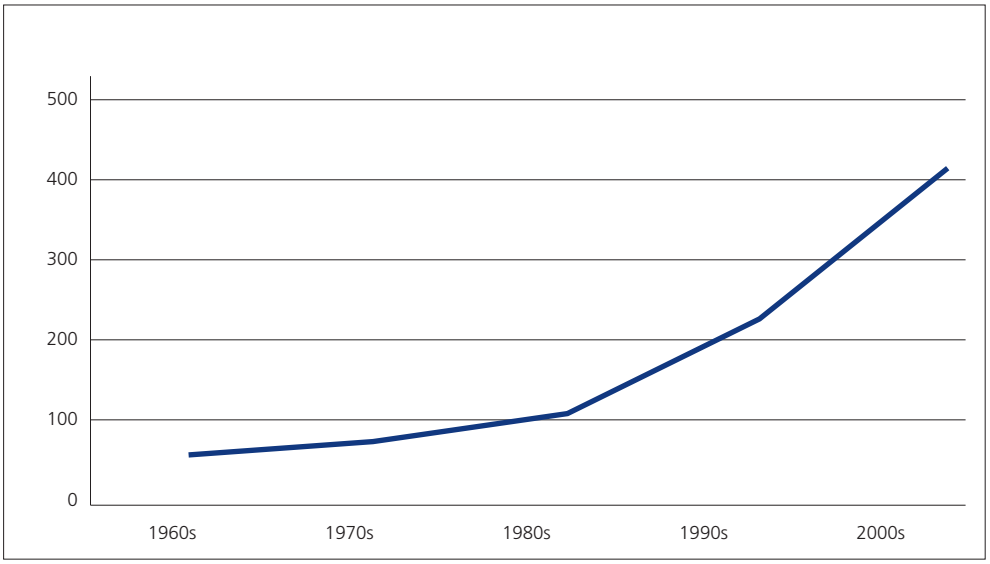


Figure 7: Survey respondents reporting impact in environmental sustainability, by decade

As gender equality is an important aspect of socio-economic development, it is useful to look at the gender balance of those reporting impact in the field of environmental sustainability. 27% were women and 73% were men, which is slightly lower than the gender parity of the overall survey population (32% and 68% respectively). This could be related to the fact that subjects associated with Environment Protection, Physical Infrastructure, and Agricultural/Rural Productivity are traditionally often considered as 'male' disciplines and therefore women are slightly underrepresented in these subjects.

What did they study?

As could have been expected and as shown in Figure 9, a large proportion of respondents studying environment- and agriculture-related subjects reported having an impact in these areas – 78% and 92% respectively. As discussed in the second chapter of this report, these two categories include disciplines of study such as earth sciences, built environment, and town and country planning, as well as food science and technology.

Respondents studying agriculture-related subjects were more likely to report impact in the priority area of Environment Protection (55%) than those studying environment-related subjects were to report impact in Agricultural/Rural Productivity (28%). Furthermore, we found that proportions of those studying education (50%), science, technology and engineering (47%), and growth-related subjects (45%) who reported impact in all three priority areas were also significant. This further highlights the cross-disciplinary nature of undertaking awards in environment-related fields.

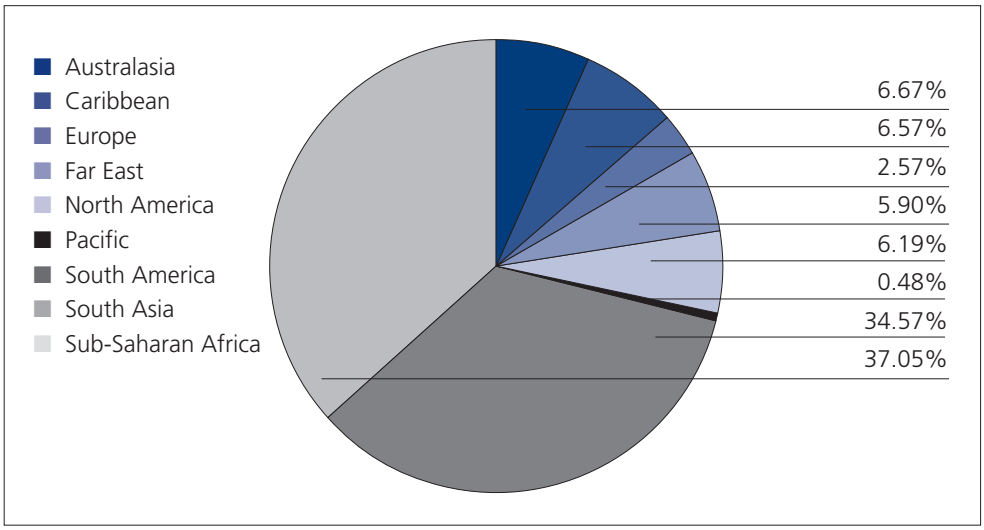


Figure 8: Survey respondents reporting impact in environmental sustainability, by region

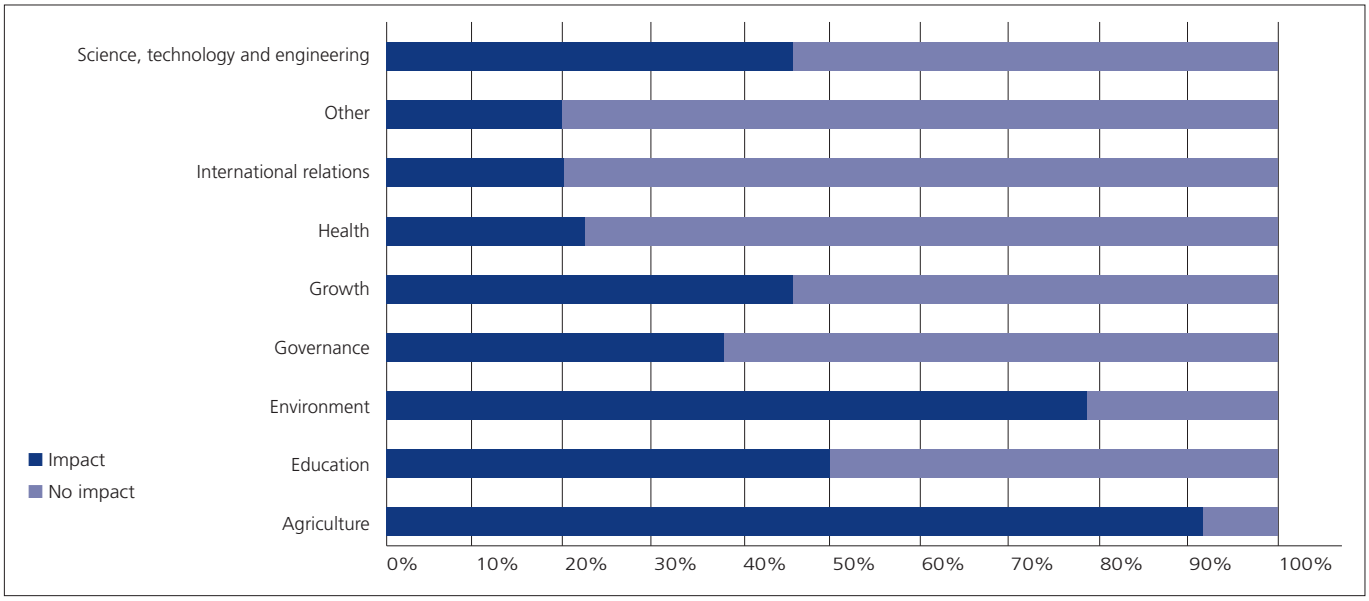


Figure 9: Survey respondents reporting impact in environmental sustainability, by category of study

What types of award did they hold?

Compared to the general survey population, 2% more respondents who reported impact in the field of environmental sustainability were on an agency-nominated 'General' scholarship funded by DFID (37%). Conversely, agency-nominated 'General' scholars funded by the FCO/BIS were less likely to report an impact in this area, representing 21% of the overall survey population and only 12% of those reporting an impact. This could be linked to the fact that the FCO/BIS funds Commonwealth Scholars from developed countries only, while DFID funds are exclusively used to support award holders from developing countries, where topics such as agricultural food production (MDG 1) may rank very high in terms of training priorities, as these countries are particularly vulnerable to climate change.

Moreover, 24% of respondents reporting an impact in the field of environmental sustainability were Academic Fellows, whereas such award holders made up only 19% of all survey respondents. This could be an indication that many senior academics in Commonwealth countries conduct research on environmental and agricultural issues, and of the strong interest among these academics to address global challenges in the field of environmental sustainability as outlined in MDG 7 and MDG 1.

Equally, a slightly larger proportion of respondents reporting an environmental sustainability impact held Professional Fellowships (7%) compared to the share of all Professional Fellows responding to the survey (6%). This is likely influenced by the fact that the environment is one of the focus areas for the Professional Fellowship scheme. As part of the scheme the CSC has worked with, for example, the Environment Agency in the UK; the fourth chapter of this report looks at this in more detail through case studies.

Where do they work?

Employment data was classified using the ISIC system.[16] Applying this system, the overwhelming majority of survey respondents who reported impact in the field of environmental sustainability are employed in the education sector (62%), which is very slightly lower than for the overall survey population (63%). Yet, out of these 62%, the same percentage as for all survey respondents are working in the higher education sector (97%), reinforcing the relevance of higher education in addressing the challenges of MDG 7 and MDG 1. Moreover, there are further small but significant differences compared to the overall survey findings. Alumni reporting impact in environmental sustainability are slightly more likely to be employed in the sectors of public

16 This data was first classified using the United Nations International Standard Industrial Classification of All Economic Activities (ISIC) classification system, to determine the industrial sectors within which alumni are employed (www.unstats.un.org) – see Appendix 7 for further details.

administration and defence and compulsory social security (9%) than the average alumnus responding to the survey (8%). This indicates that many alumni work on sustainability issues in the context of government or local authorities. Equally, a slightly larger share of alumni are involved in professional, scientific and technical activities (12%, compared to 11% of the total survey population); this sector is obviously closely linked to the three priority areas of Environment Protection, Physical Infrastructure, and Agricultural/Rural Productivity. However, respondents reporting impact in environmental sustainability are slightly less likely to be engaged in human health and social work activities than the overall survey population (5%, compared to 6%).

Did the awards have an impact and, if so, in what way?

Having established *who* reported an impact in environmental sustainability, we now look at *how* awards enhanced respondents' ability to have an impact in this sector.

Acquiring knowledge and skills

Although wider impact at socioeconomic and political levels is most significant for the field of environmental sustainability, it is also important to look at reported impact on award holders themselves and their employing organisations. We hope that our alumni are agents of change not only within society, but also in the context of their own work. In the survey, respondents were asked about the knowledge and skills gained during their research projects or studies, with the following results:

- 100% of respondents who reported impact in the field of environmental sustainability stated that they have gained some knowledge in their field of expertise, with 93% saying that they did so significantly.
- 94% of all respondents accessed equipment and expertise which was not available in their home country (73% significantly).

This is important, as techniques, skills, and knowledge gained through the awards potentially have transformative effects on organisational behaviour and work environments. Further positive results are as follows:

- 99% reported that they increased their analytical and technical skills, out of which 84% said that they increased their skills significantly, as shown in Figure 10.
- 86% also reported that they learned techniques for managing and organising people.

Edward Bwengye-Kahororo was awarded a Commonwealth Distance Learning Scholarship in 2002, to study an MSc in Civil Engineering at Loughborough University. He is now a Water and Environmental Sanitation Specialist for UNICEF, and has been working alongside a Ugandan government initiative to improve sanitation and hygiene in schools and urban areas, developing sustainable biogas linked latrines.

'A biogas linked public pay-and-use toilet combined with bath-rooms would be considered for people living in slums. The biogas can be used to generate electricity and excess gas piped to low income people's houses for cooking. It is against this background that we in UNICEF are trying out biogas linked toilets for schools and communities. We are also trying out household water treatment and safe storage. We are looking at using any available surface water, performing simple treatment and filtration, pumping into overhead reservoirs using solar-driven pumps, and using ultraviolet systems to treat water at the point of consumption. One unit is working and around 50 are being ordered to be installed in 2012. We are also promoting the self-supply of water in an incremental style. Communities and households are mobilised to start ***improvements on their existing water resources for drinking****. The process is financed by the communities.'*

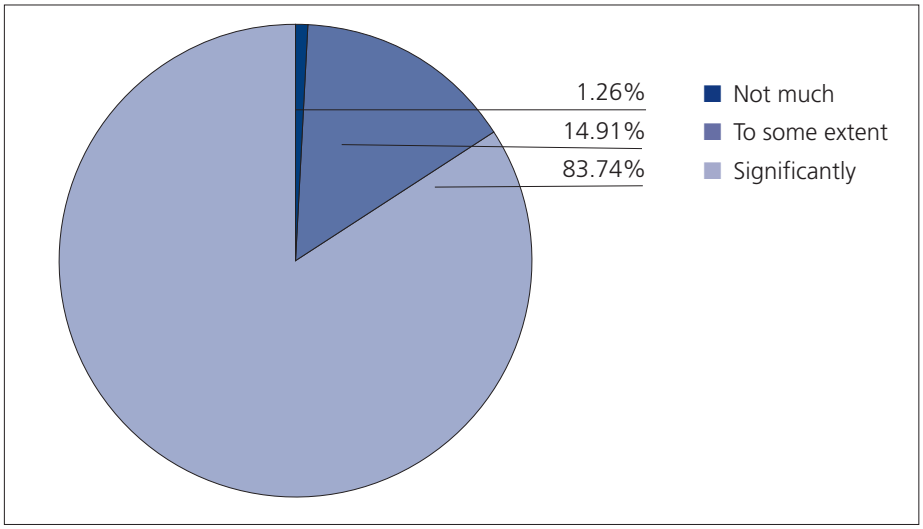


Figure 10: Survey respondents reporting impact in environmental sustainability – 'I increased my analytical/ technical skills'

Are alumni able to use the knowledge and skills obtained?

One of the main aims of Commonwealth Scholarships and Fellowships is to equip individuals to contribute to the socioeconomic development of their home countries. Therefore, it is important to consider the number of those respondents reporting impact who returned to their home country after studying or working in the UK. 93% of those reporting impact in the field of environmental sustainability live and work in their home country, compared with over 80% of all survey respondents. Of the remaining 7% not living in their home country, almost a third still work in their home region; others work for international organisations such as the African Development Bank and Muslim Aid.

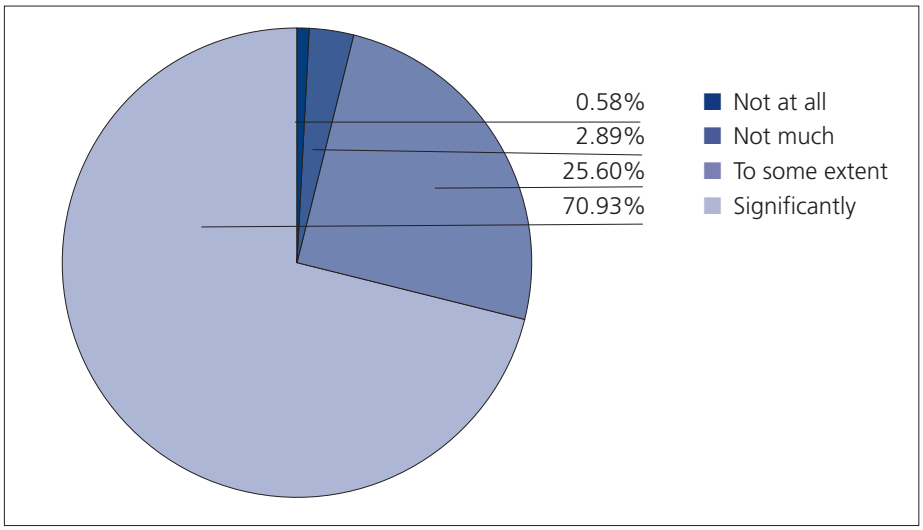
Have awards had beneficial outcomes on careers?

All award holders reporting impact have the ability to contribute to socioeconomic changes, regardless of their level of seniority. Yet alumni who have fairly senior posts are often particularly able to influence structural policies and lead their implementation. 63% of respondents reporting impact in the field of environmental sustainability who were already employed before their award obtained a more senior post within 12 months of completing it. 221 respondents state that they were students before taking up their award; of these, 78% obtained employment within the 12 months following their award. Regardless of their employment status before the award, 88% of respondents reporting an impact in environmental sustainability stated that they obtained advancements *after* this 12-month period, with 62% saying that they did so significantly. This indicates that the skills and knowledge acquired on award are useful not only immediately upon return, but also for many years afterwards.

Figure 11: Survey respondents reporting impact in environmental sustainability – 'The award has increased my ability to have influence and make changes in my work'

Have awards had an impact on workplaces?

Knowledge, skills, and techniques gained on award are intended to be beneficial not only to individual careers, but also to employing institutions, as award holders bring new ideas, approaches, and contacts with them on their return. 97% of respondents reporting an impact in the areas under examination stated that their award increased their ability to have influence and make changes in their work, as shown in Figure 11.



98% reported that they used specific skills and knowledge gained during their award in their work, 78% significantly (see Figure 12).

Do awards encourage links with the UK and international collaborations?

A further aim of Commonwealth Scholarships and Fellowships is to foster professional collaboration and personal exchange. A section of the survey therefore asked alumni about links and collaboration between award holders and the UK. 74% of respondents reporting impact in the field under investigation stated that they have maintained links with universities in the UK significantly or to some extent, while 54% reported maintaining contact with UK professional associations. On a personal level, 53% of respondents in the field of environmental responsibility maintained work contacts, and 76% said the same for social contacts.

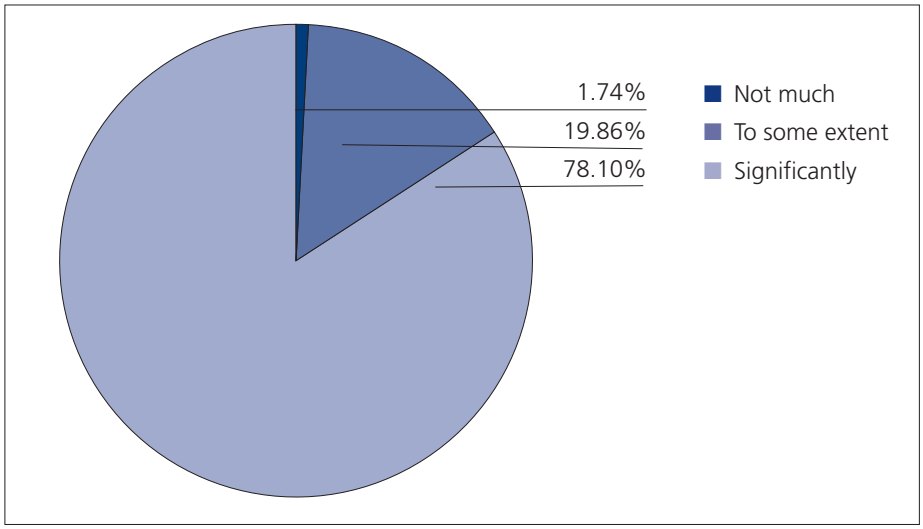


Figure 12: Survey respondents reporting impact in environmental sustainability – 'I use the specific skills and knowledge gained on award in my work'

Is there an impact on wider society and is there a link with environmental sustainability?

Overall, 94% of respondents reporting impact in the field of environmental sustainability said that they were able to introduce new practices or innovations in positions, whether voluntary or professional, that they have held since their award, as a result of the skills and knowledge acquired (see Figure 13). This question was asked to assess the potential contribution of alumni and therefore the awards on wider society.

Going into detail, we will now look separately at the reported impact in the three priority areas – Environment Protection, Physical Infrastructure, and Agricultural/Rural Productivity – identified as contributing to environmental sustainability.

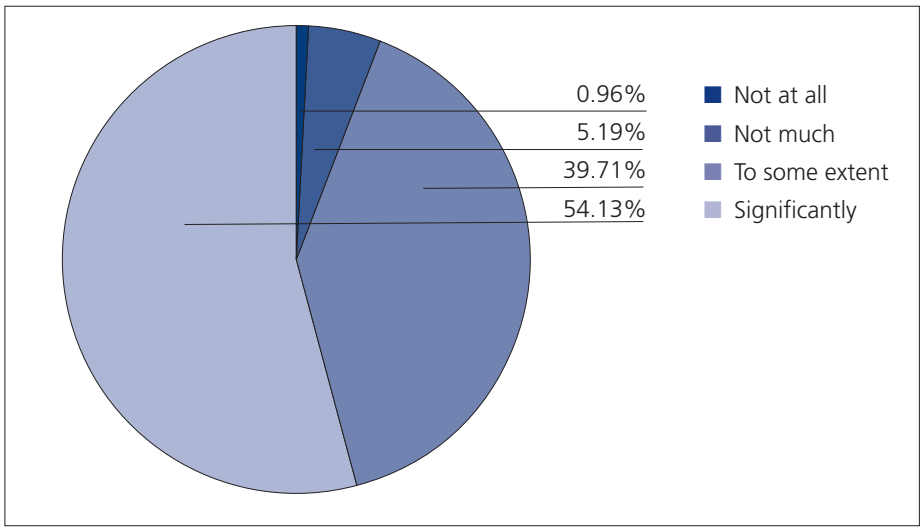


Figure 13: Survey respondents reporting impact in environmental sustainability – 'I have been able to introduce new practices or innovations in my organisation(s) as a result of my award'

What kind of impact was reported in environmental sustainability?

In the first chapter of this report, we considered environmental sustainability in the context of MDG 7 (ensuring environmental sustainability) and MDG 1 (eradicating extreme poverty and hunger). These goals are strongly linked; as pointed out, sustaining the environment is closely linked to food production in the agricultural sector, as well as physical infrastructure such as sanitation and housing. Therefore, this study includes not only the key priority area of Environmental Protection, but also those of Physical Infrastructure and Agricultural/Rural productivity.

Dr Suzana Augustino completed her PhD in Medicinal Plants at Bangor University as a Commonwealth Academic Staff Scholar in 2003. She is currently a Lecturer in the Department of Wood Utilisation at the Sokoine University of Agriculture in Tanzania, where she is an expert in the area of wood science and non-timber forest products, particularly medicinal plants.

'I was recently consulted by FAO (the Food and Agriculture Organization of the United Nations) in Tanzania to conduct an assessment of the potential of non-timber forest products (NTFPs) for ***improved food security*** *and income generation for communities around Rufiji District in the Coastal Region of Tanzania. The district is endowed with natural resources (both flora and fauna); however, communities are still struggling in poverty. FAO wanted advice on how communities can use the NTFP resources to reduce poverty at household level. Positive recommendations were made to key stakeholders in the district and the country as a whole. If they are well implemented, the target communities will benefit from the resources.'*

To gauge the impact of our alumni in these three priority areas, we used three impact indicators: project involvement, government influence, and socioeconomic impact. Respondents were asked to indicate their level of involvement through both professional and voluntary activities in the three key priority areas by ticking one or more of the following statements, if applicable, for each area:

- 'I have been involved in one or more specific projects in this field'
- 'I helped influence government thinking and policy in this field'
- 'I have contributed to wider socioeconomic impact in this field'

With over 700 respondents – the largest number of respondents reporting an impact – Environment Protection is the largest of the three areas under examination. Although impact in the priority areas of Physical Infrastructure and Agricultural/Rural Productivity has been reported by more than 500 respondents each, only 188 reported impact exclusively in Physical Infrastructure without reporting impact in Environment Protection. Equally, only a small number (139 respondents) reported impact exclusively in Agricultural/Rural Productivity without reporting impact in Environment Protection and/or Physical Infrastructure. Hence, most of those who reported an impact in Physical Infrastructure and Agricultural/Rural Productivity also reported an impact in Environment Protection.

The following pages will look in depth at all respondents reporting an impact in each priority area separately. It should be noted that some respondents reported involvement in more than one priority area.

Environment Protection

This is the largest of the three priority areas as 32% (723 respondents) of the total survey population (2,226 respondents) reported having impact in Environment Protection. Of these, 71% were involved in a project – the highest project impact measured among the three priority areas under examination.[17] This high figure could be explained by the fact that activities protecting the environment might be more likely to manifest themselves in practical and hands-on interventions, such as public awareness and waste management projects.

28% of those reporting impact in this priority area were women – the highest proportion of all three priority areas. 12% of respondents held 'General' scholarships funded by the FCO/BIS, whereas 38% – the highest amongst the three priority areas – held 'General' scholarships funded by DFID. This high DFID percentage could be linked to the fact that alumni from sub-Saharan Africa and South Asia account for a high number (63.4%) of all survey respondents and alumni from these two regions are solely funded by DFID. Related to this is the possibility that students from developing countries see a greater need for research in environment issues as outlined in MDG 7 because, while the majority of problems are caused by the activities of wealthier nations, the effects are felt more acutely in developing nations.

The largest number of those reporting impact studied a discipline categorised as science, technology and engineering (28%) but, as mentioned earlier in this chapter, it should be noted that the largest number (not proportion) of respondents to the overall survey fall into this category of study. 21% of those studying environment-related subjects and 13% studying agriculture-related subjects reported impact in this area as well. For further information on reported impact in Environment Protection by gender, region, and scheme in absolute numbers, see Appendix 3.

17 This and subsequent percentages – in contrast to Figure 14 – refer not only to those exclusively reporting project involvement, but also to those who mentioned government and/or socioeconomic impact in addition.

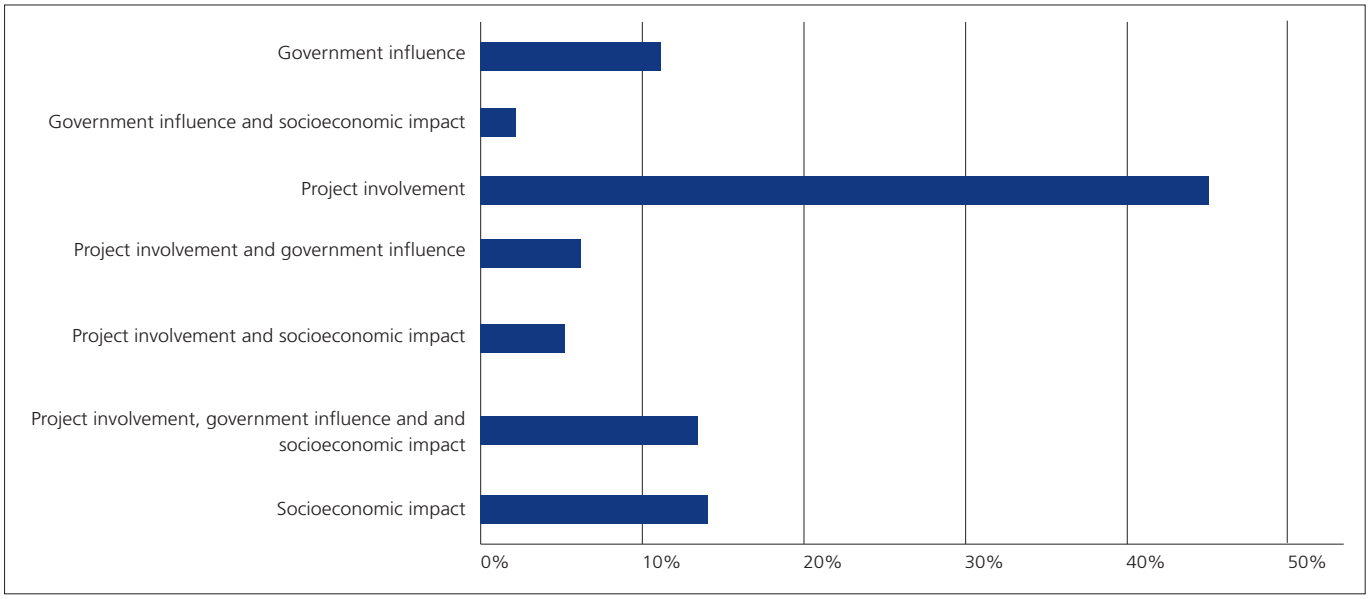


Figure 14: Reported impact in Environment Protection, by type of impact

Physical Infrastructure

The smallest priority area of the three focus areas of this report, 23% (510 respondents) of the total survey population reported having an impact in Physical Infrastructure. Of the 510 respondents reporting an impact in this area, 67% reported involvement in a project in this area, 35% influencing government policy and thinking, and 32% having a socioeconomic impact. Figure 15 splits up reported impact even further, distinguishing between those reporting impact through one, two, or three indicators. Interestingly, this priority area is the only one reviewed here that records a higher influence on government thinking than socioeconomic impact. This might be due to the fact that impact in Physical Infrastructure manifests itself in constructing and maintaining public infrastructure such as roads, airports, and housing, which need governmental planning and coordination.

This is the priority area with the lowest share of women reporting impact (23%). This might be related to the fact that Physical Infrastructure is associated with engineering, which is generally considered to be a male-dominated field. Those who held 'General' scholarships funded by the FCO make up only 10% of respondents, whereas those who held 'General' scholarships funded by DFID comprise 36%. As with the previous priority area, the largest number of those reporting impact studied a discipline categorised as science, technology and engineering (29%). Again, this is influenced by the overall make-up of the total survey population. 22% of those reporting impact in this priority area studied environment-related subjects, interestingly followed by health (15%), and then agriculture-related subjects (9% only). For further information on reported impact in Physical Infrastructure by gender, region, and scheme in absolute numbers, see Appendix 4.

Agricultural/Rural Productivity

26% (575 respondents) of the total survey population reported having an impact in Agricultural/Rural Productivity. Of these, 69% reported involvement in a project,[18] 34% influencing government policy and thinking, and 43% having a socioeconomic impact. As Figure 16 shows, this is the priority area with the highest reported socioeconomic impact amongst the three under examination. The relatively high share of socioeconomic impact may be linked to the logic that successfully tackling nationwide and systemic issues such as food security and poverty reduction requires the involvement of all parts of society.

18 This percentage includes project involvement on its own, in combination with government influence, socioeconomic impact, and all three taken together.

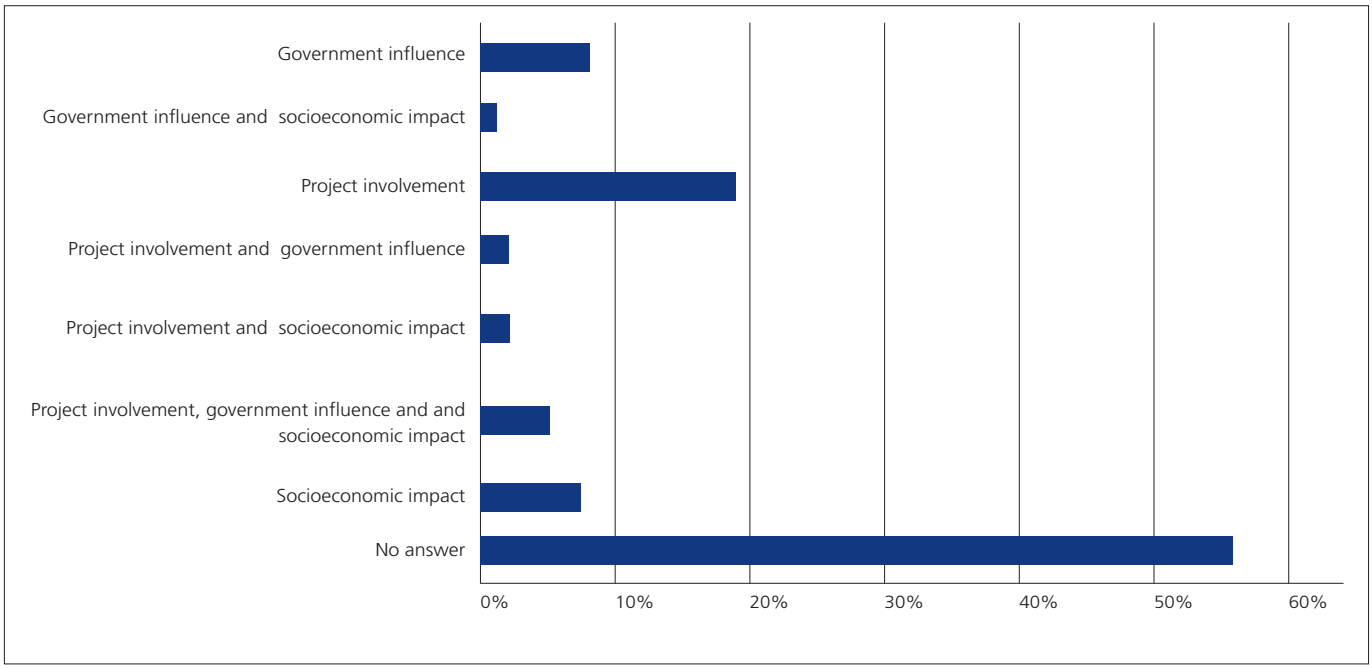


Figure 15: Reported impact in Physical Infrastructure, by type of impact

In terms of gender, 26% of those reporting impact in this priority area were women. Only 8% of respondents held 'General' scholarships funded by the FCO – the lowest share of any of the three priority areas. Apart from the above-mentioned composition of the overall survey population, this might be due to the study of, for instance, agricultural production and food security being a lower priority for students from developed countries. Again, the largest number of those reporting impact studied a discipline categorised as science, technology and engineering (27%), followed by those studying agriculture- and environment-related subjects, with 26% and 11% respectively. For further information on reported impact in Agricultural/Rural Productivity by gender, region, and scheme in absolute numbers, see Appendix 5.

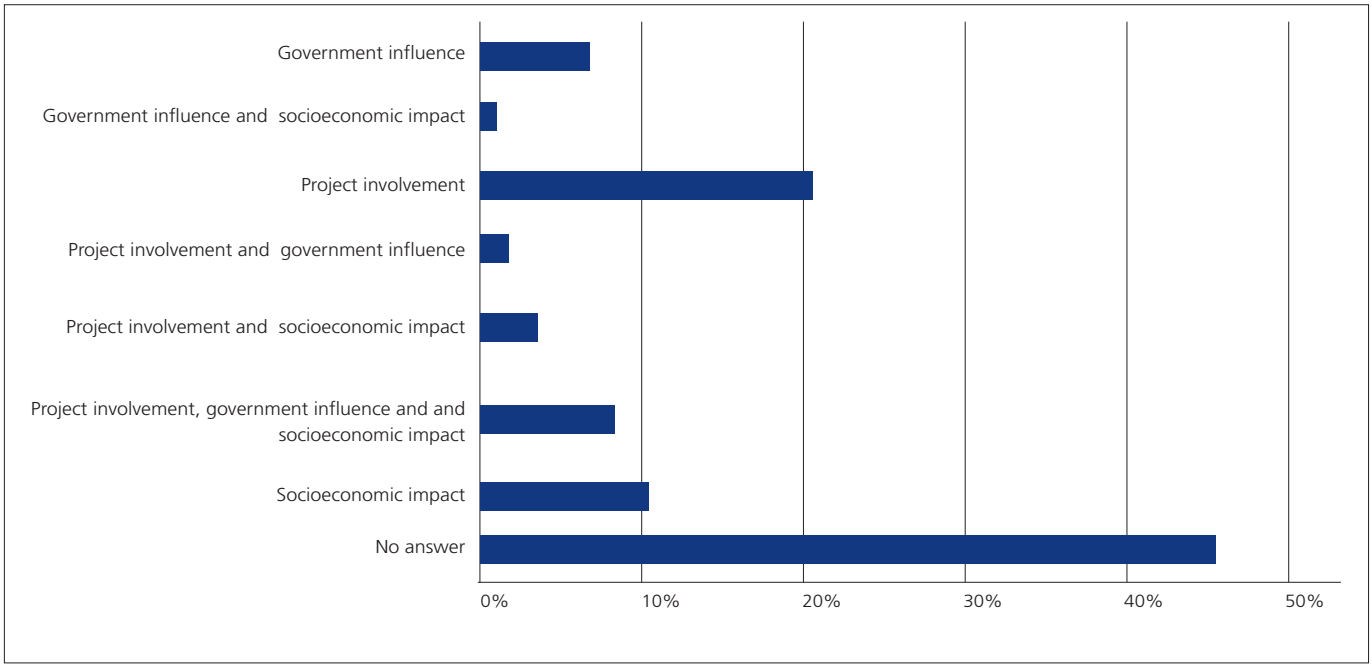


Figure 16: Reported impact in Agricultural/ Rural Productivity, by type of impact

Summary

- There was a strong increase in award holders reporting impact in environmental sustainability, from 6% in the 1960s to 46% in the 2000s.
- More than 70% of respondents reporting impact in the field of environmental sustainability were from sub-Saharan Africa (37%) and South Asia (35%).
- 27% of respondents reporting impact were women and 73% were men, which is slightly lower than the gender distribution of the overall survey population (32% and 68% respectively).
- In agriculture and environment disciplines, 92% and 78% of the respondents respectively reported having an impact.
- 24% of respondents reporting an impact in the field of environmental sustainability were Academic Fellows, whereas such award holders made up only 19% of all survey respondents.
- 100% of respondents who reported impact in the field of environmental sustainability stated that they have gained some knowledge in their field of expertise, and equally 99% reported that they increased their analytical and technical skills.
- 93% of those reporting impact in the field of environmental sustainability live and work in their home country; of the remaining 7%, almost a third still work in their home region.
- Regardless of their employment status before the award, 88% of respondents reporting an impact in environmental sustainability stated that they obtained advancements *after* the 12 months following their award.
- An overwhelming majority of 97% of respondents reporting an impact in the areas under examination stated that the award increased their ability to have influence and make changes in their work. 98% reported that they used specific skills and knowledge gained during their award in their work.
- 74% of respondents reporting impact in the field under investigation stated that they have maintained links with universities in the UK significantly or to some extent.
- Overall, 94% of respondents reporting impact in the field of environmental sustainability said that they were able to introduce new practices or innovations in positions, whether voluntary or professional, that they have held since their award, as a result of the skills and knowledge acquired.
- Only 188 reported impact exclusively in Physical Infrastructure without reporting impact in Environment Protection, and only 139 respondents reported impact exclusively in Agricultural/Rural Productivity without reporting impact in Environment Protection and/or Physical Infrastructure.
- With regard to the type of impact, for almost all three priority areas the most commonly reported type of impact was through involvement in projects, followed by socioeconomic impact, and then influence on governmental policy. The exception to this impact in Physical Infrastructure, where influence on government policy was more likely to be reported than socioeconomic impact (34% and 31% respectively). Agricultural/Rural Productivity is the priority area with the highest reported socioeconomic impact (42%), while Environment Protection is the one with the highest reported impact in project involvement (71%).

Robinah Kulabako completed an MSc in Environmental Engineering at the University of Manchester as a Commonwealth Scholar in 1999. She is employed as an Assistant Lecturer in the Department of Civil Engineering at Makerere University in Uganda, where she is a core researcher on an applied research study on community-based solid waste management with resource recycling in a peri-urban settlement in Kampala, the country's capital. She is also leading the Resource Oriented Sanitation Concepts for Peri-Urban areas in Africa (ROSA) project.

'The research study not only seeks to improve the ***environmental sanitation*** *of the settlement, but also to create awareness and enhance community skills on resource recovery/recycling from garbage. Subsequently the communities are able to generate an income through selling the by-products (charcoal briquettes, compost, bags made from plastics).*

'The ROSA project seeks to promote resource-orientated sanitation concepts as a route to sustainable sanitation and to fulfil the UN MDGs. It aims to implement resource-orientated sanitation concepts in four model cities in Eastern Africa (Arbaminch, Ethiopia; Nakuru, Kenya; Arusha, Tanzania; and Kitgum, Uganda), research the gaps for the implementation of resource-oriented sanitation concepts in peri-urban areas, and develop a generally applicable adaptable framework for the development of strategic sanitation and waste plans (SSWPs).'

4. Individual case studies

This chapter presents a selection of case studies of individual alumni who responded to the Phase Two and Phase Three surveys. These case studies demonstrate in further detail the kind of activity that contributes to environmental sustainability, and show the striking diversity of our alumni in terms of geographical and professional locations. The majority of these Scholars and Fellows come from sub-Saharan Africa and Asia. Although these alumni often had a particularly strong impact in one of the three priority areas (and thus a focus on a particular sub-theme of MDG 7 and MDG 1), most of them have addressed more than one challenge outlined by MDG 7 and MDG 1 and have therefore often had an impact in more than one priority area. As a result, these case studies exemplify how interlinked and mutually reinforcing MDG 7 and MDG 1 and the topics covered are when supporting environmental sustainability.

Food security

Dr Sheikh Islam is a 2002 Commonwealth Academic Staff Scholar who studied for a PhD in Geography at Durham University. He is now Associate Professor in the Geography and Environment Department at Jahangirnagar University in Bangladesh, where he has been actively involved in the areas of food security in rural areas, environmental management, conservation and protection, and climate change.

'I, along with my three colleagues, have established a paddy bank in the northern part of Bangladesh to ***ensure food security*** *of hungry people when access to food is difficult for them. They return the loaned paddy to the bank once they get the crops from the field. This season, the bank supported about 1,250 people in the area. So far this charitable initiative has been successful and has got wider recognition from different corners of society. Thus this activity in rural Bangladesh has contributed to developing the resilience of the community and to wider socioeconomic impact.*

'I have been improving the quality of education through different initiatives at the university where I am currently working. ***Environmental management and conservation and protection*** *are my core areas of work. I am contributing to different NGO initiatives in this regard. Recently, I conducted a two-day workshop on* ***climate change*** *and its potential impacts in Bangladesh at national level. In addition, my proposal to develop a micro-climatic database for Bangladesh received attention from donors and government agencies. It is sure that the skills, methods, and leadership quality that I gained from my UK experience help me a lot to make positive changes in Bangladesh in many different ways.'*

Dr Harsh Mehta held a Commonwealth Academic Fellowship in Molecular Genetics at the University of East Anglia in 1998. He is now a Senior Scientist in the Division of Plant Science at the Central Soil and Conservation Research and Training Institute (ICAR) in India, where he has been conducting research to help rural farmers in poverty by developing high yield crops.

'My work is primarily associated with strategic research which is beneficial to farmers. I standardised tissue culture facilities for in vitro micropropagation of elite clones of native agroforestry tree species of Grewia optiva *and a recent introduction from China,* Paulownia fortunei. *The elite clones are being tested on farmers' fields in suitable agroforestry systems up to middle elevation in the Central Himalayas (500-2000*

metres above sea level). This will help ***generate extra income and raise the living standards*** *of farmers below the poverty line.*

'Another research project was initiated for the genetic improvement of minor millets (finger millet, barnyard millet, and proso millet). High-yielding short duration genotypes of minor millets have been identified which will help increase the cropping intensity. I am also discharging the duties of Officer-in-Charge and Central Public Information Officer at the Institute Technology Management Unit, which looks after the commercialisation and transfer of technologies related to ***natural resource management*** *to farmers.'*

Climate change and environmental resources

Sachooda Ragoonaden was awarded a Commonwealth Scholarship in 1969, to study a BSc in Meteorology at the University of Reading. As Deputy Director of Meteorological Services in Mauritius, he is responsible for the operational division of the organisation and is an expert in marine meteorology. At international level, Sachooda is involved in all activities relating to climate change and marine meteorology/oceanography of UNESCO's World Meteorological Organization Intergovernmental Oceanographic Commission (WMO-IOC).

'I have been involved in numerous projects to enhance the meteorological and oceanographic observations network in Mauritius and the southwest Indian Ocean. I also took the initiative to install a sea level station in Mauritius and Rodrigues to monitor sea level variation and detect sea level trends in the southwest Indian Ocean. I have written several papers on extreme events – tropical cyclones, tidal waves, floods and drought – in the southwestern Indian Ocean which are now references. I have also contributed to many research papers to ***improve tropical cyclone forecasts*** *in the Indian Ocean region, to save life and property. My present activities are to raise awareness of the* ***impacts of climate change on ecosystems and socioeconomic sectors*** *and measures to be taken to contribute to* ***combat climate change and sea level rise****. I have given many talks and presentations to schools, youth, and senior citizens.'*

Dr Thusitha Rukmal Jayasooriya is a 1996 Commonwealth Academic Fellow in Molecular Biology at Cardiff University. She is now Dean of the Faculty of Natural Sciences at the Open University of Sri Lanka, where she is contributing to capacity building with the government in relation to environmental science and sustainable development.

'I am involved in teaching the basics of ***environment science*** *to officers (non-science graduates) in the Central Environmental Authority, Forest Department, Water Board, Road Development Authority, Livestock Development Board, Land Reclamation Board, and other NGOs who are not competent in the scientific field, thus enabling them to study for a Master's degree in the field. The knowledge they gain by doing the MSc is helpful in their professional careers and in* ***supporting economic development*** *in Sri Lanka.*

'As Course Director for two short courses (cardiovascular health and mens' sexual health and reproduction) delivered online to general medical practitioners in Sri Lanka, I was able to assist in upgrading the knowledge of doctors who are responsible for treating large numbers of patients who cannot afford to go to private clinics and hospitals.'

Sanitation and safe drinking water

Dr Chee Woon Wang was a Commonwealth Fellow in 1983 at the University of Birmingham, where he undertook biotechnology training. He is now Professor at the Department of Molecular Medicine at the University of Malaya, Malaysia.

'I have been involved for the last 25 years in developing criteria and standard for river water, ground water and marine water qualities. I have participated in an International Development Research Centre project/programme for at least 10-12 years on ***safe drinking water and basic sanitation****, particularly in rural areas. I have developed a field test kit for bacteria enumeration in rural areas based on coliphage methodology. I have worked on heavy metal contamination in cockles, harvested from the Mangrove forest estuarian waters. Cockles are important bivalves consumed by people and provide rich protein food for rural and urban areas.'*

Dr Emmanuel Matthew Akpabio is a 2004 Commonwealth Split-site Scholar, and spent time at Lancaster University as part of his PhD in Environmental and Resource Management at the University of Uyo, Nigeria. Now a Research Fellow at the Centre for Development Research, Department of Political and Cultural Change at the University of Bonn in Germany, Emmanuel has had significant influence in improving rural water resources in his home country and in developing international research collaborations to increase the capacity of his home university.

'My research publications have been useful to local policymakers. Between 2009-2010, the Ministry of Environment in Akwa Ibom State sought and obtained copies of my research articles to be used internally in their various environmental education programmes. In 2010, the Ministry of Rural Development sought a copy of my published thesis to be used as a guide in their various ***rural infrastructural development projects****, particularly water resources. The Permanent Secretary in the Ministry followed it up and invited me for a meeting to draw up a proposal to the State Government on the development of rural water resources. I participated in the meeting and subsequently contributed in drawing up a proposal.*

'I was nominated as a lead resource person for a regional project funded by the Niger Delta Development Authority (NDDC) on ***flood and erosion control*** *in Akwa Ibom State. I led comprehensive fieldwork and contributed to generating ideas on contexts and locally-specific solutions. An important developmental output of the project was that the weather monitoring and services units of the University of Uyo and the Cross River Basin Development Authority (CRBDA) were equipped and strengthened with the latest equipment.*

'I have contributed in fostering academic, institutional, and research collaboration between the University of Uyo and international partners. Such initiative builds on my initial involvement in the Higher Education Link Scheme between Uyo and Lancaster University, for which I was the Deputy Coordinator. The opportunity afforded me tremendous exposure, and a chain of opportunities and contacts which I effectively utilised in strengthening the internationalisation project of the University of Uyo. Such contacts and opportunities have helped in developing and strengthening the capacity of the University of Uyo through research, staff and student exchange, and training, as well as in the area of critical and relevant infrastructure enhancements. I am currently negotiating the possibility of extending the German-Ghanaian research collaboration, funded by the Deutscher Akademischer Austauschdient (DAAD), to the benefit of the University of Uyo. As an initial welcoming gesture, one slot for a doctoral scholarship has been potentially conceded to the University of Uyo, through

which one PhD candidate will be fully trained in Germany and Ghana as a capacity-building gesture. Once the envisaged collaboration is operational, it is expected to serve as a triangular academic and institutional link scheme between two regional universities (Ghana and Uyo) and one university in Germany (Bonn).'

Renewable energy

Professor I M Dharmadasa held a Commonwealth Scholarship in 1977, to study a PhD in Solid State Electronics at Durham University. After completion, he returned to his post at the University of Peradeniya in Sri Lanka for four years, and then came back to the UK. He now holds dual citizenship, and continues to work on projects that benefit his home country.

'I am mainly focusing on solar energy conversion using photovoltaic devices (solar panels). This work started with my Commonwealth Scholarship in 1977. About 22 years ago, I started to take clean energy technologies from the laboratory into society to improve the livelihoods of deprived communities. With DFID funding and British Council management, I coordinated a Higher Education Link programme in the 1990s to use ***renewable energy techniques for social development and the reduction of poverty****.*

'While continuing this promotional work, I designed a project called "Solar Village", which was piloted in September 2008 in Sri Lanka. Under the pilot, a solar water pumping system provides clean water for drinking and various other activities in a cluster of three villages. The participants pay for their water and build up a common fund for the community. A village committee manages the funds and various development projects for sustainable development.

'At the beginning, the system was providing water for 90 families but, during the last three years, the number of connected households has increased to 130. With the funds collected within the community they have added more solar panels to keep up with high demand. Within the community, there are many other projects taking place, for example, tree planting, organic agriculture, beekeeping, and brickmaking. Part of the funds are used to improve the village pre-school, school library, and temple. After monitoring the success over the past three years, this project is now ready to be widely replicated within Sri Lanka and outside. I am continuously looking for mechanisms to replicate this project by seeing its impact on the pilot community.'

Rural housing

Prof Md Zainul Abedin is a 1992 Commonwealth Academic Staff Scholar who studied for a PhD in Agricultural Engineering at Newcastle University. He is now a Professor in the Department of Farm Structure at Bangladesh Agricultural University.

'I am involved in a project called "Rural Houses with Ferro-Cement Shell Roof and Bamboo". Such houses are a good protection against natural calamities and hazardless to the environment. This ***housing technology is sustainable and environmentally safe*** *and can be recommended for cyclone-battered and flood-prone rural areas. The proposed house is structurally safe, durable, cost effective, and functional without any risk. The construction cost is within the reach of low income generators. Bamboo is recognised as a building material for it is cheap and plentiful and can be used as a reinforcing material alternative to steel. The procedure of transfer of this sustainable technology could be through* ***rural development enterprise/construction*** *and farms or NGOs, irrespective of gender involvement.'*

An alternative perspective: a host organisation's view

The UK **Environment Agency** has hosted Commonwealth Professional Fellows since 2003. During this time, around 50 Fellows from Tanzania, Uganda, Kenya, Ghana, Nigeria, South Africa, Sri Lanka, and Pakistan have spent periods of three months at the organisation.

'The Environment Agency takes a strategic approach to the Commonwealth Professional Fellowship scheme, working with our international partners to develop programmes which meet their needs as well as deliver environmental outcomes in the UK.

'Our programmes focus on "practitioner to practitioner" learning, which exposes Fellows to a range of activities to ensure the best possible conditions for the ***transfer of knowledge and skills****. This encompasses desk-based research, attending meetings with internal and external staff, site visits, and practical hands-on training. Feedback from previous programmes supports this approach as a means of creating the best possible conditions for knowledge transfer. Not only does this programme add value to existing relationships and programmes, it is a great way of starting new ones.*

'Since 2003, our Fellows have achieved a lot in terms of implementing the knowledge from their placements. In 2006, Anna Maembe, who at the time was Director of Environmental Information, Communication and Outreach at the National Environment Management Council in Tanzania, undertook a Professional Fellowship to learn about our different environment management processes for water, land, and air, as well as understand how we communicate to the public and others about the environment. On her return to Tanzania, Anna implemented a new web portal for ***sharing environmental information about industries****, and helped develop guidelines for environmental regulation in the areas of bio-fuels, mining, and telecommunications.*

'In 2005, we hosted Benjamin Langwen, Deputy Director of Compliance and Enforcement at the National Environment Management Authority (NEMA) in Kenya. We have continued to engage with NEMA Kenya to understand their strategic priorities and how we can support them through the Professional Fellowship scheme. Next year we hope to add value to Benjamin's first placement by hosting him a second time, along with Fellows from Uganda and Nigeria, to take part in a programme to develop laboratory management and analytical skills. Benjamin is responsible for setting up an environmental laboratory within NEMA Kenya, so this placement fits well with his responsibilities. Scientific data is also integral to successful ***compliance and enforcement of environmental regulation****, so the placement also supports the risk-based approach to regulation which he implemented following his last placement. This programme also is also aligned with our new model for the Professional Fellowship scheme, as it will benefit the Environment Agency through staff development opportunities. It will also help us to more accurately target our commercial services through understanding the requirements of laboratories in developing countries.'*

5. Assessing impact in environmental sustainability: interviews with individuals

Phase Three of the CSC's Evaluation Programme seeks to better understand what changes in individual award holders' professional lives and careers, as well as their impact on wider society, can be attributed to their scholarship or fellowship. Therefore, in order to gain an understanding and demonstrate the impact that Commonwealth Scholarships and Fellowships have at both individual and societal levels, we interviewed four alumni who had said that they would have been unlikely to undertake a similar programme in their home country without their award, and who had reported having an involvement in at least one of the three priority areas contributing to environmental sustainability: Environment Protection, Physical Infrastructure, and Agricultural/Rural Productivity.

The interviews highlighted the wide range of environment-related roles in which our alumni are involved, and a number of recurring themes concerning the impact of their awards. As with our previous studies, it is clear from the interviews that award holders are able to gain a wealth of knowledge and skills that they then apply in their careers, and ultimately have a positive impact on the environment in the academic sphere, as well as in the wider area of environmental sustainability. This chapter begins by profiling each of the interviewees. It then seeks to draw out the impact that the awards have had on the individuals' professional development and surroundings. Finally, it outlines the award holders' major accomplishments, further demonstrating the long-term impact that awards can have on the environment.

Who did we interview?

Professor Anoja Wickramasinghe – Sri Lanka

Anoja was awarded a Commonwealth Scholarship in 1980, to study a PhD in Forest Ecology at the University of Sheffield, where she had previously completed an MSc in Applied Geomorphology and Natural Resources. She is currently an Emeritus Professor at the University of Peradeniya, Sri Lanka, and is an expert on social forestry and gender. Anoja coordinates the National Network on Gender and Energy (NANEGE), and is a member of the Committee of Biomass Energy, through which she provides advocacy services to the energy sector. Her specific angle at the moment is covering the Millennium Development Goals from the perspectives of gender, natural resource management, and biomass development.

Dr Nicholas Ozor – Nigeria

Nicholas undertook a Commonwealth Split-site Scholarship at the University of Reading in 2005. He completed his University of Nigeria PhD in Agriculture in 2006, writing his thesis on cost sharing of agricultural extension services between the government and farmers. His PhD thesis won a government award, and the federal government plans to publish a revised version as a book to be distributed to all universities across Nigeria. Nicholas is currently on secondment from his post as a Lecturer at the University of Nigeria, and is working as a Senior Research Officer at the African Technology Studies Network (ATPS) – a trans-disciplinary network that promotes science, technology and innovation development in Africa.

Professor Lenah Nakhone – Kenya

Lenah Nakhone is a Commonwealth Scholar who completed her PhD in Soil Environmental Chemistry at the University of Nottingham in 1990. She is currently an Associate Professor in the Department of Soil Science at Egerton University, Kenya. She is also Principal of the Nakuru Town Campus College and a member of the University Council. In addition, Lenah is involved in volunteer work in the areas of water and sanitation, environmental protection, food security, and education.

David McDonald Bynoe – Barbados

David McDonald Bynoe is a 2006 Commonwealth Scholar from Barbados. He completed an MSc in Environmental Economics and Environmental Management at the University of York. He is currently National Coordinator of the Global Environment Facility Small Grants Programme in Barbados. He previously worked as an Agronomist at the Ministry of Agriculture, where he was heavily involved in shaping public policy on sustainability and agriculture. He is also a member of the Green Economy National Steering Committee, where he advises on the economics of the ecosystem and biodiversity.

What did we find?

We found that awards had a significant impact at a wider societal level with regard to environmental sustainability, as well as at individual level. Award holders were able to make impacts at national policy level. All interviewees involved in the academic sphere were able to implement substantial changes in policy at university level, demonstrating the wider influence that award holders have upon completing their degrees.

Career development

Awards provide the opportunity for individuals to further develop their careers, often in ways that would not otherwise have been possible. Lenah notes that 'Without the experience I had at the University of Nottingham, I would not be where I am now or in the position that I am in to influence the university and society at large'.

Anoja said that it was a privilege to obtain a PhD from an overseas university, and that this qualification enabled her to apply for the next steps in her career. Upon completion of her PhD, she was immediately promoted to Senior Lecturer – a position which, in her view, would have been far more difficult to attain without her Commonwealth Scholarship. The award was also necessary in order to undertake research, apply for grants, and supervise students – it enabled her to be perceived as a qualified academic. It provided her with specific research methodologies which she was able to use in building up her own students' capacity at the University of Peradeniya. Her reputation and progress led to her contributing to the United Nations Convention on Biological Diversity and Commission on Sustainable Development, drawing attention to grassroots issues in these areas.

When Nicholas finished his PhD, he was promoted to the position of Lecturer I at the University of Nigeria. He said that studying at the University of Reading enabled him to publish in reputable international journals, which greatly contributed to his promotion. Lenah also commented on her Commonwealth Scholarship having an impact on her ability to publish in journals. 'The exposure helped me to publish in veritable journals. As

such, I became eligible for promotion to senior levels in academic fields, and I became a Senior Lecturer. I proceeded, with contacts I made in Nottingham and my other colleagues, to publish more, and then I got Associate Professorship. Once I became an Associate Professor, then I was eligible to enter into senior administrative positions where I can influence the direction in which the university is going.'

David was nominated by the Government of Barbados as a Caribbean-Canadian Emerging Leader, as which he participated in a week-long dialogue on environmental policy issues. 'I think having the background in environmental economics and also having the experience of being a Commonwealth Scholar contributed to me being nominated and elected.'

Building technical capacity

All of the interviewees said that their awards provided them with invaluable technical skills, which they have been able to use in their areas of work. Lenah said that 'the technical skills I gained at the University of Nottingham are a great asset to me when I'm directing my postgraduate students in their work'.

David explained that, due to a lack of environmental economists in Barbados, environmental evaluation was a key technical skill that he acquired while in the UK, in addition to environmental evaluation resource economics. 'What helped me most was understanding the context in which organic agriculture functions at the international level and to understand the economics behind it properly and the impact it has on the environment, and then being able to apply it to real world circumstances.' He uses many technical skills that he learnt during his award on a day-to-day basis, as well as in the technical services he provides for various non-governmental organisations (NGOs).

Nicholas said that his award exposed him to new research skills and methodologies, and new quantitative and qualitative data analysis software that he had not previously used. Anoja said that she became engaged in scientific investigations in the area of soil science and land identification and on modelling forest and tree growth, which she had previously not been exposed to, and was also able to conduct in-depth lab analyses during her award. Additionally, she said that she attended many workshops and took part in both formal and informal discussions, which all contributed to building up technical capacity, something that was not available in Sri Lanka at that time.

Networking

Networking was also a major positive outcome that both Nicholas and Lenah highlighted. Nicholas said that his award provided him with invaluable opportunities to network with people from different countries and cultures, many of whom he is still in contact with. 'Networking with people, research groups, and universities in the UK has enabled me to have a different approach in my research outlook. It has opened doors in terms of the new skills that I have gained, and the new people that I have known and what we can do together. The ability to reach them has afforded me the opportunity to forge ahead in my career.'

Lenah said that networking with people from the University of Nottingham has given her a number of strong professional contacts who she works with and consults on various projects. Anoja also said that networking enabled her to establish international collegiality.

Other benefits

The interviewees reported a number of other benefits, including both professional and personal developments. Professionally, David said that his award 'has allowed me to contribute to policies on a local level and even a regional level, because there are few environmental economists in the Caribbean'.

Nicholas also said that that his award played a large role in laying the foundation for his successful career development in agriculture and environmental sustainability. 'The CSC provided the pillar, the background, the foundation, from which I am also building other strengths in my career. The mentorship from my supervisors, the exposure through the award process, and the networks have enabled me to engage in other collaborative research activities across the globe where, in most cases, I do provide leadership. It is through the Commonwealth Scholarship that I first travelled to the UK.'

Anoja said that studying at the University of Sheffield fostered a creative environment which enabled her to develop her own ideas with proper support and guidance. 'UK universities encourage you to think very broadly and individually, and to decide yourself, make judgements according to the situation, and develop your own capacities. I really appreciate this system.' She also commented on the reputational benefits of being a Commonwealth Scholar, as it enhanced her opportunities. 'The award allows you to prove your capacities at very high standard amongst the university community. You are recognised as a capable person, so people do not have any doubts in giving you grants.' Anoja went on to hold posts at the University of Amsterdam, Netherlands, and the University of British Columbia, Canada.

Nicholas also said that there is a level of prestige associated with Commonwealth Scholarships, and that this played a contributing factor in choosing this scholarship over others that he had been offered. 'As I grew up in the academic world, I found that one of the most prestigious awards is the Commonwealth Scholarship. So it had been at the back of my mind to be a Commonwealth Scholar and I always looked for Commonwealth Scholarship opportunities.'

Lenah said that her experience at the University of Nottingham provided her with other useful tools in addition to academic knowledge. 'There are many things that I gained, apart from the academic side of the programme – running of departments, running of facilities and, in general, running of the school – which have been of great use to me.'

David highlighted the personal benefit he received from the award, and said that working with people from varying backgrounds and cultures was a valuable experience. 'I found that, within UK universities, it is very multicultural. You find people from all over the world and it is an atmosphere where you work together in harmony to get the work done, and I think that helped me a lot in my professional development. When I travel, I deal with people from all over the world and I already have a benchmark to measure how I can approach a particular situation or how I can relate to people from different cultures.' David also felt that the experience significantly improved his social skills. 'Although my wife was with me, being alone together in the UK, away from your home country, builds a sense of maturity because you now have to do everything on your own without depending on family to assist.'

Maintaining contacts

All of the interviewees reported maintaining contact with their supervisors, professors, and other colleagues whom they had met during their time in the UK. Lenah is in contact with her supervisor and former colleagues who were also completing their PhDs at the University of Nottingham. She has been able conduct research and form partnerships and associations with some of them.

Nicholas is in contact with his PhD supervisors in both the UK and Nigeria, and he often collaborates with them on international projects. He is also in touch with other colleagues who were studying for PhDs at the same time, and he has been able to provide them with consultancy work. 'I am in contact with most people who I found relevant in my area, and who I feel have the capacity to deliver what I want.'

Anoja also reported being in contact with her supervisor and colleagues, as well as developing new contacts through connections she made during her time at the University of Sheffield. 'I was able to expand my relationships, and I now know more than a dozen good academics in the UK.'

David is in close contact with some of his professors and colleagues from his course, as well as people he met going to church in the UK.

These comments from the interviewees all demonstrate that coming to the UK creates long-lasting relationships, which have benefits at both professional and personal levels.

Voluntary work

Our findings show that all of our interviewees engage in some type of voluntary activity. Lenah is involved in voluntary work in the areas of water and sanitation, environment protection, food security, and education. David volunteers for various NGOs, including the Barbados 4H Foundation, Young Women's Christian Association, and the Diabetes Association of Barbados.

Anoja engages in a variety of voluntary work, including environmental advocacy, community mobilisation projects, and tree-planting and reforestation programmes. Nicholas also provides voluntary services through reviewing articles for journals and acting as an external independent reviewer for various academic journals.

Through their volunteer work, these award holders are able to have a positive impact on the environment, through both on-the-ground activities and academic contributions.

Benefits to studying in the UK

All of the interviewees reported that there were significant benefits to undertaking a degree in the UK, compared with their home countries.

Nicholas reported that the infrastructure and resources available in the UK were far more advanced than in Nigeria. 'Comparing the work and academic environment, I would say that they are no match. In terms of effective teaching and learning, infrastructure, and other resources, it is a lot better in the UK, where there are lots of ways you can access information. You also have a very stable environment to work in. You don't have power failures. You will always have internet access. And, if you are working in the laboratory, your materials are always there.'

Anoja appreciated the work environment in the UK, as she felt that her supervisors and professors were very supportive and allowed her to make her own choices and decisions, whereas this kind of student-teacher relationship did not exist in Sri Lanka at that time. 'I did not expect that much freedom in the UK or that the staff would be so open and we could discuss our problems – though, when I was going to the UK, it is something I wanted to develop.'

Prior to his award, David studied for his undergraduate degree in Trinidad and Tobago. He found that this experience prepared him well for his intense one-year Master's course at the University of York, but that more resources were available in the UK. 'I found that the level of capability in the UK is greater because of technical capacity and because there are greater resources to draw upon, in terms of the types of equipment that are available to do research, which are absent in the Caribbean.' He also said that studying in the UK allowed him greater access to materials necessary for his research. 'Once you are studying in the UK or the European region, you have relatively easy access to data for writing your Master's or PhD thesis. Within the Caribbean, you can't do a lot of the research you want to because the data is just not available; the information may be there but not in a format that you can easily carry out systematic research to get good results.'

Lenah highlighted that there was better equipment available in the UK, as well as much closer supervision from professors. 'The programme in the UK was very intense. They prepare you for your PhD work, unlike most of our universities here, where you just go and hand in your projects. In the laboratories, being a science-based course in the UK, it was very well equipped, compared with other universities in east Africa that I know. And I found the supervision was very close. That doesn't happen here often. For example, in the UK, I only took three years to finish my PhD, whereas in Kenya it takes seven years, sometimes more.'

What is their long-term influence?

Anoja Wickramasinghe

Upon completion of her PhD, Anoja immediately became a specialist expert in the Department of Geography, and the faculty as a whole, at the University of Peradeniya. She was able to introduce new courses at the university in natural resource management, group forestry, and gender and development, for which she developed the entire curriculum. Anoja was Head of the Postgraduate Unit in the Faculty of Arts for five years, and was responsible for developing all curricula for the faculty. Additionally, she restructured the faculty by implementing a streamlined approach to sound research practices, which had not previously been in place.

Anoja has played a significant role in bringing social community perspectives into the technical forestry and energy profession in Sri Lanka. Since the 1980s, her name consistently appears in publications related to the subject area. She was also heavily involved in community engagement with forestry issues in Sri Lanka as, at the time, local communities were involved in forestry far more than the state. Anoja was able to work very closely with local communities and provide guidance on forestry matters. She empowered them to think broadly and enabled them to work openly with state agencies. She also eliminated alienation of the local community from forestry-related participation, which had previously been the case in Sri Lanka. By working on both sides, she was able to bridge the gap between the government and the local people. 'I empowered local people to negotiate with the government and use their experience to aid government officials to think about local communities as partners in forestry management.'

Anoja's expertise has also been used for other regional projects funded by various donor agencies, including the United States Agency for International Development (USAID), the Forestry/Fuelwood Research and Development Project in Asia (F/FRED), and the British Overseas Development Agency (ODA), now DFID.

In the 1990s, Anoja became a specialist on women in forestry and their role in the whole sector. She was invited to a Commonwealth symposium to make a presentation on this topic. She has also worked in the areas of watershed management, biodiversity, and agroforestry, in which she conducted nationwide studies on home garden development.

Throughout her career, Anoja has established partnerships between the University of Peradeniya and UK universities, such as the University of Aberdeen. She was also involved in regional collaborative research networks funded by the British Council, through which she travelled to Nepal and Bangladesh to identify and train researchers to support international forestry-related research. Two scholarly books have been published through this, with support from the British Council.

Additionally, during the 1980s and 1990s, Anoja was able to negotiate with donor agencies, including the World Bank, International Fund for Agricultural Development (IFAD), Food and Agriculture Organization (FAO), and the Regional Wood Energy Development Programme amongst others, to secure grants that enabled her to support

the work undertaken by her research students. In this way, she was able to provide invaluable opportunities to students working in the field of forestry, as well as the wider areas of environment, development, and gender.

Anoja undertook a training programme for the United Nations Development Programme (UNDP) on environmental management at Yale University, USA, and on community forestry in Asia at Kasetsart University, Thailand. Upon completion of the programme, she returned to Sri Lanka and became a senior trainer on environmental management. She also used the knowledge and skills from this course to train environmentalists from the Maldives.

It is clear that, throughout her meaningful career, Anoja has made significant impacts on environmental sustainability and gender-related issues. She has been involved in many development projects empowering local marginalised communities, and has played a major role in supporting women in forestry. Her studies while on award 'allowed me to develop my own capacities to discuss things relative to my field. Those are the skills that I really gained whilst being in the UK.'

Nicholas Ozor

Nicholas is currently engaged in research, capacity building, and policy advocacy on issues relating to science, technology, and innovation (STI) for African development. "We promote and also guide policymakers to be able to make use of the research outputs generated by researchers. We try to bring together and strengthen linkages between researchers and policymakers and, most importantly, private sector actors (industry), civil society, and the media.'

At the University of Nigeria, Nicholas has played an instrumental role in promoting the issue of climate change adaption capacity. The university is in the process of implementing a Master's programme on climate change, economics, policy and innovation, due to his role in inspiring the university community to act on these issues. The University Senate has also approved the establishment of an Institute for Climate Studies, as a result of the various sensitisation and capacity building efforts engineered by Nicholas.

Working with the African Technology Policy Studies Network (ATPS), Nicholas has facilitated the establishment of STI policies and national systems of innovation in African countries including Nigeria, Swaziland, Uganda, Kenya, and Liberia. These national systems bring together actors from various ministries to conduct research together, while implementing programmes in unison so as not to duplicate functions in order to improve efficiency.

Nicholas has also been involved in training members of parliament in African countries, including Kenya and Uganda, on the issue of climate change. Furthermore, he has trained ministers of education and agriculture on issues of research policy linkages and how policymakers could work better with researchers and practitioners to realise effective policy changes and implementation of programmes at all levels of government.

Nicholas has played a major role in highlighting the issues of genetically modified organisms (GMOs) in Kenya. Through various media outlets, including television and radio, he has discussed the impact of GMOs on the livelihoods of Kenyan people, and outlined both the positive and negative impacts of GMO products, either in researching or consuming them. He is also an expert in low carbon development for African sustainable development and has been invited to give talks on the matter by several media outlets.

Although Nicholas' PhD was awarded in 2006 and he has made significant progression in his career since then, he feels that he will always remain a Commonwealth Scholar and continue to make contributions to the scheme. 'I can say loudly any time that the Commonwealth Scholarship has greatly impacted on my career positively. It is one of the awards I hold dear to my heart for exposing me to wider society and enabling me to interact with people from different cultures, and building a strong foundation for me in my career, in research, teaching, community service, and leadership. I will always recommend people for the Commonwealth Scholarship.'

Through a Developing Partnerships in Higher Education (DelPHE) project, funded by DFID, Nicholas was able to nominate a candidate from the University of Nigeria who was offered a Commonwealth Split-site Scholarship at his alma mater, the University of Reading. 'Though the Commonwealth Scholarship is very competitive, once you get it, you are going to be happy with it.'

Lenah Nakhone

Lenah is the first and only member of staff in the Department of Soil Science at Egerton University to receive a Commonwealth Scholarship. When she returned to Kenya, she was also the only person at the university with a PhD in Soil Chemistry, which enabled her to gain significant promotions. 'I was in charge of the Department of Soil Science for about two years. Then I came to be the Head of the Department for Soil, Crops, and Horticulture for another three years. This was based on knowledge I gained when I was doing a PhD in an area that is not very common in my university.'

Lenah is a member of Soroptimist International, an organisation which works towards female empowerment by creating opportunities for women and girls to transform their lives. In addition, through non-profit organisations as well as Egerton University, she raises money to pay for girls' education.

Specifically in her home country, Lenah is involved in providing safe access to clean drinking water across several schools in the Nakuru district. She also coordinates tree planting projects, tackling deforestation in the Mau forest, and trains farmers in Njoro on how to grow food crops all year round, addressing food security.

Lenah has played a role in biodiversity conservation, through developing training manuals on the topic, and advising on how biodiversity programmes can be mainstreamed into university programmes, which has had a far-reaching impact. She was instrumental in establishing the African Climate Change Fellowship (ACCFP) at Egerton University in 2006 and is a member of its board. 'We contribute by training people on climate change in order to protect the environment and mitigate the negative consequences. This is not just in Kenya or East Africa; we train people from the whole of Africa.'

As a senior member of Egerton University, Lenah has had a great deal of influence on university policy, specifically in the area of admissions, through the Joint Admission Board (JAB) – an umbrella body of public universities in Kenya which seeks to discuss how to admit students, what criteria is used, and the use of affirmative action when necessary.

At government level, Lenah, together with a colleague, has spearheaded a policy of affirmative action and gender mainstreaming in Kenyan public universities. This has had an influence on admissions policy for female students in science and engineering programmes, which has been applied to almost all public universities in Kenya. Since advocacy of the policy began in 1997, she notes a tremendous increase in the ratio of female students; for example, in the Faculty of Health Science at her own university, the

ratio of male to female student admissions is 50:50. 'When women come out to do their work, you find they perform very well, which shows that affirmative action has not negatively impacted on quality.'

As a Commonwealth Scholar, Lenah has proven that she has had an impact on environmental sustainability at university level, by developing programmes on climate change and promoting soil conservation; at national level, by advising the Kenyan government on environmental issues; and at international level, by carrying out various consultancy projects for international organisations such as IFAD. She attributes many of her successes to receiving a Commonwealth Scholarship. 'Whilst in the UK, apart from being exposed to the knowledge, technical skills, and institutional management, other things I learned were the way other societies run, and the philanthropic aspects of development in relation to food security, eradication of hunger, and improving rural livelihoods.'

David McDonald Bynoe

David was recently appointed National Coordinator of the Global Environment Facility Small Grants Programme. When he first returned to Barbados, he developed an organic research and development programme, which ran for over five years within the Ministry of Agriculture. He also provided training on an annual basis for people involved in farming at professional and home garden levels, as well as training for various NGOs in organic agriculture and its economic and environmental impact.

Additionally, for the last three years, David has produced and presented a national TV programme, *Green Living*, which seeks to educate the general public about agro-environmental issues such as climate change, sustainable development, water resource management, pollution control, and waste management. The programme aims to reduce people's carbon footprint, and acts as a platform to encourage the use of alternative sustainable energy sources.

Through these avenues, David has been able to change public perception of agriculture and organic farming, which had previously not been viewed in a positive light by wider society. Using the platform of his television programme, David was able to promote an agricultural innovation called the Pyramid Garden, which allows people to grow a large number of plants within a very limited space – something very beneficial in a small island state such as Barbados. Due to its expediency, the Pyramid Garden was introduced into seven schools and was showcased at the Barbados National Agricultural Festival. 'It shows that the programme could impact public perception as well as national habits.'

David also volunteers for many charities including the Young Women's Christian Association, Future Centre Trust, and the Diabetes Association of Barbados. He is currently President of the National Youth Fellowship of the Church of God, and Vice-Chairman of the Barbados 4H Foundation, an organisation that helps younger people develop their skills in agriculture, entrepreneurship, health, mental development, and social development. Additionally, through the Ministry of Agriculture, he holds regular workshops and provides free courses on organic and sustainable agriculture for the general public, and promotes health and sustainable living.

Despite completing his Master's degree relatively recently, David has already made significant contributions towards environmental sustainability through influencing government policies, as well as having an impact on local communities in Barbados. David said, 'I benefited significantly from receiving the award. My qualifications were improved significantly, not only in terms of having a Master's degree. Attaining a Master's from a UK institution is very well respected in the Caribbean and throughout the world.'

Summary

It is clear that Commonwealth Scholarships have played an important role in promoting environmental sustainability. The impacts that award holders have made can be seen at several different levels: through academic research, which has affected government policy implementation; through international organisations, as all of the respondents have worked with or consulted for major international development organisations (including the World Bank, USAID, IFAD, FAO, DFID, and the British Council, among many others); through the non-profit sector; and through voluntary work. It is evident from the interviews that the scholarships provided a foundation upon which the award holders were able to build and advance their careers. Aside from the academic knowledge that they attained, Commonwealth Scholarships also clearly provided other invaluable resources that have contributed to their successful endeavours in the area of environmental sustainability.

Commonwealth Scholarships also enable award holders to make significant career advancements which would have not otherwise been possible, or which would have taken a substantially longer time to reach. Anoja said that, without her award, she would not have been promoted. 'If I did not have the Commonwealth Scholarship, I would have been at the university as a permanent Lecturer, but as a less recognised teacher with no promotion that I was eligible to secure based on my own merits. Then I would not have obtained any foreign grants, travel grants, fellowships, or anything.'

Scholarships provide the opportunity for award holders to build technical skills not available in their home countries. Nicholas said that he learnt different research skills and teaching methodologies at the University of Reading, which he put into practice upon his return home. 'I tried to transform traditional forms of teaching and learning and applied my research methodologies. I trained other research assistants in using those skills and prepared them for applying those skills in other areas, such as applying for grants and proposal writing, all which I learnt from the UK.'

We also found that Commonwealth Scholarships enable recipients to create strong networks that help them to advance professionally. Nicholas said 'My supervisor introduced me to a broad spectrum of donors, from whom I was able to receive a number of research grants. The Commonwealth Scholarship enabled me to have opportunities to attract grants for my university. I have attracted over 20 grants, both at my university and my current workplace, all ranging in millions of dollars'. All respondents reported maintaining contacts from links they established while in the UK, which demonstrates the value of scholarships in promoting international collaboration.

Other benefits, both professional and personal, of the Commonwealth Scholarship were also discussed, including being able to develop one's own ideas and capacities, carrying out research projects in supportive environments, and engaging with people from a wide range of cultural backgrounds. As David noted, the reputational benefit of receiving a Commonwealth Scholarship is also considered to be highly advantageous. 'There is a certain prestige that comes with being a Commonwealth Scholar. Being part of the alumni, that was a great benefit too.'

The interviewees also highlighted a number of benefits of studying in the UK, compared with their home countries. These included better infrastructure, more reliable work environments, access to advanced technology not available in their home countries, and better access to resources. Nicholas appreciated the integration of technology into the academic environment, which he felt improved students' ability to learn. 'In the UK, they use state-of-the-art technology to teach and students perform really well because the facilities are there, such as the electronic blackboard. The fact that you can teach yourself

from your own system means that you can learn even if you don't attend the lecture, because you can access lecture materials from your home. These things are not available in most universities in developing countries.'

Through academic research, shaping public policy, and voluntary contributions, it is evident that all four interviewees have made positive impacts in the area of environmental sustainability. They showed clearly that their Commonwealth Scholarship played an instrumental role in shaping their careers, which have all ultimately had a positive impact on the environment. For David, it would not have been possible to undertake a Master's degree without his award. 'The barrier to pursuing a Master's degree was funding, and the scholarship basically bridged the gap between having the ability to do the course but not the finances to pursue it.'

Conclusion

The CSC is dedicated to providing scholarships and fellowships to qualified candidates selected on the basis of academic merit and their potential to have an impact in their home countries, whether through their contribution to socioeconomic development or their leadership potential. In this report, we have focused on the ability of our alumni to have an impact in the area of environmental sustainability, and have found that Commonwealth Scholarships and Fellowships do have an impact in this sector, through the work and activities of our alumni.

The importance of environmental sustainability and related issues such as agriculture, rural livelihoods, and food security are enshrined in MDG 7: 'ensure environmental sustainability'; and MDG 1: 'eradicate extreme poverty and hunger'. Moreover, environmental sustainability also intersects with other significant development issues such as public health, particularly preventing the spread of diseases through inadequate water and sanitation infrastructure. The CSC believes that higher education can and does contribute to the attainment of these targets, through research and the transfer of skills and knowledge, and data collected from alumni for this report confirms this.

Commonwealth Scholarships and Fellowships contribute to the pool of knowledge and skills in these sectors across the Commonwealth

Examining the types and numbers of awards offered in the fields of environment and agriculture over the past 50 years, we found that:

- The numbers of awards offered for study in these fields has increased over the past 50 years. In the five-year period from 1960-1964, 12% of our alumni studied an environment-related subject; this increased to 22% for the 2005-2009 period.
- The majority of these awards have been offered to alumni from countries that are frequently disproportionately affected by environmental issues. In the 2000s, 55% of award holders studying an environment-related subject came from sub-Saharan Africa.
- There has been a general rise in the number of women completing environmental and agricultural awards, with almost a third (32%) of Scholars and Fellows holding these awards being female in the 2000s, as opposed to 1% in the 1960s. This is less than the proportion of women in all disciplines (41%) but, as our individual case studies in this report show, women are certainly making an impact in the sector and we would expect these figures to improve over time.

Commonwealth Scholarships and Fellowships enable alumni to gain valuable skills, knowledge, and experience

- **Awards enable recipients to gain invaluable knowledge and analytical and technical skills**. This is exemplified by the fact that 100% of respondents reported gaining knowledge in their field of expertise, and almost 100% stated that they increased their analytical and technical skills. This is important as it demonstrates that the benefits of awards are long-lasting and provide award holders with the opportunity to gain knowledge and skills, which are then transferred by the work they undertake, and ultimately serve to benefit wider society.

- **Awards promote international linkages between people and institutions and create relationships that foster international collaboration.** Such links are important to maintain in our increasingly globalised world, as they enable the exchange of ideas across the globe, generating innovative solutions to environmental concerns, and more generally, wider issues of international development. Moreover, international collaboration is necessary in developing technical knowledge and skills that will help reduce social inequalities and contribute to broader development goals.

The impact of Commonwealth Scholarships and Fellowships is far-reaching and can benefit individuals, their workplaces, and wider societies

- **Awards help recipients to make advances in their careers and also empower them to have impact in their workplace.** Our results show that, regardless of their employment status before the award, 88% of respondents reporting an impact in environmental sustainability stated that they obtained advancements after a 12-month period following their award. An overwhelming 98% of respondents reporting impact stated that they used specific skills and knowledge gained during their award in their work. 97% of respondents said that the award increased their ability to have influence and make changes in their workplace. Moreover, 94% of respondents said that they were able to introduce new practices or innovations in positions they have held since the award, as a result of the skills and knowledge acquired. These statistics highlight the significant role that awards play in impacting recipients' careers, serving as a mechanism to help them progress and providing tools to make improvements in their workplace. This indicates that Commonwealth Scholarships and Fellowships can effect changes in people's lives, as well as contribute to changes at organisational, societal, and institutional levels.
- **Impact of the awards can be found at three levels: through involvement in projects, socioeconomic impact, and influencing government policy.** Our results found that, for almost all three priority areas, the highest impact was through specific projects, followed by socioeconomic impact, and then influence on government policy. Notably, respondents reporting impact in Physical Infrastructure had a greater influence on government policy. However, the priority area of Agricultural/Rural Productivity generated the highest socioeconomic impact, while Environment Protection had the highest impact through project involvement. This range of impact suggests that award outcomes benefit not only the academic realm. In fact, higher education provides opportunities for people to expand into many different impact areas, as exemplified by the fact that our alumni work in an array of international organisations, governments, and the non-profit and private sectors.

There are also long-term intangible benefits that go beyond the individual

- **Studying in the UK provides a number of benefits that many award holders would not be able to access in their home countries.** This includes better infrastructure, more reliable work environments, access to advanced technology, and better access to resources. While it is advantageous for award holders themselves to access these benefits, they are also able to learn practices that they can then take back to their home countries and implement. It also provides exposure to efficient methods of teaching and learning, enabling them to implement quality and efficiency improvements within higher education institutions in their home countries. For example, all of the alumni who were interviewed for the fifth chapter of this report were able to effect change within their academic institutions as a direct result of knowledge they gained while on award.

In conclusion

Our Evaluation Programme to date has provided substantial evidence that the CSC's programmes are meeting their objectives. As this report outlines, our respondents said that they acquired relevant skills and expertise which would otherwise not have been available. Furthermore, they were able to use these skills in their respective workplaces, as illustrated by the many detailed examples provided.

The data in this report indicates that the CSC is successfully providing training that is relevant to addressing environmental and agricultural issues throughout the Commonwealth and beyond. Many of our survey respondents have demonstrated that they are putting this training into practice through development impact in areas related to the environment, including food security, climate change and environmental resources, sanitation and safe drinking water, renewable energy, and rural housing. The next step is to continue developing rigorous methods of evaluating our programmes, for which the CSC is currently investigating innovative research methods. This all forms part of the CSC's commitment to informing the continuous review and improvement of its scholarship and fellowship schemes, in order to have positive impact for decades to come.

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Appendix 1

Evaluating scholarships: the Commonwealth Scholarship Commission's approach

The CSC Evaluation Programme has been working on impact evaluation of the CSC's various schemes since 2007, building on existing monitoring activity such as annual supervisor and scholar reports and completion rate studies. The CSC's recognition of the need for such work was emphasised by an external review of the DFID Commonwealth Scholarship schemes, commissioned by DFID in 2006-2007, which recommended that funding be provided to undertake further impact evaluation work as soon as possible. In 2007, therefore, the CSC designed a comprehensive and strategic evaluation programme, with the initial main focus being the evaluation of the impact of alumni. In this first round of activity, evaluation projects included work aimed at tracing former Commonwealth Scholars and Fellows and the distribution of an in-depth survey which asked alumni to report on the outcomes and impact of their awards. It is the results of this survey which form the basis of this report, the seventh in a series covering reported impact in four different sectors and two different regions.

This initial stage of the Evaluation Programme was divided into three phases, the first of which was to build a database of as much baseline data as possible through the tracing of known alumni. This database has provided the foundation for initial statistical analysis of the programme over time (allowing us to describe trends in countries receiving awards, gender, subject studies, level of study, and so on), and has enabled us to compare our subsequent surveys to the population as a whole.

In addition to this basic data, we have traced and have recent contact details (and in many cases employment details) for nearly 6,000 of these alumni. Phase Two of the programme involved sending an evaluation survey to these 6,000 in 2008; over 2,200 responded, providing detailed information on their career and achievements and their contribution to development priorities. This data formed a major part of the *Assessing impact in key priority areas* report, published in June 2009, and provides much of the data for the third chapter of this report. Phase Three of the Evaluation Programme, of which this report is the last, involves further analysis of this data within specific regions or sectors, as well as the gathering of further data through individual interviews and case studies. We have focused on what our awards have achieved and are achieving, in terms of who we have trained, in what specific areas, and what impact they have had. Impact is interpreted as both broad and multi-faceted, and ranges from government influence to maintaining contact with professional associations joined while on award.

As this report goes to press, we are entering a new phase of our evaluation work, recognising the value of the input and views of our alumni, as well as seeking to provide more qualitative and verifiable evidence as to the value of our awards not only to our individual award holders, but also on a wider scale. Further information about our work is available on the Evaluation section of the CSC website.

Appendix 2

All alumni holding awards in environmental and agricultural subjects, by scheme and year of award

Year of award	Scheme	Number of alumni
1960	'General' Scholarships (DFID)	12
	'General' Scholarships (FCO)	2
	Subtotal	**14**
1961	'General' Scholarships (DFID)	27
	'General' Scholarships (FCO)	2
	Subtotal	**29**
1962	'General' Scholarships (DFID)	20
	'General' Scholarships (FCO)	4
	Subtotal	**24**
1963	'General' Scholarships (DFID)	21
	'General' Scholarships (FCO)	6
	Subtotal	**27**
1964	'General' Scholarships (DFID)	25
	'General' Scholarships (FCO)	6
	Subtotal	**31**
1965	'General' Scholarships (DFID)	25
	'General' Scholarships (FCO)	5
	Subtotal	**30**
1966	'General' Scholarships (DFID)	29
	'General' Scholarships (FCO)	4
	Subtotal	**33**
1967	'General' Scholarships (DFID)	24
	'General' Scholarships (FCO)	2
	Subtotal	**26**
1968	'General' Scholarships (DFID)	25
	'General' Scholarships (FCO)	2
	Subtotal	**27**
1969	Academic Staff Scholarships	1
	'General' Scholarships (DFID)	28
	'General' Scholarships (FCO)	5
	Subtotal	**34**
1970	Academic Fellowships	3
	Academic Staff Scholarships	4
	'General' Scholarships (DFID)	25
	'General' Scholarships (FCO)	3
	Medical Fellowships (DFID)	1
	Subtotal	**36**
1971	Academic Fellowships	3
	'General' Scholarships (DFID)	31
	'General' Scholarships (FCO)	2
	Subtotal	**36**
1972	Academic Fellowships	2
	Academic Staff Scholarships	4
	'General' Scholarships (DFID)	19
	'General' Scholarships (FCO)	1
	Subtotal	**26**
1973	Academic Fellowships	5
	Academic Staff Scholarships	6
	'General' Scholarships (DFID)	18
	'General' Scholarships (FCO)	4
	Subtotal	**33**
1974	Academic Fellowships	10
	Academic Staff Scholarships	5
	'General' Scholarships (DFID)	29
	'General' Scholarships (FCO)	8
	Subtotal	**52**
1975	Academic Fellowships	7
	Academic Staff Scholarships	9
	'General' Scholarships (DFID)	26
	'General' Scholarships (FCO)	1
	Medical Fellowships (DFID)	1
	Subtotal	**44**
1976	Academic Fellowships	6
	Academic Staff Scholarships	12
	'General' Scholarships (DFID)	21
	'General' Scholarships (FCO)	3
	Subtotal	**42**
1977	Academic Fellowships	7
	Academic Staff Scholarships	8
	'General' Scholarships (DFID)	31
	'General' Scholarships (FCO)	2
	Subtotal	**48**
1978	Academic Fellowships	6
	Academic Staff Scholarships	13
	'General' Scholarships (DFID)	35
	'General' Scholarships (FCO)	7
	Subtotal	**61**

Year of award	Scheme	Number of alumni
1979	Academic Fellowships	2
	Academic Staff Scholarships	4
	'General' Scholarships (DFID)	24
	'General' Scholarships (FCO)	1
	Subtotal	**31**
1980	Academic Fellowships	4
	Academic Staff Scholarships	12
	'General' Scholarships (DFID)	21
	'General' Scholarships (FCO)	2
	Subtotal	**39**
1981	Academic Fellowships	5
	Academic Staff Scholarships	9
	'General' Scholarships (DFID)	50
	'General' Scholarships (FCO)	3
	Subtotal	**67**
1982	Academic Fellowships	6
	Academic Staff Scholarships	12
	'General' Scholarships (DFID)	39
	'General' Scholarships (FCO)	2
	Subtotal	**59**
1983	Academic Fellowships	7
	Academic Staff Scholarships	11
	'General' Scholarships (DFID)	50
	'General' Scholarships (FCO)	5
	Subtotal	**73**
1984	Academic Fellowships	5
	Academic Staff Scholarships	10
	'General' Scholarships (DFID)	43
	'General' Scholarships (FCO)	1
	Subtotal	**59**
1985	Academic Fellowships	11
	Academic Staff Scholarships	14
	'General' Scholarships (DFID)	48
	'General' Scholarships (FCO)	11
	Medical Fellowships (DFID)	1
	Subtotal	**85**
1986	Academic Fellowships	13
	Academic Staff Scholarships	12
	'General' Scholarships (DFID)	38
	'General' Scholarships (FCO)	11
	Subtotal	**74**
1987	Academic Fellowships	3
	Academic Staff Scholarships	11
	'General' Scholarships (DFID)	39
	'General' Scholarships (FCO)	4
	Subtotal	**57**
1988	Academic Fellowships	13
	Academic Staff Scholarships	22
	'General' Scholarships (DFID)	39
	'General' Scholarships (FCO)	5
	Subtotal	**79**
1989	Academic Fellowships	12
	Academic Staff Scholarships	20
	'General' Scholarships (DFID)	39
	'General' Scholarships (FCO)	5
	Subtotal	**76**
1990	Academic Fellowships	7
	Academic Staff Scholarships	22
	'General' Scholarships (DFID)	34
	'General' Scholarships (FCO)	3
	Subtotal	**66**
1991	Academic Staff Scholarships	14
	Academic Fellowships	10
	'General' Scholarships (DFID)	41
	'General' Scholarships (FCO)	8
	Medical Fellowships (FCO)	1
	Subtotal	**74**
1992	Academic Fellowships	13
	Academic Staff Scholarships	15
	'General' Scholarships (DFID)	37
	'General' Scholarships (FCO)	7
	Subtotal	**72**
1993	Academic Fellowships	7
	Academic Staff Scholarships	15
	'General' Scholarships (DFID)	46
	'General' Scholarships (FCO)	8
	Subtotal	**76**
1994	Academic Fellowships	20
	Academic Staff Scholarships	17
	'General' Scholarships (DFID)	34
	'General' Scholarships (FCO)	4
	Medical Fellowships (DFID)	1
	Subtotal	**76**
1995	Academic Fellowships	13
	Academic Staff Scholarships	8
	'General' Scholarships (DFID)	26
	'General' Scholarships (FCO)	6
	Subtotal	**53**

Year of award	Scheme	Number of alumni
1996	Academic Fellowships	15
	Academic Staff Scholarships	12
	'General' Scholarships (DFID)	22
	'General' Scholarships (FCO)	2
	Subtotal	**51**
1997	Academic Fellowships	17
	Academic Staff Scholarships	8
	'General' Scholarships (DFID)	21
	'General' Scholarships (FCO)	5
	Subtotal	**51**
1998	Academic Fellowships	13
	Academic Staff Scholarships	5
	'General' Scholarships (DFID)	18
	'General' Scholarships (FCO)	2
	Split-site Scholarships	2
	Subtotal	**40**
1999	Academic Fellowships	26
	Academic Staff Scholarships	7
	'General' Scholarships (DFID)	39
	'General' Scholarships (FCO)	3
	Split-site Scholarships	3
	Subtotal	**78**
2000	Academic Fellowships	10
	Academic Staff Scholarships	5
	'General' Scholarships (DFID)	20
	'General' Scholarships (FCO)	1
	Professional Fellowships	2
	Split-site Scholarships	1
	Subtotal	**39**
2001	Academic Fellowships	17
	Academic Staff Scholarships	6
	'General' Scholarships (DFID)	21
	'General' Scholarships (FCO)	7
	Professional Fellowships	2
	Split-site Scholarships	7
	Subtotal	**60**
2002	Academic Fellowships	14
	Academic Staff Scholarships	7
	Distance Learning Scholarships	39
	'General' Scholarships (DFID)	30
	'General' Scholarships (FCO)	3
	Split-site Scholarships	5
	Subtotal	**98**
2003	Academic Fellowships	12
	Academic Staff Scholarships	6
	Distance Learning Scholarships	49
	'General' Scholarships (DFID)	22
	'General' Scholarships (FCO)	6
	Professional Fellowships	8
	Split-site Scholarships	8
	Subtotal	**111**
2004	Academic Fellowships	27
	Academic Staff Scholarships	6
	Distance Learning Scholarships	64
	'General' Scholarships (DFID)	26
	'General' Scholarships (FCO)	7
	Professional Fellowships	7
	Split-site Scholarships	6
	Subtotal	**143**
2005	Academic Fellowships	21
	Academic Staff Scholarships	7
	Distance Learning Scholarships	32
	'General' Scholarships (DFID)	37
	'General' Scholarships (FCO)	7
	Professional Fellowships	7
	Split-site Scholarships	2
	Subtotal	**113**
2006	Academic Fellowships	18
	Academic Staff Scholarships	8
	Distance Learning Scholarships	29
	'General' Scholarships (DFID)	33
	'General' Scholarships (FCO)	3
	Professional Fellowships	8
	Split-site Scholarships	1
	Subtotal	**100**
2007	Academic Fellowships	9
	Distance Learning Scholarships	23
	'General' Scholarships (DFID)	12
	'General' Scholarships (FCO)	2
	Professional Fellowships	6
	Subtotal	**52**
2008	Academic Fellowships	19
	Academic Staff Scholarships	2
	Distance Learning Scholarships	4
	'General' Scholarships (DFID)	23
	'General' Scholarships (FCO)	4
	Professional Fellowships	9
	Split-site Scholarships	1
	Subtotal	**62**
2009	Academic Fellowships	17
	Academic Staff Scholarships	1
	Distance Learning Scholarships	3
	'General' Scholarships (DFID)	15
	Professional Fellowships	8
	Subtotal	**44**
	Total	**2811**

Appendix 3

Disciplines and categories of alumni holding awards in environmental and agricultural subjects

Discipline	Categories		Total
	Agriculture	Environment	
Agriculture	826	–	**826**
Archaeology (physical science)	–	39	**39**
Built environment	–	140	**140**
Civil engineering	–	575	**575**
Earth sciences	–	321	**321**
Environmental studies	–	306	**306**
Food science and technology	102	–	**102**
Geography (physical science)	–	72	**72**
Town and country planning	–	175	**175**
Veterinary science	238	–	**238**
Unclassified	1	16	**17**
Total	**1167**	**1644**	**2811**

Appendix 4

Alumni reporting impact in Environment Protection, by gender, region, and scheme

Gender	Region Scheme	Number of respondents
Female	Australasia	
	'General' Scholarships (FCO)	14
	Subtotal	14
	Caribbean	
	'General' Scholarships (DFID)	15
	Professional Fellowships	4
	Split-site Scholarships	4
	Subtotal	23
	Europe	
	'General' Scholarships (DFID)	3
	Subtotal	3
	Far East	
	Academic Fellowships	6
	Academic Staff Scholarships	2
	'General' Scholarships (DFID)	8
	Subtotal	16
	North America	
	'General' Scholarships (FCO)	20
	Subtotal	20
	Pacific	
	'General' Scholarships (DFID)	1
	Subtotal	1
	South Asia	
	Academic Fellowships	23
	Academic Staff Scholarships	6
	Distance Learning Scholarships	1
	'General' Scholarships (DFID)	18
	Professional Fellowships	4
	Split-site Scholarships	1
	Subtotal	53
	Sub-Saharan Africa	
	Academic Fellowships	7
	Academic Staff Scholarships	14
	Distance Learning Scholarships	1
	'General' Scholarships (DFID)	30
	Professional Fellowships	15
	Split-site Scholarships	2
	Subtotal	69
	Female Subtotal	199
Male	Australasia	
	'General' Scholarships (FCO)	29
	Medical Fellowships (DFID)	1
	Subtotal	30
	Caribbean	
	Academic Fellowships	2
	Academic Staff Scholarships	1
	'General' Scholarships (DFID)	18
	Medical Scholarships	1
	Professional Fellowships	3
	Split-site Scholarships	1
	Subtotal	26
	Europe	
	Academic Staff Scholarships	4
	'General' Scholarships (DFID)	14
	Subtotal	18
	Far East	
	Academic Fellowships	9
	Academic Staff Scholarships	6
	'General' Scholarships (DFID)	13
	Medical Scholarships	1
	Split-site Scholarships	2
	Subtotal	31
	North America	
	'General' Scholarships (FCO)	25
	Medical Fellowships (FCO)	1
	Subtotal	26
	Pacific	
	Academic Fellowships	2
	'General' Scholarships (DFID)	1
	Subtotal	3
	South Asia	
	Academic Fellowships	92
	Academic Staff Scholarships	17
	Distance Learning Scholarships	2
	'General' Scholarships (DFID)	64
	Medical Fellowships (DFID)	10
	Medical Scholarships	2
	Professional Fellowships	3
	Split-site Scholarships	2
	Subtotal	192
	Sub-Saharan Africa	
	Academic Fellowships	31
	Academic Staff Scholarships	37
	Distance Learning Scholarships	6
	'General' Scholarships (DFID)	86
	Professional Fellowships	27
	Split-site Scholarships	11
	Subtotal	198
	Male Subtotal	524
	Total	**723**

Appendix 5

Alumni reporting impact in Physical Infrastructure by gender, region, and scheme

Gender	Region Scheme	Number of respondents
Women	Australasia	
	'General' Scholarships (FCO)	7
	Subtotal	**7**
	Caribbean	
	Academic Fellowships	1
	'General' Scholarships (DFID)	9
	Professional Fellowships	2
	Split-site Scholarships	2
	Subtotal	**14**
	Far East	
	Academic Fellowships	4
	Academic Staff Scholarships	2
	'General' Scholarships (DFID)	2
	Senior Medical Fellowships	1
	Subtotal	**9**
	North America	
	'General' Scholarships (FCO)	7
	Subtotal	**7**
	South Asia	
	Academic Fellowships	22
	Academic Staff Scholarships	2
	Distance Learning Scholarships	1
	'General' Scholarships (DFID)	8
	Medical Scholarships	1
	Professional Fellowships	5
	Split-site Scholarships	1
	Subtotal	**40**
	Sub-Saharan Africa	
	Academic Fellowships	6
	Academic Staff Scholarships	3
	'General' Scholarships (DFID)	16
	Medical Scholarships	2
	Professional Fellowships	10
	Split-site Scholarships	1
	Subtotal	**38**
	Women Subtotal	**115**
Men	Australasia	
	'General' Scholarships (FCO)	21
	Medical Fellowships (FCO)	1
	Subtotal	**22**
	Caribbean	
	Academic Staff Scholarships	1
	'General' Scholarships (DFID)	14
	Professional Fellowships	3
	Split-site Scholarships	1
	Subtotal	**19**
	Europe	
	Academic Staff Scholarships	3
	'General' Scholarships (DFID)	10
	Subtotal	**13**
	Far East	
	Academic Fellowships	10
	Academic Staff Scholarships	7
	'General' Scholarships (DFID)	6
	Subtotal	**23**
	North America	
	'General' Scholarships (FCO)	16
	Medical Fellowships (FCO)	1
	Subtotal	**17**
	Pacific	
	Academic Fellowships	1
	'General' Scholarships (DFID)	1
	Subtotal	**2**
	South Asia	
	Academic Fellowships	76
	Academic Staff Scholarships	6
	Distance Learning Scholarships	3
	'General' Scholarships (DFID)	43
	Medical Fellowships (DFID)	8
	Medical Scholarships	2
	Professional Fellowships	2
	Split-site Scholarships	2
	Subtotal	**142**
	Sub-Saharan Africa	
	Academic Fellowships	18
	Academic Staff Scholarships	28
	Distance Learning Scholarships	8
	'General' Scholarships (DFID)	73
	Medical Scholarships	2
	Professional Fellowships	21
	Split-site Scholarships	7
	Subtotal	**157**
	Men Subtotal	**395**
	Total	**510**

Appendix 6

Alumni reporting impact in Agricultural/Rural Productivity, by gender, region, and scheme

Gender	Region / Scheme	Number of respondents
Women	Australasia	
	'General' Scholarships (FCO)	5
	Subtotal	**5**
	Caribbean	
	'General' Scholarships (DFID)	12
	Professional Fellowships	1
	Split-site Scholarships	3
	Subtotal	**16**
	Europe	
	'General' Scholarships (DFID)	1
	Subtotal	**1**
	Far East	
	Academic Fellowships	5
	Academic Staff Scholarships	1
	'General' Scholarships (DFID)	2
	Subtotal	**8**
	North America	
	'General' Scholarships (FCO)	11
	Subtotal	**11**
	Pacific	
	'General' Scholarships (DFID)	1
	Subtotal	**1**
	South Asia	
	Academic Fellowships	25
	Academic Staff Scholarships	5
	'General' Scholarships (DFID)	11
	Professional Fellowships	5
	Split-site Scholarships	3
	Subtotal	**49**
	Sub-Saharan Africa	
	Academic Fellowships	5
	Academic Staff Scholarships	13
	Distance Learning Scholarships	2
	'General' Scholarships (DFID)	24
	Professional Fellowships	11
	Split-site Scholarships	2
	Subtotal	**57**
	Women Subtotal	**148**

Gender	Region / Scheme	Number of respondents
Men	Australasia	
	'General' Scholarships (FCO)	21
	Subtotal	**21**
	Caribbean	
	Academic Fellowships	2
	'General' Scholarships (DFID)	14
	Medical Scholarships	1
	Professional Fellowships	2
	Subtotal	**19**
	Europe	
	Academic Staff Scholarships	3
	'General' Scholarships (DFID)	7
	'General' Scholarships (FCO)	1
	Subtotal	**11**
	Far East	
	Academic Fellowships	9
	Academic Staff Scholarships	6
	'General' Scholarships (DFID)	2
	Split-site Scholarships	1
	Subtotal	**18**
	North America	
	'General' Scholarships (FCO)	8
	Subtotal	**8**
	Pacific	
	Academic Fellowships	2
	'General' Scholarships (DFID)	1
	Split-site Scholarships	1
	Subtotal	**4**
	South Asia	
	Academic Fellowships	91
	Academic Staff Scholarships	10
	Distance Learning Scholarships	2
	'General' Scholarships (DFID)	57
	Medical Fellowships (DFID)	4
	Professional Fellowships	4
	Split-site Scholarships	4
	Subtotal	**172**
	Sub-Saharan Africa	
	Academic Fellowships	28
	Academic Staff Scholarships	35
	Distance Learning Scholarships	5
	'General' Scholarships (DFID)	80
	Medical Scholarships	1
	Professional Fellowships	14
	Split-site Scholarships	11
	Subtotal	**174**
	Men Subtotal	**427**
	Total	**575**

Appendix 7

ISIC categories of alumni reporting impact in environmental sustainability

ISIC categories	Respondents
Activities of extraterritorial organizations and bodies	14
Activities of households as employers; undifferentiated goods – and services-producing activities of households for own use	1
Administrative and support service activities	3
Agriculture, forestry and fishing	6
Arts, entertainment and recreation	10
Construction	10
Education	647
Electricity, gas, steam and air conditioning supply	7
Financial and insurance activities	20
Human health and social work activities	53
Information and communication	17
Manufacturing	4
Mining and quarrying	6
Other service activities	2
Professional, scientific and technical activities	124
Public administration and defence; compulsory social security	96
Real estate activities	1
Transportation and storage	2
Water supply; sewerage, waste management and remediation activities	8
Wholesale and retail trade; repair of motor vehicles and motorcycles	1
Unclassified	18
Total	**1050**

The Commonwealth Scholarship Commission in the United Kingdom (CSC) is responsible for managing Britain's contribution to the Commonwealth Scholarship and Fellowship Plan (CSFP).

The CSC supports around 700 awards annually. Awards are funded by the Department for International Development (for developing Commonwealth countries), and the Foreign and Commonwealth Office, the Department for Business, Innovation and Skills and the Scottish Government (for developed Commonwealth countries), in conjunction with UK universities. The CSC makes available seven types of award, and also nominates UK citizens for scholarships to study in other Commonwealth countries under the CSFP.

The CSC is a non-departmental public body in its own right, and members are appointed in line with the Code of Practice of the Office of the Commissioner for Public Appointments. The Commission's secretariat is provided by the Association of Commonwealth Universities; financial administration services for award holders are provided by the British Council.

The CSFP is an international programme under which member governments offer scholarships and fellowships to citizens of other Commonwealth countries. The Plan was established at the first Commonwealth education conference in 1959 and is reviewed by Ministers at their triennial meetings – the only scholarship scheme in the world to receive such high-level recognition.

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Department for Business Innovation & Skills

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The Association of Commonwealth Universities

BRITISH COUNCIL

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