



Commonwealth Scholarship
Commission in the UK

Commonwealth Scholarship Commission in the United Kingdom

Commonwealth Doctoral Scholarships 1960 - 2015

Full Report



Commonwealth Scholarship Commission in the United Kingdom (2017)

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Executive Summary

The Commonwealth Scholarship Commission in the United Kingdom has awarded over 7,500 scholarships for PhD study between 1960 and 2015. Of these, almost 7,150 were awarded for full doctoral study in the United Kingdom, with the remainder offered for a twelve-month period of research in the UK as part of a PhD registered in their home country. This review provides an account of those Scholars who were awarded the full-term doctoral scholarships over the first fifty-five years of the programme. It forms a part of the Commonwealth Scholarship Commission's ongoing portfolio of monitoring and evaluation work, and contributes to the growing body of evidence demonstrating both the relevance and effectiveness of scholarship programmes in development.

Context

The Commonwealth Doctoral Scholarship operates within a number of contextual frameworks important to both its goals and operation. First and foremost is the programme's identity as a component of the Commonwealth Scholarship and Fellowship Plan, which provides the core principles that guide the programme. These include that it must be distinct, based on cooperation and the sharing of experience among Commonwealth countries, and that it must be flexible to account for changing needs over time. The second framework within which the programme currently operates is that it is overwhelmingly a development-oriented programme, which provides direction as far as the countries of origin of its Scholars, and how their areas of study will lead to a developmental impact. The final, related framework that the programme operates within is the global higher education context, which has seen a huge increase in demand for higher education in the developing world, including developing countries of the Commonwealth. This growth in demand has placed a great deal of strain on the national academic systems within those countries, and created an unmet need for doctoral-trained staff.

Demographics

The number of Commonwealth PhD Scholarships awarded annually has varied between 81 and 200 awards, with an average number of 128 awards per year. 2015, the last full year considered in the production of this review, saw a cohort of 151 new recipients begin their studies. The demographic makeup of Scholars has also changed over the years as the programme has evolved towards a greater focus on development, both in the countries of origin and in the age of Scholars. While students from Australasia and North America originally made up approximately one-third of Commonwealth PhD Scholars in the 1960s that proportion has shrunk to less than one-tenth in recent years. Conversely, Scholars from Sub-Saharan Africa comprised less than one-fifth of the cohorts in the first decade of the programme, but now make up more than half of all new Scholars. The greater concentration on development goals in recent decades has also led to proportionally more scholarship recipients coming from vulnerable states, such as members of the UN's Small Island Developing States group and their list of Least Developed Countries, as well as states that have been identified as "Fragile" by the OECD.

The average age of PhD Scholars has also increased over time due to these changes. In the 1960s, the average age of a PhD Scholar was 24.5, while the current average age of PhD Scholars is 31.9. This change is attributable to demographic differences in doctoral students in Australasia and North America compared to Sub-Saharan Africa. The gender makeup of Scholars in the programme has also changed, with the large disparity that existed in the 1960s

all but disappearing. The ratio for the first decade of the programme was one female for every nine males, whereas currently the ratio sits at just under one-for-one. In addition, the programme recently had its first instance of a female-majority cohort in 2012.

On-Award

STEM and medical subjects are the dominant areas of study for Commonwealth Doctoral Scholars, a trend that has been largely consistent over time. Engineering, the Physical Sciences, Biology, and Social Studies have been the most-studied disciplines over the life of the program, reflecting both the enduring dominance of STEM subjects, as well as a more recent shift towards the social sciences. Scholars from some regions such as South Asia and Sub-Saharan Africa have a greater tendency to study STEM subjects, whereas Scholars from the Caribbean and Pacific were just as likely to study Social Sciences as they were STEM subjects, and were also more likely to study in Education compared to other regions. This is a reflection of the differing national priorities of Commonwealth countries, and the specific selection criteria of national nominating agencies.

Regardless of subject area, almost nine-tenths of PhD Scholars for whom the Commission has records of their completion status have seen their studies through to completion, with at-minimum 5,000 Scholars gaining a PhD or other doctoral level qualification over the life of the programme. These PhD qualifications have been awarded by over 130 different higher education institutions in the United Kingdom, with 23 of these institutions hosting over 100 Scholars each. This high completion rate is reflective of the quality of the students selected for Commonwealth PhD Scholarships, something that has been noted by their PhD supervisors. Supervisors have rated Scholars highly with respect to their academic and English language skills, their abilities to conduct original research and submit high-quality work, and their ability to have appropriate plans for their PhD studies and to commence their doctoral work immediately upon arrival.

The high-calibre of Scholars is also reflected in the gains they have realised while on award. Almost all Alumni responding to surveys reported that they had gained knowledge in their field of expertise, as well as analytical and technical skills. Over nine-tenths also reported that their scholarship had allowed them to gain access to equipment and expertise that were unavailable in their home country. Less than one-twentieth of Scholars have been recorded as ending their studies unsuccessfully, with the remaining balance either still studying, or having received a different qualification from their studies. Many Scholars remain in contact with the Commonwealth Scholarship Commission upon completion of their studies as well. Almost half of all Scholars since the 1960s are members of the Alumni Association, with almost all recent graduates maintaining membership with the Association.

Post-Award

Results from surveys conducted by the Commission also indicate that approximately nine-tenths of Alumni were living in their home country or region, suggesting a strong rate of return among PhD Scholars. This rate of return also provides evidence that these types of international scholarships do not permanently draw highly-trained persons away from their home countries or lead to them staying on in their country of study post-scholarship. Indeed, many Scholars, particularly those who were nominated for their award by a university-based employer, return to the positions that they had previously held prior to their studies. This is a positive indicator as far as the programme's ability to address the shortage of PhD-qualified staff within the academic systems of the Commonwealth's developing countries, and the self-sustainability of those systems. This outcome is further bolstered by the fact that nine-tenths

of PhD Alumni reported that they were employed, and almost three-quarters of these employed Alumni reported working within the academic sector.

With respect to the application of the knowledge and skills that they learned while on scholarship, almost all Alumni reported that they used the skills acquired from their scholarship at work, with nine-tenths reporting that they had the ability to exert influence and effect change at work, and a similar number detailing that they were able to put that influence into practice. The vast majority of Alumni also reported that they were able to transfer their knowledge and skills to others in their workplace. Due to the concentration of Alumni in the academic sector, this largely takes the form of teaching students at all levels, and Alumni have reported training over 1,350 new PhD students, 25,000 Master's students, and hundreds of thousands undergraduate students. Yet teaching is not the only outcome described by PhD Alumni. Almost three-quarters of Alumni reported involvement in authoring joint publications, and over half reported that they had published sole-authored materials. Just under half mentioned that they had engaged in collaborative research as well, including as a part of ongoing links to academics in the United Kingdom.

Alumni have also reported that they have had a substantial developmental impact through their post-scholarship activities. Over nine-tenths mentioned that they have had a socio-economic impact in the area of education, with almost three-quarters also reporting that they had a governance impact in this area. Approximately half of Alumni have also reported having a socio-economic impact in the areas of environmental issues, economic growth, health, and poverty reduction, with over one-third describing a governance impact in these areas as well. As far as the level or domain where they had an impact, almost three-quarters of Alumni reported that they had an impact at the institutional level, while approximately half reported an impact at the local or national level and just over one-quarter of Alumni reported having an international impact. This concentration of impact within the area of education and at the institutional level is reflective of how many Alumni are engaged in teaching and research at their universities, and should be again considered through the prism of the goals of the program, particularly the building of capacity within the academic sector of developing Commonwealth countries. When viewed in this context, it is clear that the programme has been successful in achieving its core goals.

Introduction

The Commonwealth Scholarship and Fellowship Plan was initiated following discussions at the Conference of Commonwealth Education Ministers, held in Oxford in 1959. Since then, over 30,000 Commonwealth citizens have held Commonwealth Scholarships or Fellowships, with 25,000 of them holding awards funded by the government of the United Kingdom and administered by the Commonwealth Scholarship Commission in the United Kingdom, a Non-Departmental Public Body established by Act of Parliament in 1959.

From the outset, the Commission has recognised the value and potential benefits of enabling “the brightest and the best” to undertake doctoral study, not only to the individuals themselves, but also to their employers and wider communities at home. Fifty-five years later, scholarships for PhD study remain a core element of the Commission’s portfolio. From 1960 to 2015, the period under consideration for this review, over 7,500 individuals from 60 countries across the Commonwealth have taken up these PhD scholarships, almost 7,150 of them fully-funded programmes in the United Kingdom, and the remainder for “Split-Site” awards, which offer support for students to take a 12-month period of study in the UK as part of a PhD programme registered in their home country. This review, which focuses on the fully-funded, UK-based PhD Scholarships, is inspired by the desire to better understand the historical and contemporary contexts related to our awards, as well as more in-depth policy and operational issues. It seeks to answer the following sets of questions:

- *What does the Commission’s support for PhD scholarships look like? How many awards have we funded? In what fields? What are the demographic characteristics of our PhD Alumni?*
- *Where do Commonwealth PhD Alumni end up? What are they doing? And what are the tangible outcomes of Commonwealth PhD Scholarships?*

The aim of this review is to provide a comprehensive summary of the Commission’s support for PhD study to date, as well as evidence of the outcomes and impact of this support. It will also use this evidence to identify areas that merit future investigation.

This report begins by addressing the first set of questions, beginning with a brief description of the history of the Commonwealth Scholarship and Fellowship Plan, as well as the broader global context related to doctoral study in Section One, before describing the demographics of the Commonwealth PhD Scholarship scheme over the past fifty-five years in Section Two.

Sections Three and Four seek to provide answers to the second set of questions about Alumni outputs using data sourced from Alumni through surveys and interviews. Section Five then seeks to answer these questions from a different perspective, looking at evidence gathered from UK-based supervisors of PhD Alumni.

The final section provides some conclusions based on the previous sections, as well as recommendations for further work. The overall intent is that this review will further the Commission’s understanding with regard to its PhD Scholarship programme, and contribute to future policy-making and strategic planning.

1. Commonwealth Scholarships for PhD Study: History and Context

Commonwealth PhD Scholarships are one of eight scholarship and fellowship schemes administered by the Commonwealth Scholarship Commission in the United Kingdom (CSC). Taken together, these eight schemes comprise the United Kingdom's contribution to the Commonwealth Scholarship and Fellowship Plan (CSFP), which was established over fifty years ago in 1959. Over 30,000 individuals from all around the Commonwealth have held these awards, with over 25,000 of them studying in the UK, and more than 7,500 of those studying for their PhD. This Section contextualises these scholarships within the wider CSFP, as well as more broadly within the context of global higher education.

1.1 The Commonwealth Scholarship and Fellowship Plan in the United Kingdom

The CSC is a Non-Departmental Public Body created by Act of Parliament for the purpose of administering the United Kingdom's contribution to the multilateral CSFP. The Plan was established at the first Commonwealth Education Ministers conference held in Oxford in 1959, and was guided by five main principles. It should:

- 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; and,
- Recognise and promote the highest level of intellectual achievement.

These principles remain relevant to this day, and have been re-affirmed at successive meetings of Commonwealth Education Ministers. The United Kingdom also continues to re-affirm its commitment to the CSFP, and currently offers about 900 awards every year for study at the postgraduate and doctoral level, as well as professional, academic and medical fellowships.

Objectives

The initial focus of the CSFP was to support individuals with awards explicitly intended to “recognise and promote the highest level of intellectual achievement” as part of the broader goal of encouraging international collaboration and understanding among Commonwealth countries through education. However, more recently many donor governments (including the United Kingdom) have also sought to promote international development objectives as a part of the CSFP in addition to its original goals. These new objectives include a focus on capacity-building, identifying future leaders, and the exercise of soft power.

The result of this shift in focus is that since the late 1990s, Commission policy and selection processes for DFID-funded awards have placed a greater emphasis on development impact and leadership potential, in addition to the original international collaboration and partnership priorities. Applicants are therefore not only expected to demonstrate high levels of academic achievement and submit high-quality study proposals, but to also clearly articulate the relevance and intended impact of their work on their home countries.

Commonwealth Scholarships and Fellowships in the United Kingdom

From the outset, the CSC offered awards for medical training, Academic Fellowships, and PhD and Master's study, in addition to undergraduate scholarships for certain Commonwealth countries. In its more recent history additions to the portfolio have included Professional Fellowships, Split-Site Doctoral Scholarships and Distance Learning Scholarships, meaning that as of 2015/6 the Commission offered eight distinct types of award, as shown in Figure 1.

Figure 1: Scholarship and Fellowship Schemes offered by the CSC as of 2015

Commonwealth Scholarships and Fellowships in the United Kingdom							
Commonwealth Scholarships for Master's Study			Commonwealth Scholarships for Doctoral Study		Commonwealth Fellowships		
Master's Scholarships	Shared Scholarships	Distance Learning Scholarships	PhD Scholarships	Split-Site Scholarships	Academic Fellowships	Medical Fellowships	Professional Fellowships

The desired outputs and outcomes of the eight schemes are laid out in the Commission's annual Business Plan, with the following overarching set of common desired outcomes to which each scheme is expected to contribute:

- Implementation of new skills and content knowledge, and skills and technology transfer in the workplace (new or improved practices, methods, and tools and increased individual productivity and efficiency);
- Professional development (higher standards and ethics, external recognition, promotion, increased earnings, further study or career development);
- Leadership and the capacity to influence and disseminate knowledge;
- Improved teaching quality, capacity and outputs;
- Improved research quality, capacity and outputs (critical thinking, awareness of current research challenges, capacity to develop new content knowledge); and
- Improved networks, partnerships and international links.

These desired outcomes are important to keep in mind when examining the impact of the PhD Scholarship programme, in addition to the programme-specific objectives that are discussed in Section 1.3.

Funders

Funding for Scholarships and Fellowships offered under the Plan in the UK, which remains the largest contributor to the CSFP, is primarily provided by the Department for International Development (DFID), whose contribution for awards earmarked for the developing Commonwealth stands at around £25 million per year. Conversely, the funding situation has been more precarious for citizens from the developed Commonwealth. The Foreign and Commonwealth Office (FCO), who had originally supported between 20 and 100 awards annually for postgraduate and Doctoral students from the developed Commonwealth, withdrew its financial support in 2009. Fortunately, the Department for Innovation, Universities, and Skills (DIUS) stepped in, albeit at a reduced level, offering funding for approximately 16 PhD awards. The DIUS was subsequently merged into the renamed Department for Business, Innovation and Skills (BIS), and then the Department for Business, Energy and Industrial Strategy (BEIS) with supplementary funding for those studying at Scottish universities

provided by the Scottish Government. As of 2017 it is the Department for Education that funds these few awards, ensuring the Commonwealth-wide principle of the CSFP remains.

In addition to funding provided by the UK government, the Commission has also successfully negotiated joint-funding arrangements with many universities in the United Kingdom for its scholarships. For example, in recent years UK institutions have routinely provided a 20% fee waiver for PhD, Split-Site, and Master's Scholars, worth a combined total of over £4.5 million in in-kind funding.

1.2 Doctoral Education in the Commonwealth

Global Trends and Commonwealth Experiences

The landscape of doctoral education, and of higher education in general, varies dramatically across the constituent nations of the Commonwealth. Within high-income nations such as Australia, Canada, New Zealand, and the United Kingdom, the doctoral education systems are well-established and attract substantial international student participation in addition to their domestic cohorts. Several Commonwealth countries that have enjoyed recent rapid economic success have also become hubs for doctoral education and, in some instances such as Singapore, offer scholarship programmes of their own.¹ In recent years China has also become a substantial force for inbound international student mobility (and funding, especially within Africa).²

By comparison, many of the lower-income Commonwealth states, particularly in Sub-Saharan Africa, are currently struggling to develop their own sufficiently high-quality and high-throughput doctoral education programmes to meet their national needs. The Organisation for Economic Cooperation and Development's (OECD) 2013 Science, Technology and Industry scoreboard is a useful indicator of how disparate doctorate output is across the Commonwealth states, particularly between the highest-income states and those within Sub-Saharan Africa. For example, within South Africa (the most prolific producer of doctorates in this region), the projected proportion of the population that will complete doctoral study was only 0.1%, against an OECD average of 1.8%.³ Furthermore, Higher Education South Africa observed that in 2010 the country produced 28 doctoral graduates per million population,⁴ while the equivalent figure for the UK (in 2013) was over 11,000.⁵

The small-island states of the Commonwealth also share specific challenges of their own. Most notably, small-island states must contend with the difficulty of having relatively small institutions that do not lend themselves to the economies of scale and concentration of expertise that is available to their peers in larger countries.⁶ Nor do these governments have the financial resources at their disposal that larger countries possess.

The opinion of international multilateral organisations on the importance of doctoral education has also evolved in recent years. While historically World Bank policy discourse had advised against investment in higher education on the grounds of low return-on-investment,⁷ tertiary education is now recognised as an important facet of economic development.⁸ Similarly, in

¹ Mondino, 2011.

² See Haugen, 2013.

³ OECD, 2013.

⁴ Higher Education South Africa, 2014.

⁵ OECD, 2015a.

⁶ Martin and Bray, 2011.

⁷ Robertson, 2009.

⁸ Salmi, Hopper, and Bassett, 2009.

contrast to its exclusion from the predecessor Millennium Development Goals, the UN has given higher education, including scholarship programmes, an explicit place within the Sustainable Development Goals.⁹

Systemic Pressures and Challenges

Underlying these global trends are specific drivers that have intensified interest in doctoral education. A prominent example has been the increased emphasis by national governments and agencies on the need for a greater quantity of PhD-qualified staff within their academies. The concern over levels of PhD-qualified staff has been particularly acute in Africa where research has highlighted both disparities between institutions, and a challenging overall picture.¹⁰ The need for doctorate-qualified staff has manifested in national plans or prioritisation in countries such as Malaysia, South Africa, Nigeria, Kenya, and India, as well as within funding allocations for PhD scholarships (e.g. in Sri Lanka).

Relatively low levels of PhD-qualified staff, even within some leading universities in the lower-income Commonwealth, has led to a number of systemic challenges. Most directly, the lack of supervisors available to oversee new doctorates has led to acute concerns about the “replacement rate” within local academies.¹¹ A related issue is that as gross enrolment in higher education has increased at all levels (in some cases very rapidly), universities have had considerable difficulty in meeting the staffing demands required by this expanded enrolment. Consequently, this has increased pressure and workloads on existing staff.¹² This bottleneck in national academic staff capacity has led some scientific institutions, such as the Academy of Science of South Africa, to advocate for making greater use of both existing scholarship programmes, and providing more funding for doctoral study abroad.¹³

An important factor exacerbating the difficulties in increasing doctorate throughput has been the lengthy time required to complete doctoral studies, leading to an often severe attrition rate. Although these concerns have been especially acute within less-developed doctoral education programs, they are common to doctoral programs throughout the world. Time-to-completion in particular has been flagged as a serious issue within many programs. For example, the Council of Graduate Schools has reported a 10-year completion rate of only 56.6% in the United States,¹⁴ compared to a six-year completion rate of between 20% and 75% (depending on discipline) which was recorded by the Council on Higher Education (CHE) in South Africa.¹⁵ Similarly, research on PhD attrition at Makerere University in Uganda has found an average study time of 60 months (although no completion data is available).¹⁶ Increased emphasis on producing more doctoral graduates, while aimed at alleviating the problem of a limited pool of academic supervisors, has also led to greater pressure on current academic staff. This has engendered a broader “quality of education” debate regarding higher education systems that are undergoing rapid expansion, and their attempts to address that growth.¹⁷

Migratory loss of highly-skilled graduates to other countries (i.e. “brain drain”) has also remained a problem for lower-income Commonwealth states (although high-income countries such as Canada have also experienced this to a degree), and the extent of this problem has

⁹ United Nations, 2015.

¹⁰ Tetley, 2010; Cloete, Mouton and Sheppard, 2015.

¹¹ Tetley, 2010.

¹² Cage, 2015.

¹³ ASSAf, 2010.

¹⁴ CGS, 2007.

¹⁵ CHE, 2015.

¹⁶ Wamala et al, 2011.

¹⁷ Altback, Reisberg, and Rumbley, 2009.

been well-documented in international literature.¹⁸ The migration of skilled academic staff is particularly damaging to less-developed academic systems within the context of the widely experienced problems of increasing demand and slow replacement discussed above.¹⁹ Although international doctoral studies have been implicated in this effect,²⁰ academic research on PhD completion and attrition has found that government-sourced scholarship funding tends to be correlated with both a lower time-to-completion for students, and a lower propensity to stay in the host country upon the completion of their studies.²¹ The tendency for international scholarship students to leave their host country is also reflected in the return rates measured by both the CSC²² and other scholarship administrations.²³

1.3 Commonwealth PhD Scholarships and the Global Development Agenda

With all this in mind, it is evident that within this environment there is a role for both international scholarships generally, and for doctoral scholarships specifically. This conclusion is given further weight by the explicit acknowledgement of the role that these scholarships have within the Sustainable Development Goals, specifically Goal 4, Target 4.b:

By 2020, substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programmes, in developed countries and other developing countries.²⁴

The CSC is particularly well-situated to contribute to this goal, as the Commonwealth includes countries from each of the subgroups identified by the target. For example, one-third of its PhD scholarships have been held by citizens from Sub-Saharan Africa, while two-thirds of the members of the UN Small Island Developing States group (and one-third of its associate members) are Commonwealth nations whose citizens are eligible to apply for Commonwealth Scholarships.

Least-developed countries also have substantial representation within the Commonwealth. Bangladesh, Kiribati, Lesotho, Malawi, Sierra Leone, the Solomon Islands and Zambia are all Commonwealth members included in the most recent UN list of least-developed countries.²⁵ Over

Reuben Sulu is a Commonwealth Scholar selected in 2006 to study a PhD at the University of Newcastle's School of Marine Science and Technology. As only the seventh Solomon Islander to be awarded a Commonwealth Scholarship, he felt a certain amount of responsibility upon receiving his award. During the first year of his scholarship, he explained the importance of his studies.

"My studies have direct relevance to the needs of my country. The Solomon Islands is a maritime nation and 85% of its population are rural and live on the coasts. They rely heavily on marine resources. My studies will contribute to marine resources use and management, both at grassroots and national government level. It will also help in my teaching of fisheries students at my regional university."

Previously published in Lee-Woolf, 2011.

¹⁸ E.g. Capuano and Marfouk, 2013; Docquier, 2006.

¹⁹ Tettey, 2010.

²⁰ See IAU, 2011.

²¹ E.g. Kim et al, 2011.

²² Mawer, 2014.

²³ SIU, 2015.

²⁴ Retrieved from (<https://sustainabledevelopment.un.org/sdg4>) October 2017.

²⁵ Retrieved from (https://www.un.org/development/desa/dpad/wp-content/uploads/sites/45/publication/ldc_list.pdf) October 2017.

Sabelo Dlamini, a Commonwealth Scholar from Swaziland, completed a Doctor of Public Health (DrPH) at the London School of Hygiene and Tropical Medicine (LSHTM) in 2009. One of the requirements of the DrPH is that candidates undertake a Professional Attachment. For his Professional Attachment, Sabelo worked with the All-Party Parliamentary Malaria Group (APPMG), a forum where UK parliamentarians, interested organisations and representatives of the public and private sectors come together to promote a united voice to help fight malaria.

"Malaria kills more than one million people every year, 90% of whom live in sub-Saharan Africa. The greatest death toll occurs in children under five. Despite the availability of preventive and treatment methods, the burden of malaria remains high. One objective of my Professional Attachment was to determine the adaptability of the APPMG model to Least Developed Countries (LDCs). The Abuja Declaration resulted in African governments resolving to allocate 15% of their national budgets to health. To this day, only a few countries have achieved this undertaking. There is a need to quicken the establishment of new forms of governance globally to ensure freedom and participation of all in government agenda setting."

Previously published in Ransom et al, 2010.

1,060 Commonwealth PhD Scholarships have been awarded to citizens from those countries since the 1960s, including 367 since the year 2000.

One additional categorisation of rapidly increasing global significance, and of particular relevance to UK government priorities, is that of fragile states. The Commonwealth states of Pakistan and Nigeria are both categorised as High Alert on the Fragile States Index, while seven other eligible Commonwealth states are flagged in the Alert category, with an additional eight in the High Warning category.²⁶ Alternatively, the OECD States of Fragility report included fourteen Commonwealth nations. In total, 2,652 individuals from these fourteen Commonwealth countries have benefitted from scholarships for doctoral study, covering important topics such as Urban Planning, Environmental Sciences, and Agriculture.

The potential for development impact in these states is strengthened by the way in which applications are sought by the Commission. A valuable legacy from the founding principle that the CSFP should be based on "mutual co-operation" and "based on bilateral agreements", applications for Commonwealth PhD Scholarships have historically been received by the CSC through one of two routes; a national nominating agency, typically based in Ministries of Education, Human Resources, or Training in Commonwealth countries, or a selected Commonwealth Higher Education Institution.

The purpose of using these nominating agencies, and one of the unique strengths of the CSFP, is to re-affirm the bilateral ethos of the programme, and allow national agencies and institutions to nominate candidates based on their own needs and priorities.

To complement this nominating route, and to widen

access and open up awards to underprivileged groups, the Commission has introduced new nominating routes, for example allowing both Split-Site applicants and applicants for the limited number of awards for those from higher-income countries to apply directly, and inviting selected Non-Governmental Organisations to nominate candidates.

An additional strength of the CSFP in relation to the development agenda is that Commonwealth Scholarships are a reliably effective means of boosting the cadre of doctorate qualified individuals across the Commonwealth. While attrition and issues arising from the length of time taken to complete PhD studies are a valid concern as noted, the Commission can rightly be proud of not only its high completion rates, but also the proportion of Alumni who have submitted their doctoral dissertation within four years, no doubt the result of having dedicated time and resources enabling Scholars to focus on their studies.

²⁶ OECD, 2015b.

Return rates for the Commission's programmes as a whole are also high, both immediately upon completion of award, and in the longer-term according to post-award data gathered by the evaluation surveys discussed in Section Three. This is influenced in part by the ethos of the programme and the explicitly stated expectation that award-holders should return home following their studies, but also strengthened by the nominating routes and stated policies of the Commission.

Summary

The Commonwealth Scholarship Commission in the United Kingdom was founded as the UK's contribution to the Commonwealth Scholarship and Fellowship Plan which was established in 1959. Since that time over 30,000 individuals have held these awards, including over 7,500 studying for PhDs or other doctoral level qualifications. While originally focused on building links between Commonwealth countries, evidence shows that these awards now play a significant developmental role as well. This is reflected in both a shift in policy by the UK government, and a wider recognition of the role that higher education can play in development, exemplified by the explicit inclusion of higher education in the UN's Sustainable Development Goals. Commonwealth PhD Scholarships can play a vital role in helping the developing countries of the Commonwealth to establish and expand their national higher education systems, many of which are struggling to hire enough PhD-qualified teaching staff to properly meet the growing demand for higher education in their countries. The next section examines who has received Commonwealth PhD Scholarships, and their activities while on-award.

Professor 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."

Previously published in Hinz et al, 2013.

2: The Commonwealth Doctoral Scholarship Programme: 1960-2015

In 1960, 87 PhD Scholars were part of the first cohort of 175 Scholars and Fellows to arrive in the UK as holders of Commonwealth Scholarships. Eighty-two men and five women from eighteen Commonwealth countries began doctorates in a diverse array of subjects such as Aerospace Engineering, Zoology, Chemistry, and Philosophy, although there was a strong subject bias towards Engineering (20 scholars), Physical Sciences (15 scholars) and Biological Sciences (12 scholars).

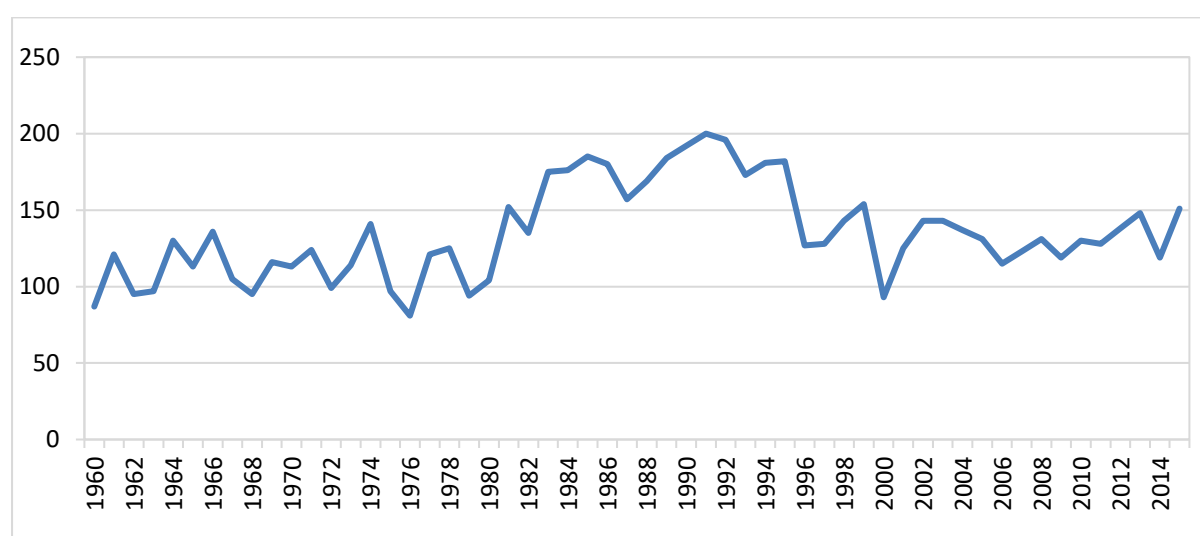
In total, the CSC has awarded over 7,500 scholarships for some form of doctoral study between 1960 and 2015. Of those, 420 were offered for Commonwealth Split-Site Scholarships, providing funding to Commonwealth citizens who are registered for PhDs in their home country so that they are able to undertake twelve-month's worth of study in the United Kingdom as part of their programme. The Split-Site programme and its Alumni are to be the subject of a separate review, and therefore form no further part of this report, which focuses specifically on the 7,148 Commonwealth PhD Scholars who were awarded scholarships to study in the United Kingdom during the fifty-five year period from 1960 to 2015.

The first part of this Section provides not only the basic demographics of all Commonwealth PhD Scholars, but also highlight trends in the selections that have emerged over time, reflecting internal CSC policy changes as well as the changing external geopolitical context. This second part of this Section examines how Scholars applied for their awards, the subjects and disciplines that they studied, and what institutions they studied at.

2.1 Commonwealth Doctoral Scholars 1960-2015: Demographics

The Commission's overall commitment to the principle of PhD scholarships has remained constant over the life of the CSFP, awarding an average of 128 awards per year since 1960, with 151 awards taken up in 2015. However, there have been some variations in the number of awards given year-over-year, as can be seen in Figure 2.

Figure 2: Number of Commonwealth PhD Scholarships by Year, 1960-2015



Two notable drops in numbers can be seen in 1976 and 2000, which featured 81 and 93 awards, respectively. However, these were not parts of longer-term trends in the number of scholarships granted, as the numbers moved back towards the average the following years. Alternatively, 1991 represents the peak year for volume of doctoral awards given, with 200 Scholars receiving scholarships that year, and represented the peak of a thirteen year period from 1983 to 1995 where the number of scholarships granted was over 150. Since that time, the number of scholarships granted annually have returned to the historical average for the programme.

Countries of Origin

Awards for doctoral study have been offered to Commonwealth citizens from 60 countries or overseas territories, with only Saint Helena, the Turks & Caicos, Tuvalu, and Vanuatu not represented among Commonwealth PhD Scholars. India has had the highest number of Scholars from 1960 to 2015, with 1,047 scholarships, with Canada, Nigeria, Bangladesh and Australia rounding out the top five recipient countries. However, due to the introduction of development priorities as a primary focus of the awards as discussed in Section 1.1, the mix of countries receiving the most scholarships has changed. Within the cohorts of PhD Scholars from 2000-2015, the top five countries of origin have been Bangladesh, South Africa, India, Nigeria and Canada. This shift is even more pronounced when examining at the top countries of origin for the 2010s, with Bangladesh still producing the largest cohort of Scholars, followed by Nigeria, India, South Africa, and Zambia. Canada notably moves from the fifth-largest country of origin for PhD Scholars to the thirteenth-largest. A full table of PhD awards offered by country can be found in Appendix A.

This last shift illustrates one of the largest demographic trends in Commonwealth PhD funding, namely the progressive reduction in the numbers of awards offered to citizens from the Commonwealth's developed states such as Canada and Australia.²⁷ This reduction in funding for these countries has coincided with the increasing focus of CSC scholarships on capacity-building and socio-economic development in the Commonwealth's developing states, underpinned by the direction of the Department for International Development (DFID). As shown in Figure 3, the number of PhD Scholarships for citizens of developed Commonwealth countries has consequently shrunk from an annual average of 36 during the first fifteen years of the CSFP, to an annual average of 15 since the early 2000s, with only nine commencing studies in 2015.

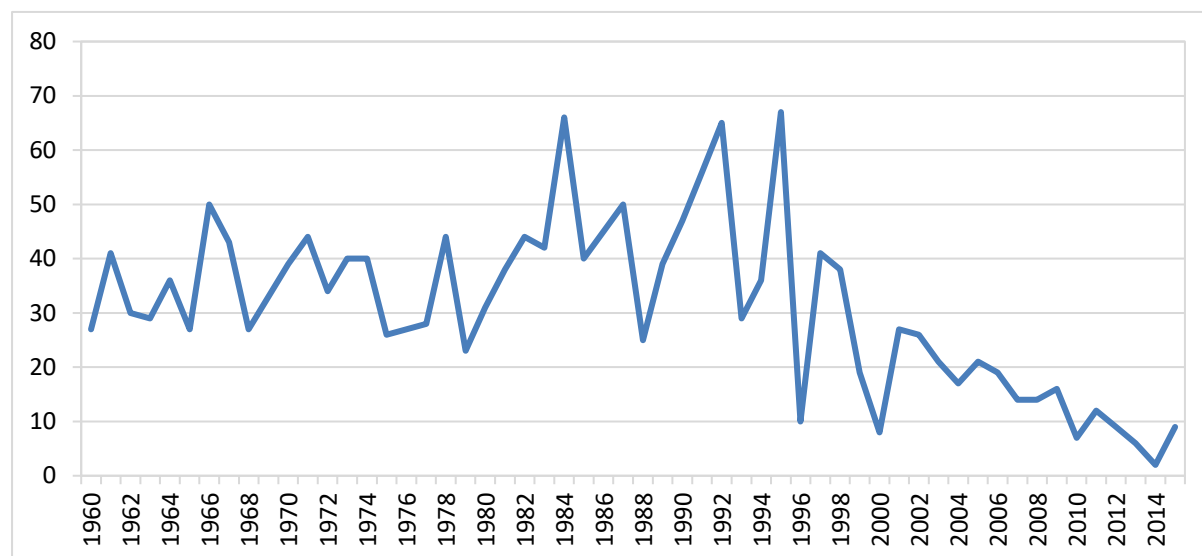
Dr Janki Andharia is Professor and Chair of the newly-created Centre for Disaster Management at the Tata Institute of Social Sciences in India, where she has taught for over 23 years. A former Commonwealth Academic Staff Scholar, who completed her PhD in Environment, Gender and Development at the University of East Anglia in 1993, Janki reports having particular impact in the area of humanitarian assistance, as well as social and environmental justice.

"I also led the disaster response work of the Institute each year, which has culminated in initiating a robust Master's programme in Disaster Management in a newly-created Centre for Disaster Management, which I now head. The humanitarian work is well acknowledged by the National Disaster Management Authority, where I serve as a member of several committees. I evolved the post-tsunami response work (since 2005) in the Nicobar district of the Andaman and Nicobar Islands with indigenous communities, with an explicit focus on deepening democracy through citizenship training and establishing knowledge centres on remote islands to facilitate the assertion of rights and entitlements. Much of our current work is located within the broader framework of social and environmental justice."

Previously published in Hinz et al, 2011.

²⁷ The full list of high-income Commonwealth states are: Australia, Canada, New Zealand, and, as of 2003, the Bahamas, Brunei, Cyprus, Malta, and Singapore.

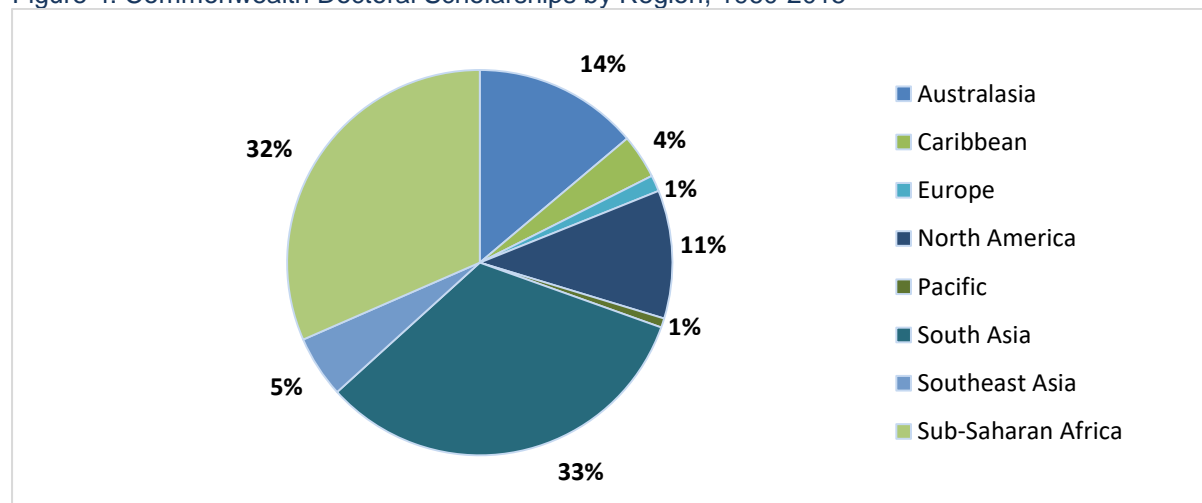
Figure 3: Commonwealth PhD Scholarships for Citizens from the Developed Commonwealth, 1960-2015



It is also important to note that the funding source for scholarships to citizens of the developed Commonwealth is different than for those going to citizens of the developing Commonwealth. While just over three-quarters (76%) of PhD Scholarships have been funded by DFID due to them going to citizens of the developing Commonwealth, the remaining scholarships have been historically funded by the Foreign and Commonwealth Office. However, as noted in Section 1.1 responsibility for funding scholarships to citizens of the developed Commonwealth moved across government departments to the Department for Innovation, Universities and Skills, latterly the Department for Business, Energy, and Industrial Strategy and as of 2017 the Department for Education.

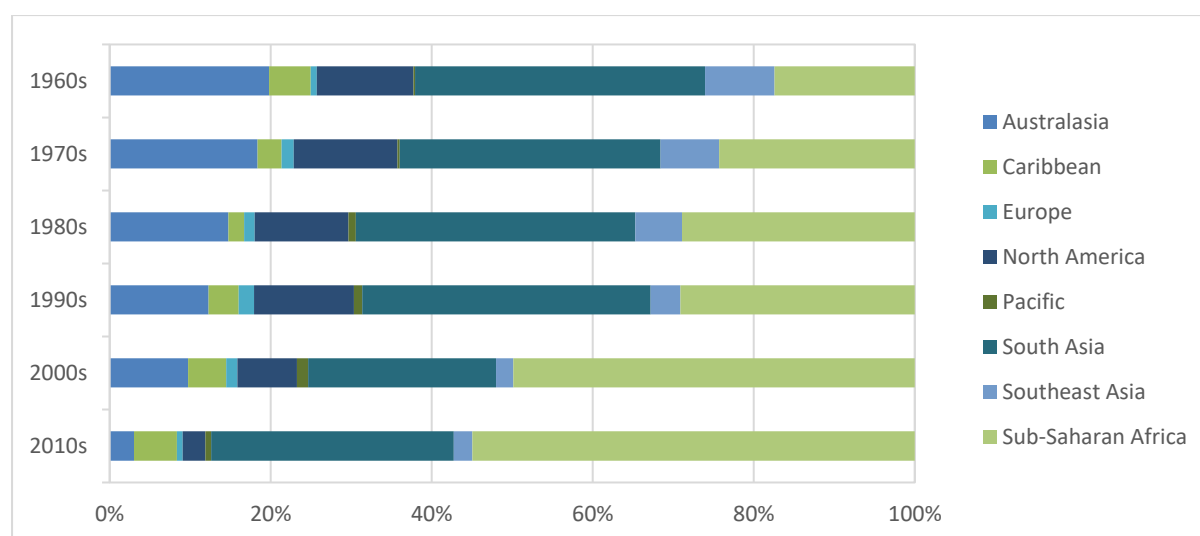
As noted above, three-quarters of Commonwealth PhD Scholarships have been awarded to scholars from developing Commonwealth countries. If recipients' countries of origin are grouped by region, one-third (33%) of all Commonwealth PhD Scholars have come from South Asia, with an additional one-third (32%) coming from Sub-Saharan Africa. Taken together, Scholars from these two regions make up the majority of PhD Scholarships that have been awarded since 1960.

Figure 4: Commonwealth Doctoral Scholarships by Region, 1960-2015



As shown in Figure 4, Commonwealth PhD Scholars have come from all regions of the Commonwealth since 1960. However, the proportions of Scholars from each region have changed substantially over the life of the CSFP, as can be seen in Figure 5. Since the 2000s, Sub-Saharan Africa contributes a much greater proportion of PhD Scholars than was the case in the earlier decades of the Plan. In fact, Sub-Saharan Africa has seen their proportional contribution effectively triple compared to the 1960s. Alternatively, Australasia, North America, and Southeast Asia have all seen their proportional share of Scholars shrink over the same period to roughly one-quarter of their original contributions in the 1960s. Once again, this can be tied to the introduction of development-oriented priorities to the selection process, and the concurrent shift away from providing awards to high-income members of the Commonwealth.

Figure 5: Proportion of All Doctoral Awards by Region and Decade

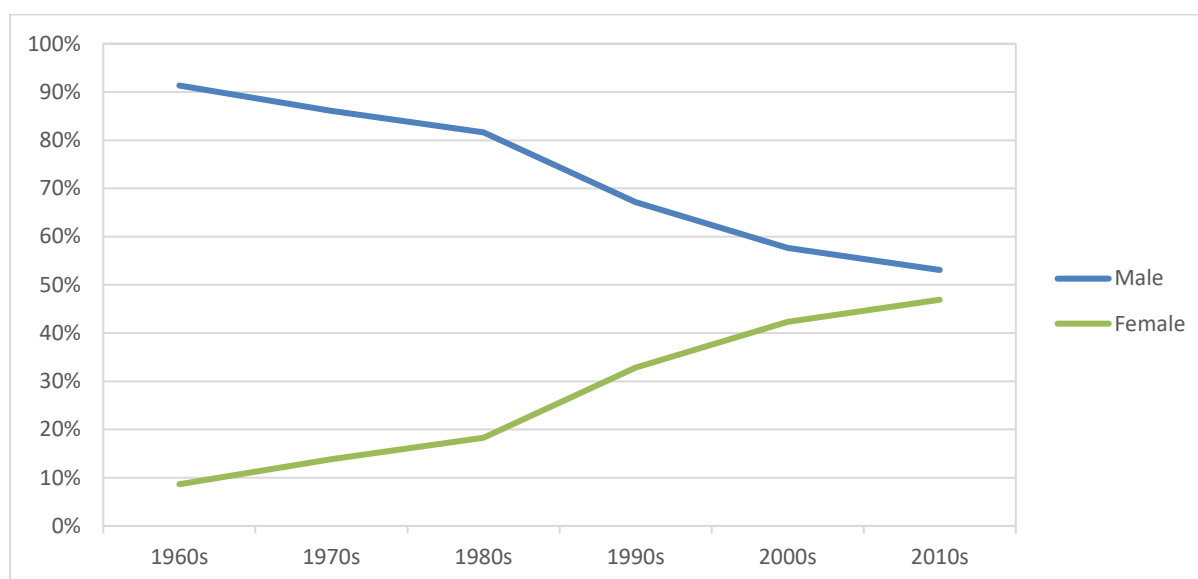


The Caribbean, European, Pacific, and South Asian regions have all seen their share of Scholars remain largely stable over time, although it should be noted that overall the European and Pacific regions contributed very small proportions of Scholars (no more than 2% and 1% respectively for each decade).

Gender

Overall, women have accounted for one-quarter (26%) of all Commonwealth PhD Scholarships awarded during the life of the program. However, as shown in Figure 6, the gender ratio of Scholars has been steadily moving toward parity over time. While just over nine-tenths (91%) of Scholars in the 1960s were male, this number has shrunk to under three-fifths (58%) for the 2000s, and has narrowed even further to just over half (53%) for the first years of the 2010s (including 2012 when female Scholars made up the majority of Scholars for the first time at 53%). Taken together, the gender ratio for all Scholars from 2000 onward are 56% male to 44% female.

Figure 6: Percentage of Commonwealth Doctoral Scholarships by Gender

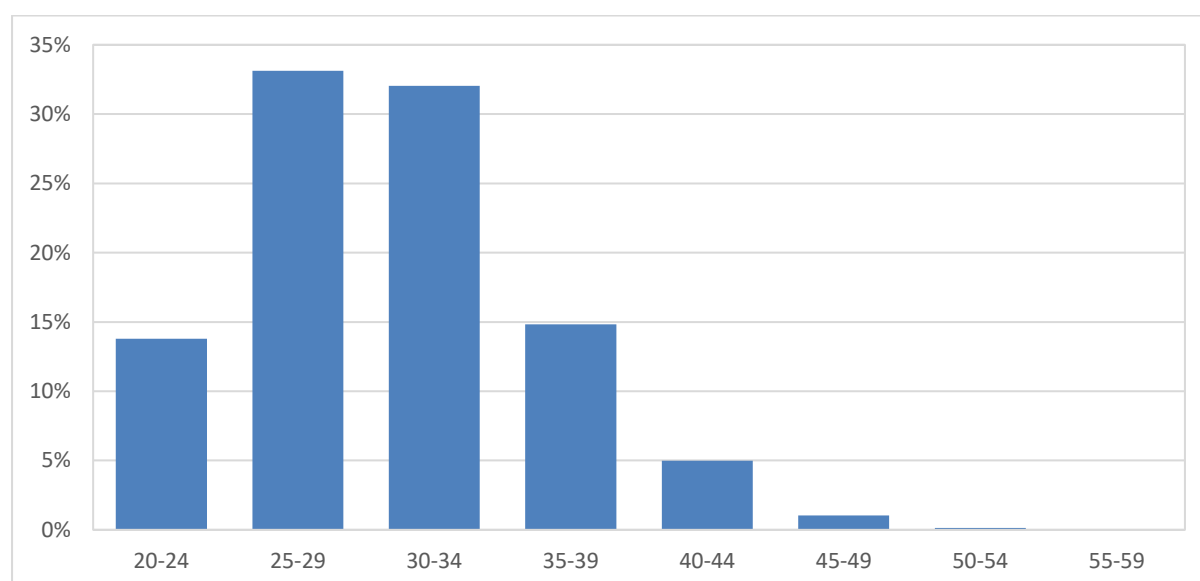


This trend towards gender parity can also be found if the cohorts are broken down by region. For example, almost all (99%) Scholars from Sub-Saharan Africa were male in the 1960s, whereas that percentage has shrunk to just over three-fifths (61%) in the 2000s, and just over half (55%) for the 2010s so far. A similar trend can be seen when looking at South Asia, starting with just over nine-tenths (92%) of Scholars being male in the 1960s, and coming down to the same ratios as Sub-Saharan Africa for the 2000s and 2010s to date (61% and 55% respectively).

Age

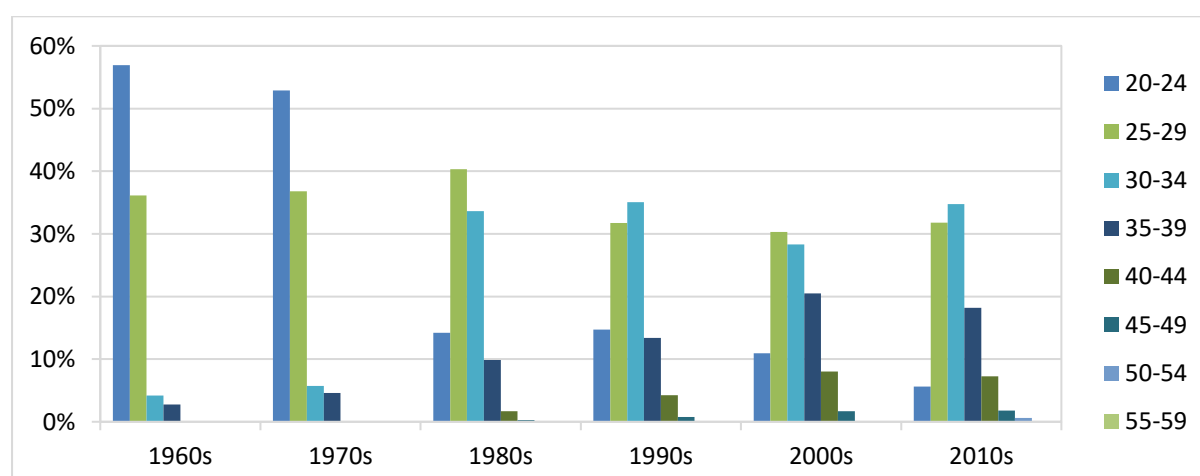
As might be expected, records from the earlier years of the scheme are not as complete as those from more recent years, and although the CSC continues to work to address these historical data gaps, there are still substantial gaps in the records when it comes to dates of birth. Currently, this information is held for just 59% of our PhD Alumni, including only 72 individuals from the 1960s. However, looking at the data for cases where the CSC does have date of birth information, we can see that overall one-third (33%) of Scholars were in their late twenties when they took up their award, with an additional third (32%) of Scholars taking up their award while in their early thirties (see Figure 7). A smaller proportion of Scholars began their studies in their early twenties (14%) and late thirties (15%).

Figure 7: Commonwealth PhD Scholarships by Age, 1960-2015



When examined by decade, it becomes clear that in general the age of PhD Scholars at the uptake of their award has been steadily increasing decade over decade. In the 1960s, the average age Scholar when they took up their scholarship was 24.5 years old. This average increased to 25.4 for the 1970s, followed by a substantial leap in the 1980s to an average of 29.4 years old. Subsequent decades have continued to see a rise in the average age from 30.3 in the 1990s, to 31.6 in the 2000s, and creeping up further to 31.9 so far in the 2010s. The overall trend away from younger Scholars is illustrated very clearly in Figure 8, which shows a precipitous drop in the number of Scholars aged 20-24 after the 1970s, along with substantial growth in the 30-34 and 35-39 age categories, as well as modest growth in the 40-44 category. The one age grouping that has remained relatively stable over the life of the scheme is the 25-29 category.

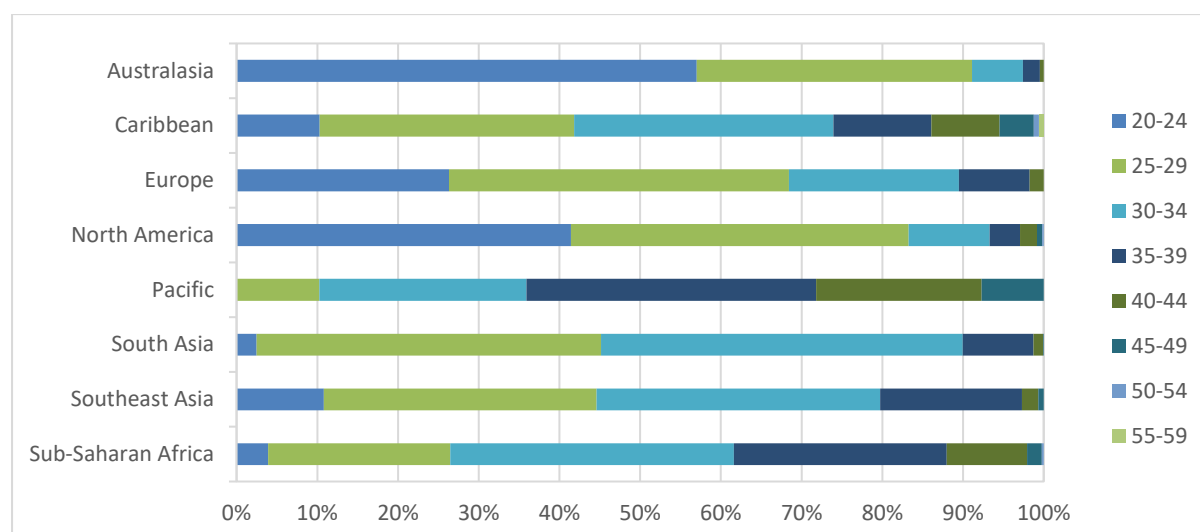
Figure 8: Percentage of Commonwealth PhD Scholars by Age, by Decade



This shift away from younger Scholars can be explained by breaking down the age groups of Scholars by region of origin. Figure 9 clearly shows that Scholars from Australasia, Europe, and North America all tend to be much younger than those coming from other regions. Looking

at just the 20-24 year olds from these regions, they make up a substantially greater proportion of Scholars than any other region. Combining both the 20-24 and 25-29 categories shows that these two categories make up over nine-tenths (91%) of Australasian Scholars, over eight-tenths (83%) of North American Scholars, and just under seven-tenths (68%) of European Scholars. Conversely, Scholars that are aged thirty or older make up nine-tenths (90%) of Pacific Scholars, over seven-tenths (74%) of Sub-Saharan African Scholars, and just over half of Caribbean Scholars (58%), Southeast Asian Scholars (55%), and South Asian Scholars (55%).

Figure 9: Regional Breakdown of Age of PhD Scholars at time of Take-Up, 1960–2015



Explanations for these age differences are likely to be a combination of socio-economic factors, such as the take-up of higher education later in life outside of the developed Commonwealth, as well as historical selection criteria in certain countries. Consequently, due to the greater age of Scholars from the developing Commonwealth, when development goals were given greater priority in the CSC's selection policies and the regional representation of Scholars began to shift away from Australasia and North America toward Sub-Saharan Africa in particular, the average age of the PhD Scholars went up.

2.2 Commonwealth PhD Scholars 1960-2015: Applications and Programs of Study

Commonwealth PhD Scholars apply for their awards through one of two streams, either by being nominated by a national nominating agency in their country, or, in certain cases, through their employer. They have also studied a wide variety of subjects over the life of the program, with a strong concentration in the STEM subjects, although the specific mix and proportions of subjects have changed over time.

Applications

Applicants to the Commonwealth PhD Scholars programme can apply for their awards through one of two routes. The majority of Scholars applied through their national nominating agency, normally a national government ministry or a nominated Non-Governmental Organisation. Alternatively, if the candidate is an academic staff member at an invited Commonwealth

Higher Education Institution, they can instead apply through their employer.²⁸ Of the total 7,148 Commonwealth PhD Scholars who held awards between 1960 and 2015:

- 5,566 were nominated by their national nominating agency, including 3,822 from developing Commonwealth states.
- 1,504 Scholars were nominated by their employer as part of the Commonwealth Academic Staff Scholarship Programme, a programme that invites universities from Commonwealth countries to nominate members of staff for doctoral or Master's study.
- An additional 78 held awards for PhD study in the 1970s and 1980s through the former Medical Fellowship Scheme which was merged with the main scholarship programme in the 1990s.

These nomination pathways mean that applicants must not only meet the specific criteria set out by their nominating body, but also those of the CSC, including minimum academic criteria. Applications going before the Commission's selection committees must include both a well thought-out plan of study, as well as a statement of potential development impact. Alternatively for Department for Education awards, instead of a statement of potential development impact, a statement of potential for leadership in pursuit of excellence in research and knowledge is needed.

Disciplines of Study

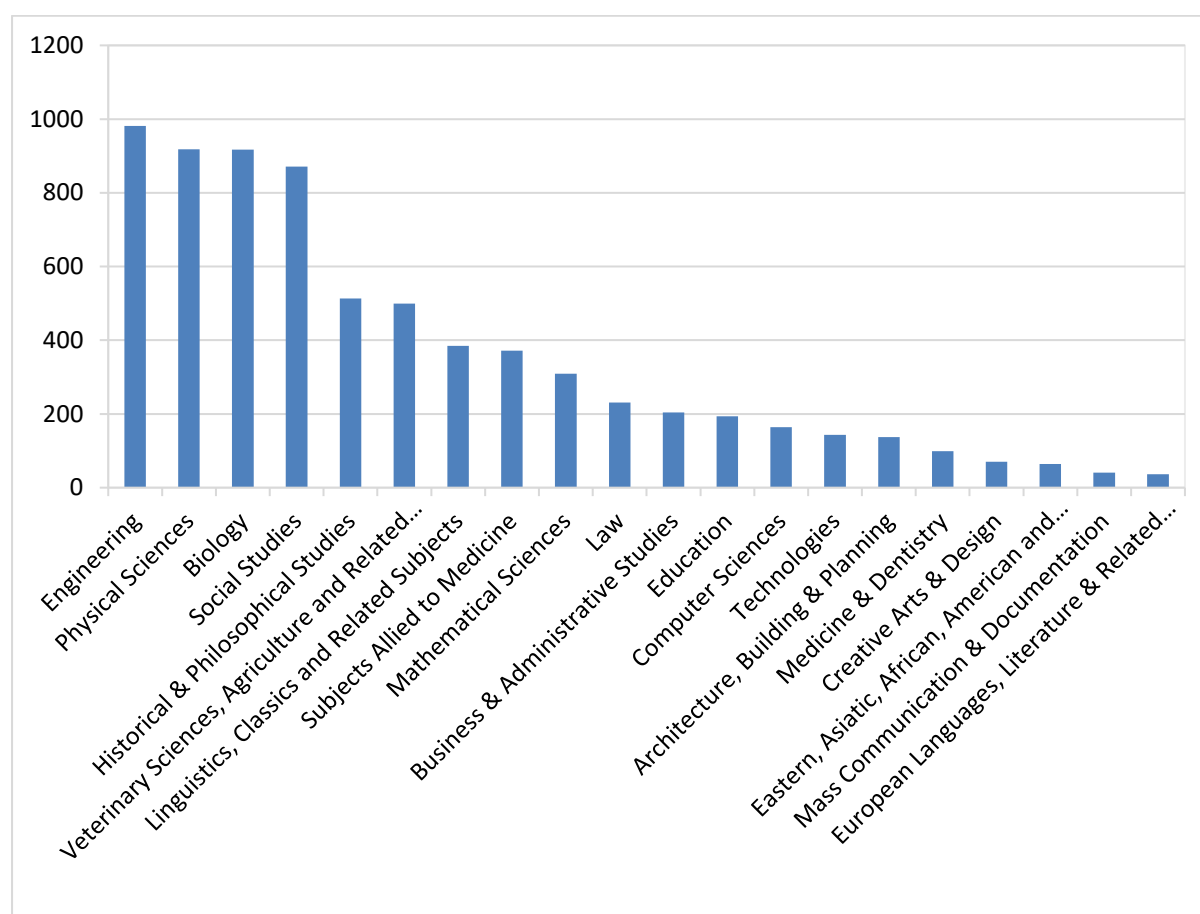
Since 1960 the government of the United Kingdom has funded doctoral study through the CSC in a wide range of disciplines and subjects. The breakdown of subjects is heavily influenced by the fact that the Commission operates no subject quotas, allowing nominating agencies and institutions the freedom to apply their own priorities in terms of their national needs.

Overall, the majority of scholarships have been held by Scholars working in the areas of Engineering, Physical Sciences, Biology, and Social Studies (see Figure 10). Examining these disciplines by sub-category, Engineering most commonly consists of Electronic and Electrical Engineering and Civil Engineering, while the Physical Sciences includes Aquatic and Terrestrial Environments, Geology, Physics, and Chemistry. Biology tends to include a broader array of subjects including Mycology, Psychology, Marine Biology, Biological Chemistry, Genetics, and Zoology, while Social Studies consist of Economics, Politics, Sociology, and Development Studies.²⁹

²⁸ A small subgroup of historical alumni applied for PhDs through the Medical Fellowship programme, which was subsequently merged with the main scheme in the 1990s.

²⁹ CSC uses the JACS discipline coding.

Figure 10: Commonwealth PhD Scholarships by Discipline 1960-2015



Disaggregating the discipline data by region produces some interesting results. Seven-tenths (70%) of Scholars from South Asia studied some form of STEM (Science, Technology, Engineering, and Mathematics) subject,³⁰ while just over half (55%) of Scholars from Sub-Saharan Africa also studied a STEM subject. If Medicine & Dentistry and Subjects Allied to Medicine are added as well, then the proportions rise to almost eight-tenths (77%) for PhD Scholars from South Asia, and two-thirds (65%) for those from Sub-Saharan Africa. Alternatively, less than half of Scholars from the Caribbean (42%) and only one-third (34%) of Scholars from North America took a STEM or Medical subject.³¹

For Scholars from the Caribbean, Social Sciences were studied at a similar rate to the STEM subjects (39%), while one-twentieth (5%) studied in the field of Education.³² Social Sciences were studied by one-third (33%) of the Scholars from the Pacific region, which also had the highest proportion of Scholars that studied Education (18%). The Arts & Humanities consisted of only 15% of Scholars overall, but made up one-quarter of Scholars from Australasia (26%) and North America (27%) respectively.³³ This can be seen in Figure 11, which shows that the

³⁰ STEM subjects include: Biology; Veterinary Sciences, Agriculture and Related Subjects; Physical Sciences; Mathematical Sciences; Engineering; Computer Sciences; Technologies; and, Architecture, Building & Planning.

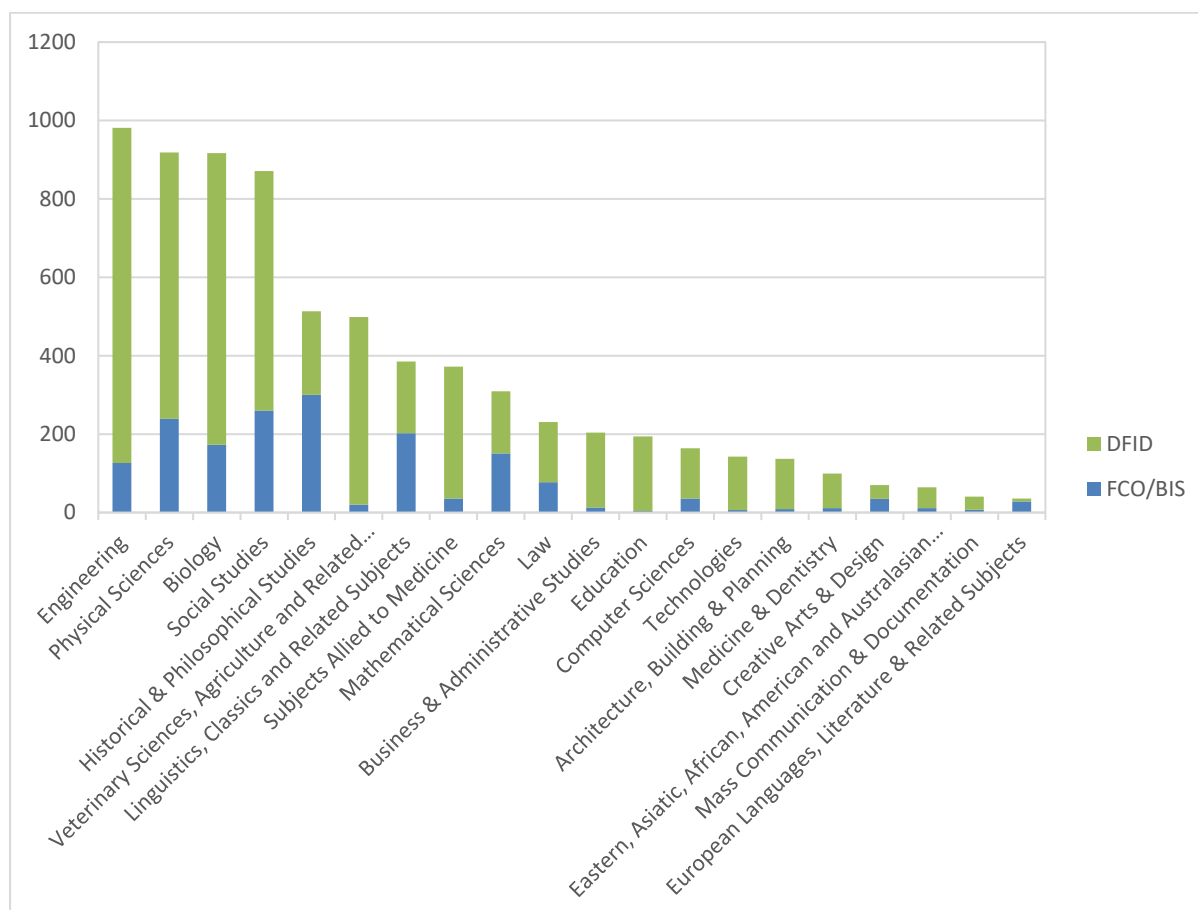
³¹ Medical subjects include: Medicine & Dentistry and Subjects Allied to Medicine.

³² Social Sciences subjects include: Social Studies; Law; Business & Administrative Studies; and, Mass Communication & Documentation. Education simply refers to the Education discipline category.

³³ Arts & Humanities subjects include: Linguistics, Classics and Related Subjects; European Languages, Literature & Related Subjects; Eastern, Asiatic, African, American and Australasian Languages, Literature & Related Subjects; Historical & Philosophical Studies; and, Creative Arts & Design.

majority of Scholars studying the Arts & Humanities disciplines have been funded by the departments responsible for funding scholarships earmarked for developed Commonwealth countries.

Figure 11: Commonwealth PhD Scholarships by Discipline and Funder 1960-2015



It is worth noting that the disciplinary focus of PhD awards has not remained static across the history of the programme. While Engineering, Biology and the Physical Sciences remain well represented, they have reduced a little proportionally due to a shift towards Social Studies, with the proportion of Scholars studying this discipline steadily increasing to become the largest group in the 2010s to date. Of the 19% of Scholars studying subjects within this category in the 2010s one-quarter of them (26%) were studying Economics, while Sociology and Development Studies were also strongly represented (17% and 15% respectively). Education has also shown a small, but steady rise, as has the Subjects Allied to Medicine category, and Business and Administrative Studies.

Table 1: Percentage of Awards by Decade and Discipline Category

Discipline Category	Discipline Subject	1960s	1970s	1980s	1990s	2000s	2010s	Overall
Medicine & Dentistry	STEM	1%	1%	1%	1%	2%	2%	1%
Subjects Allied to Medicine	STEM	3%	5%	6%	5%	6%	9%	5%
Biology	STEM	11%	18%	12%	11%	13%	13%	13%
Veterinary Sciences, Agriculture and Related Subjects	STEM	4%	6%	9%	7%	9%	6%	7%
Physical Sciences	STEM	19%	15%	12%	11%	11%	10%	13%
Mathematical Sciences	STEM	7%	6%	4%	4%	3%	1%	4%
Engineering	STEM	17%	17%	13%	14%	10%	11%	14%
Computer Sciences	STEM	0%	1%	3%	3%	3%	3%	2%
Technologies	STEM	3%	2%	2%	2%	1%	2%	2%
Architecture, Building & Planning	STEM	0%	2%	3%	3%	1%	1%	2%
Social Studies	Social Science	10%	8%	11%	11%	18%	19%	12%
Law	Social Science	3%	2%	3%	4%	5%	4%	3%
Business & Administrative Studies	Social Science	0%	1%	2%	5%	4%	6%	3%
Mass Communication & Documentation	Social Science	0%	0%	1%	1%	1%	1%	1%
Linguistics, Classics and Related Subjects	Arts & Humanities	6%	6%	6%	6%	5%	2%	5%
European Languages, Literature & Related Subjects	Arts & Humanities	1%	1%	1%	0%	0%	0%	1%
Eastern, Asiatic, African, American and Australasian Languages, Literature & Related Subjects	Arts & Humanities	1%	1%	1%	1%	1%	0%	1%
Historical & Philosophical Studies	Arts & Humanities	11%	8%	8%	7%	4%	2%	7%
Creative Arts & Design	Arts & Humanities	0%	1%	1%	1%	0%	1%	1%
Education	Education	0%	1%	3%	3%	4%	6%	3%

*Note: Disciplines colour-coded by subject grouping.

Simultaneously, the proportion of Arts & Humanities doctorates has declined steadily, shrinking from 19% of all doctorates in the 1960s to only 5% in the 2010s. The primary driver for this reduction has been the concurrent reduction in doctoral funding allocated to the high-income Commonwealth states, from which recipients disproportionately studied Arts & Humanities disciplines. Specifically, one-third (34%) of all agency-nominated Scholars from developed countries studied Arts & Humanities disciplines, making up just over half of all Arts doctorates awarded since the 1960s. The increasing focus on explicitly “development” focused subject areas also likely had an impact.

Locations of Study

One of the strengths of the Commission’s PhD Scholarship scheme is that awards are not tied to specific institutions within the United Kingdom. This allows candidates to apply to undertake their research at specialist centres, traditional Russell Group universities, or one of the many other world-class higher education institutions in the UK. As a result, Commonwealth PhD Scholars have been hosted at a wide variety of institutions in the UK, including old and new universities, independent research institutes, hospitals, and even government agencies. In total, over 130 UK institutions have hosted at least one PhD Scholar over the course of the programme, ranging from a small number in some instances to several hundred in the case of others.

Table 2 lists the twenty-three institutions who have hosted over 100 Commonwealth PhD Scholars during their studies, and their percentage share of all Commonwealth PhD Scholars between 1960 and 2015.

Some universities have hosted Scholars studying a broad range of disciplines, for example the Universities of Cambridge and Oxford are well represented in a wide array of discipline categories including Law, Mathematical Sciences, and Historical & Philosophical Studies. Alternatively, certain institutions are closely aligned with specific disciplines of study: The University of Reading, for example, has hosted almost one-fifth of all Scholars undertaking research in the Veterinary Sciences, Agriculture and Related Subjects, while the Universities of Leeds and Sheffield have between them hosted one-quarter of all Commonwealth PhDs in the category of Technologies, and the University of Manchester has hosted almost one-fifth of those Scholars in Business & Administrative Studies. It should be noted that while smaller specialist institutions may have hosted a smaller number of Scholars, they are often able to offer a great deal in the way of training in a specific discipline due to their subject specialisation.

While for many institutions the numbers of Scholars they have hosted are too small to discern any particular trends, for certain institutions there have been subtle shifts in the relative proportion of Commonwealth PhD Scholars they have hosted over the decades. For example, the University of Cambridge, who hosted approximately one-tenth (10-12%) of all Scholars from the 1960s to the 2000s, has hosted only 5% of Scholars so far in the 2010s, a significant drop from the prior decades. Imperial College London has seen a more gradual, linear decrease, from hosting 6% of Scholars during the 1960s to 2% for the 2010s so far, while during the same period SOAS saw a reduction from 4% to 1%, and the University of Manchester from 8% to 4%. The London School of Economics and Political Science has also seen a reduction in numbers over the decades, from 5% of the total in the 1960s to just under 0.5% so far in the 2010s.

Conversely, some institutions have seen substantial increases in their share of Commonwealth PhD Scholars over the life of the programme. The University of Reading, for example, hosted only 1% of the 1960s cohort compared to just under 5% of those arriving since 2000. The University of Durham has also seen a rise in proportion of Scholars hosted from 1% in the 1960s to 3% in the 2010s. Others have maintained a comparatively steady

proportion of Commonwealth PhD Scholars over the decades, including the University of Oxford (8-11%), the Universities of Leeds, (between 3-5%), and the University of Newcastle (2-3% after the 1960s).

Table 2: Commonwealth PhD Scholarships held by UK Institution, 1960-2015 (n > 100)

UK Institution	Scholars Hosted	Proportion of Total Doctoral Scholars
University of Cambridge	733	10%
University of Oxford	628	9%
University of Manchester	323	5%
Imperial College London	282	4%
University of Edinburgh	262	4%
University of Birmingham	243	3%
University of Leeds	243	3%
University of Reading	231	3%
University College London	230	3%
University of Nottingham	159	2%
SOAS, University of London	157	2%
University of Southampton	157	2%
University of Sussex	150	2%
Newcastle University	147	2%
London School of Economics and Political Science	146	2%
University of Sheffield	146	2%
University of Glasgow	137	2%
University of Strathclyde	137	2%
University of Bristol	120	2%
University of Liverpool	120	2%
King's College London	113	2%
University of Aberdeen	108	2%
University of Warwick	105	1%

Initial Outputs and Completion Rates

While the demographics in Section 2.1 allow us to see a broad picture of who participated in the scheme, this is of little value unless we know more about what has happened once the Scholar has completed their award. Sections Three and Four will discuss in greater detail what the longer-term impacts and outcomes of the programme have been, however, it should be noted that the achievement of the PhD is the very first indicator of the success of the award, as well as the effectiveness of both the administration and selection process. Another early indicator is the location in which graduating Scholars apply their newly gained knowledge and skills.

The CSC is unusual in that it holds basic records for all its 25,000 alumni, as well as qualification data for a good proportion of those. Unfortunately, for one-quarter (25%) of the 7,148 PhD Scholars between 1960 and 2015 we do not yet have a record of the *final* result of

their studies, though tracing work is underway to fill historical gaps in the data. Looking at those Scholars for whom the CSC does have completion data, almost nine-tenths (87%) of PhD Scholars completed their studies and successfully obtained a doctorate, while only a small fraction (3%) were unsuccessful at completing their degree. The remaining Scholars either obtained a lower qualification or the results are still outstanding. Gaps in historical data aside, it is worth emphasising that based on these numbers, at an *absolute minimum* almost 5,000 individuals have received a PhD qualification thanks to funding from the United Kingdom and the Commission, with actual figures realistically likely to be much higher.

Rates of Return

Return rates are an important component of the programme's assessment of impact. Commission data on return rates for CSC Scholars and Fellows overall were 97% in 2015, and 96% in 2014. This finding is also supported by evidence from the post-award follow-up evaluation surveys discussed in Section Three, which suggest that 87% of PhD respondents from the DFID-funded cohorts were resident in their home country at time of survey, and 88% of living in their broader home region. These figures should directly alleviate any fears of brain drain, particularly with respect to giving awards to Scholars from the developing Commonwealth. Also of note is that almost nine-tenths (88%) were employed, with 67% of the DFID-funded cohort having returned to their pre-scholarship employer.

Engagement and Alumni

One outcome of specific interest to the CSC is the participation of former Scholars in the CSC Alumni Association. As of mid-2016, records show that 46% of all PhD Alumni are Alumni Association members. Broken down by decade of award, the Alumni membership numbers increase as the award periods become more recent. So, while only 19% of the cohort from the 1960s are Alumni Association members, this proportion improves to 26% and 32% for the 1970s and 1980s cohorts respectively. Membership rates rise further to 51% for those who commenced their awards in the 1990s, up to 75% for the 2000s cohort, and topping out at 95% to date for those who commenced their scholarships from 2010 onwards. This is a direct reflection of the success of the Alumni Association program, which should continue to see the membership numbers increase thanks to the introduction of an "opt-out" style system of membership.

Summary

The demographics of PhD Scholars have changed substantially over the life of the program. Much of this change can be attributed to the decision to concentrate on accepting Scholars from the developing Commonwealth instead of the developed Commonwealth. This decision resulted in a shift in the region of origin of Scholars away from North America and Australasia and towards Sub-Saharan Africa, as well as a shift in the average age of PhD Scholars from the mid-twenties to the early thirties. The other notable demographic shift has been the trend towards gender parity for Scholars. At the start of the program, less than one in ten PhD Scholars were women. However, in recent years women make up just under half of all PhD Scholars, and represented the majority of Scholars for the first time in 2012.

PhD Scholars have studied a large variety of subjects over the life of the program, although Engineering, the Physical Sciences, Biology, and Social Studies have been the most common areas of study. These four disciplines have been the top four areas of study overall since the 1970s. There is some difference in the top areas of study when broken down by Scholars'

region of origin, which is likely a reflection of the individual national priorities in the region. There is also some variety in subject of study based on the funding source of the scholarship, with Scholars from developed countries (and not funded by DFID) making up the vast majority of those that studied the arts and languages.

Commonwealth PhD Scholars are generally nominated for their awards through one of two routes, either by their designated national nominating agency, or through their workplace if they are employed by a Commonwealth university, and have studied at a wide range of UK higher education institutions. Over 130 institutions have hosted at least one scholar over the life of the program, with 23 of those having hosted over 100. These institutions range from Russell Group universities such as Cambridge and Oxford to specialised institutions such as the Royal Agricultural University and the Royal Veterinary College. Indeed, some institutions have hosted a large proportion of scholars studying specific subjects due to their specialisation and expertise in those subject areas.

The CSC holds completion information for approximately three-quarters of all PhD Scholars from the life of the program, with the majority of missing information being for Scholars from the earlier years of the program. For those Scholars that the CSC has completion data for, almost nine-tenths have completed their doctorate, translating to at least 5,000 accredited PhDs over the life of the program. A similar ratio of graduates have returned to their home country or region, with just under nine-tenths reporting residence in those areas, and a similar ratio reporting that they were employed. PhD Scholars are also becoming more and more involved in the CSC's Alumni Association programme, with almost all recent graduates joining the Association. Scholar's post-Scholarship activities are discussed in greater length in the next Section.

3. Assessing Impact: Evidence from Alumni

Tracking the outcomes of PhD Alumni over the course of a programme such as CSFP is a challenging process. The CSC has invested great effort in recent years in examining the post-scholarship trajectories and social impact of its Alumni, but to do so is a considerable task. Many of our PhD Alumni, like other Commonwealth Scholars and Fellows, completed their awards forty or fifty years ago, and for many of those Alumni most of a lifetime had passed without them sharing information about their careers with the CSC. Nevertheless, in the mid-2000s the Commission began the process of introducing a focused post-award evaluation programme to complement the monitoring work already being done, with the initial aim of identifying Alumni outcomes, and then measuring and verifying the reported outcomes and impact of the CSC's work.

The establishment of the CSC Alumni programme in 2000 and related investment in Alumni tracing meant the CSC was well-situated to reach out to a large number of Alumni following the introduction of the Evaluation programme in 2007. One of the first activities of this programme was the design and distribution of a wide-ranging survey that was sent to all Alumni members for whom the CSC held contact details in 2008. This amounted to a sample population of almost 6,000 individuals, and generated responses from over 2,200 scholarship Alumni. This included 765 Alumni who had been PhD Scholars.

The initial analysis of the PhD Alumni dataset from 2008, incorporating Alumni from both DFID- and FCO-funded awards, was extremely positive. Virtually all (over 99%) respondents reported that they had gained knowledge in their field of expertise, with a similar number (98%) reporting that they had gained analytical and technical skills during their studies. Of particular interest for an international programme, over nine-tenths (93%) agreed that their scholarship had allowed them to gain access to equipment and expertise not available in their home country.

In terms of applying their new skills upon returning to their home country, and having the ability to introduce new practices and innovations at work, the data was equally positive. Almost all (95%) PhD Alumni respondents reported using the skills acquired from their scholarship at work, with nine-tenths (90%) reporting that they had the ability to exert influence and make change at work. A similar number (86%) reported that they were able to put that influence into practice.

Following on from this initial data collection exercise, a more refined version of the survey process was developed, with a series of surveys being distributed to subsets of Alumni over a four-year period. The data collected through this process was assessed through a more analytical lens, and a number of key themes have emerged from the data. The next part of this Section presents this analysis as it relates to former Commonwealth PhD Scholars, covering these key themes including mobility, employment trajectories and post-award impacts.

Professor Ernest Mallya is a former Commonwealth Academic Staff Scholar, who completed a PhD in Public Policy and Administration at the University of Manchester in 1993. He is an Associate Professor in the Department of Political Science and Public Administration at the University of Dar es Salaam, Tanzania, where he teaches and carries out research and consultancy for the Tanzanian government, NGOs, and other agencies. He also writes for and presents radio and television programmes.

"I trained Rwandan senior government officials in public administration and have undertaken research and consultancy on good governance, corruption, ethics, and election monitoring in Tanzania and we have had an impact on the government and other societal actors. We run radio programmes on civil education educating people on their rights and obligations."

Previously published in Hinz et al, 2011.

3.1 Evaluating Outcomes: The 2012-2015 Alumni Survey

The 2008 survey not only gathered a fundamental set of impact data which enabled a more systematic reporting on the post-award activities of CSC Alumni, but it also lay the groundwork for the more refined survey activities that took place between 2012 and 2015, as well as the design of the longitudinal survey programme that was to be conducted from 2016 onwards. As with the 2008 survey, the primary method of data collection for the 2012-2015 survey was through the use of electronic survey software, supplemented by the distribution of a hard copy by mail. However, in 2012 after the first wave of the survey it was decided that from 2013 onward the hard copy of the survey would no longer be used due to a poor response rate via this mode. Soft copies of the survey were also made available in PDF and Word formats for those respondents who did not wish to use the survey software.

The implementation of the second survey programme differed from the first in the way that the sample population was surveyed. While the 2008 survey targeted the entire population of known Alumni members with current correspondence addresses, for the 2012-2015 survey this population was divided into fifths and the new survey was sent to a different fifth of these Alumni on an annual basis. The annual sample frames were drawn on the basis of the year that Alumni had commenced their award for both administrative and practical reasons. Those with award years ending in '2' or '7' (such as 1977 or 2002), for example, received a survey in 2012, while those with award years ending in '3' or '8' were surveyed in 2013 and so on until all eligible Alumni (over 6,700 in total) had been sent the survey.

While the original intention was that data would be collected each year over the course of a five year cycle, it was subsequently decided that the fourth and fifth years of the survey cycle would be rolled together, meaning the data collection was completed in four years instead of five. This allowed the data collection activities to align with the Commission's funding cycle. Of the 2,090 total Alumni that responded to this survey, 617 (30%) had been in the United Kingdom as a PhD Scholar. This subsection provides an outline of the broad outcomes reported by PhD Alumni based on their responses to the 2012-2015 survey.

Residency Routes

As discussed in Section 1.2, international scholarship programs are often subject to concerns regarding the return of graduates and brain drain. Consequently, the question of where Alumni reside and their geographical trajectories is an important focus of CSC survey activities, particularly because Commonwealth Scholarships are not designed to attract and retain talent within the United Kingdom. That being said, it should also be noted that there are challenges to working with residency data at the scheme level. For example, it has been argued that while brain drain and related phenomena are shared challenges for many developing countries, the consequent effects will be felt quite differently between those countries.³⁴ Indeed, some authors have noted that emigration on a limited scale can in fact be beneficial to sending countries,³⁵ rather than always representing a net deficit. It is also difficult to ascertain national-level effects from the trajectories of a small cohort like the Commonwealth PhD Alumni. Partly for this reason the CSC has launched a qualitative investigation of the career trajectories and development activities of the small group of Alumni (including PhD Alumni) who do not return to their home country.

The data from the 2012-2015 survey shows that a large majority of PhD Alumni return home. Although it is important to note that the survey data reflects a snapshot in time rather than the

³⁴ Oyelere, 2007.

³⁵ Docquier, 2006, for example.

continuous tracking of an individual's country of residence, Table 3 shows that the proportion of PhD Alumni who reported living in their home country or home region was very high.

Table 3: Current Residency Location of PhD Alumni

Location	Proportion
Within Home Region	81.4%
Within Home Country	77.4%
Elsewhere	18.6%

However, if Alumni who came from one of the Commonwealth's high-income countries are excluded, then the proportion of Alumni currently living in their home country or region is higher still.

Table 4: Current Residency Location of Doctoral Alumni (Excluding Australia, Canada, and New Zealand)

Location	Proportion
Within Home Region	84.0%
Within Home Country	81.1%
Elsewhere	16.0%

Based on these figures, it can be seen that Commonwealth PhD Scholarships perform well in offsetting the tendency for internationally mobile individuals to remain internationally mobile and minimising the effect of brain drain. By way of comparison, in an International Association of Universities report on doctoral education in Sub-Saharan Africa, one Vice-Chancellor noted that of those students who left to pursue a doctorate abroad, about 50% failed to return to their country of origin.³⁶ The "stay rate" figures indicated by this survey are also somewhat below the general stay rate for international students in the UK³⁷ and the Netherlands,³⁸ although it should be noted that because our data concerns doctorates specifically (and not degrees generally), and the current residence of Alumni many years after the completion of their doctorate, these figures are not directly comparable. However, that being said the figures above do suggest a much stronger tendency to return for Commonwealth Scholars compared to other international scholars.

While the issue of brain drain has been in the organisational consciousness of donor governments and administrative agencies for some years, the tone of contemporary discussion of this issue has evolved to be much more sophisticated than its earlier incarnations. Increasingly, it is of interest not simply *where* skilled individuals are located geographically, but the extent to which their influence extends back to their home countries (financially and socially), as well as their tendency towards mobility rather than permanent migration and settlement.³⁹ The CSC's survey data provides examples of how such influence manifests in the minority of cases where Alumni are not resident at home:

³⁶ IAU, 2011.

³⁷ Sykes and Chaoimh, 2012.

³⁸ Bijwaard and Wang, 2013.

³⁹ See, for instance, Adams and Page, 2005; Carr, Inkson and Thorn, 2005; Varma and Kapur, 2013.

I worked for a UN organization where my main task was to undertake advisory work (based on research) in the area of employment and poverty reduction. During that period, I was able to make direct contribution to the process of policymaking in a good number of developing countries of the world. Although it is not possible to say how many jobs were created as a result of such advisory and technical assistance work, I think one could claim without being immodest that such work did make a contribution to policymaking and through that to the process of employment creation and poverty reduction.⁴⁰

Multinational organisations in particular are a space in which internationally mobile PhD Alumni can find opportunities to shape policy and practice both within and beyond the borders of their own country. Another avenue to developmental impact from abroad is through research and development within high-income countries with advanced science infrastructure that may not exist in Alumni's home countries on topics of significant relevance to developing countries such as antiretroviral or anti-microbial resistance research. Alternatively, some Alumni living outside of their home countries are working for higher education institutions as part of an international cadre of academic staff, often working at prestigious institutions such as Stanford University or Harvard Medical School. As discussed below, these Alumni are a subset in the much broader trend towards PhD Alumni pursuing their careers within the higher education sector.

Career Paths

The career trajectories of doctoral graduates are a subject of both substantial international attention, and a number of detailed research efforts.⁴¹ However, the data available for many of the lower-income Commonwealth states is often limited, although it tends to show a major shortage of academic staff and low (sometimes declining) levels of doctoral enrolment.⁴² One of the major aims of the Commonwealth PhD Scholarships is to help sustain and build the labour force capacity required to offset challenges from both the skills shortage and demographic forces such as an aging professoriate.

The proportion of PhD Alumni who are currently employed is very high with just under nine-tenths (88%) currently employed at the time of the survey. Of the remaining 12%, the balance (8%) are predominately retired reflecting the fact that the programme began in 1960, and many of the PhD Alumni who were on award in the earlier decades of the programme are now either late in their careers or have retired from formal employment.

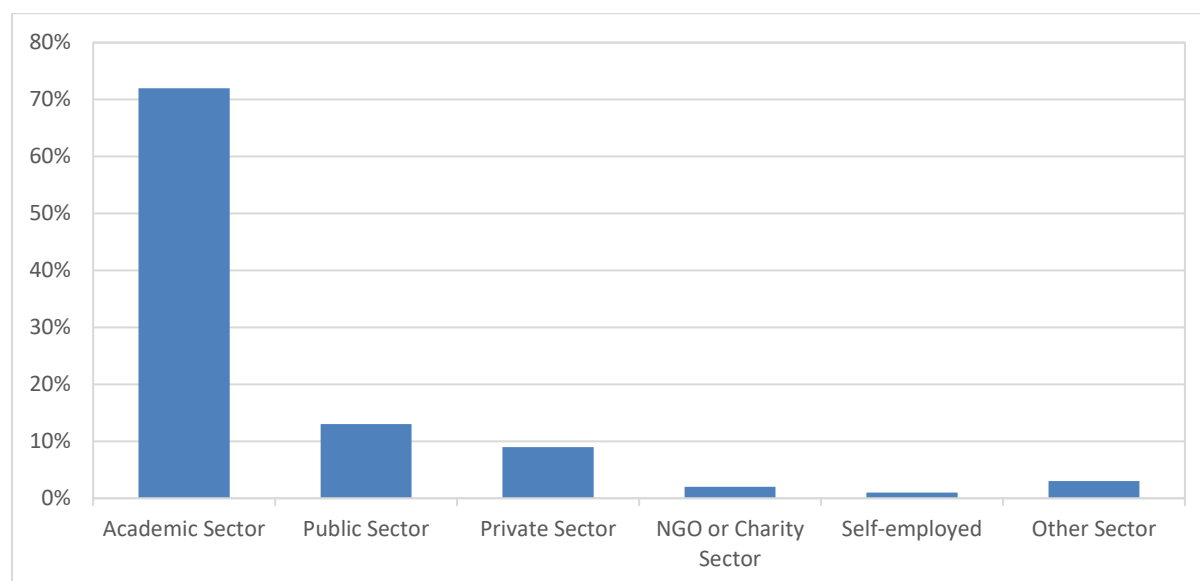
The majority of employed PhD Alumni currently hold positions in the higher education sector, mostly within universities, although some work at research institutes or higher education coordination bodies (e.g. inter-university councils). Of those PhD Alumni working outside of academia, approximately equal numbers work in the public and private sector, for example in governmental posts or private corporations. There is, however, a margin of error in these numbers as some PhD Alumni reported university-based employment as belonging to the "public sector", although the majority reported such employment as part of the "academic sector". Similarly, some Alumni working at private universities listed their employment as "private sector", whereas these could also have been considered "academic sector" positions. Consequently, the estimate of the proportion of PhD Alumni currently working in academia is likely conservative.

⁴⁰ Source: 2013 Alumni Evaluation Survey.

⁴¹ See Freeman, Auriol and Misu, 2013; Nerad, Rudd, Morrison and Picciano, 2007.

⁴² Tettey, 2010.

Figure 12: Current Employment Sector of PhD Alumni



In either case, it is clear that the primary pathway for PhD Scholars upon graduation is into the academic sector within their home countries (and occasionally internationally), adding a potentially influential pool of highly-qualified teaching and research staff to their nation's academies. Some institutions have benefited from multiple "generations" of Commonwealth PhD Alumni, helping to build a corpus of likeminded professionals within a department or faculty. The intention of distributing awards in this manner, and one of the potential strengths of university nominations, is to aid the "compounding" of impact within an otherwise diffuse programme of scholarships. As doctoral qualifications for academic staff is a policy focus for many of the countries that participate in Commonwealth PhD Scholarships,⁴³ it is clear that the scheme can and does play an important role in both facilitating the career trajectories of individual PhD Scholars and helping nations to pursue their development agenda. The post-scholarship employment sector of PhD Alumni differs somewhat between the three nomination routes for Commonwealth PhD Scholarships. Alumni who were nominated by a university by definition were working in the academic sector prior to their scholarship, and most (80%) remained in the academic sector after completing their doctorate.

Table 5: Current Employment Sector of PhD Alumni by CSC Nominating Route

Nomination Route	Academic Sector	NGO or Charity Sector	Private Sector	Public Sector	Self-employed	Other Sector
University	80%	4%	4%	9%	1%	3%
Agency: Developed	76%	1%	13%	7%	1%	2%
Agency: Developing	64%	3%	10%	19%	1%	3%

For PhD Alumni who were nominated through either developed-country agencies or developing-country agencies, employment trajectories are slightly more complex. Although in

⁴³ See, ASSAf, 2010, for instance.

both cases the academic sector remained the dominant destination, the proportion of PhD Alumni nominated by a developing-country agency was considerably lower than the proportion nominated by a developed-country agency. Additionally, PhD Alumni nominated by a developing-country agency were more than twice as likely to be employed in the public sector as Alumni from the other two nominating routes. These differences can partly be explained by differences in pre-scholarship and immediate post-scholarship employment.

For instance, the flow from a higher education institution, to a Commonwealth award, and back to the same higher education institution is much more prevalent for university-nominated Scholars than other nominating routes. As seen in Table 6 around 84% returned to their previous (university) employer upon completion of their Commonwealth award. Alternatively, while the majority of Alumni nominated through a developing-country agency returned to their pre-scholarship employment position (68%), whereas only a small fraction of those Alumni nominated through a developed-country agency returned to their previous employment (7%).

Table 6: Return to Previous Employment Post by CSC Nominating Route

Nomination Route	Returned to Previous Post
University	84%
Agency: Developed	7%
Agency: Developing	68%

Even for those holding academic posts, only a small portion of developed-country agency Alumni returned to their previous position (7%), in comparison to the vast majority of developing-country agency (78%) and university-nominated Alumni (87%) who returned to their position. The link between specific employment positions, employer support (or sponsorship), and the undertaking of a Commonwealth award thus appeared to be considerably stronger for those Doctoral Scholars from the lower-income Commonwealth.

Nonetheless, the overall employment picture shows that Commonwealth PhD Alumni are predominately employed in the academic sector, with the remaining balance split between private and public sector, although some variations between groups of Alumni by their nomination route do exist.

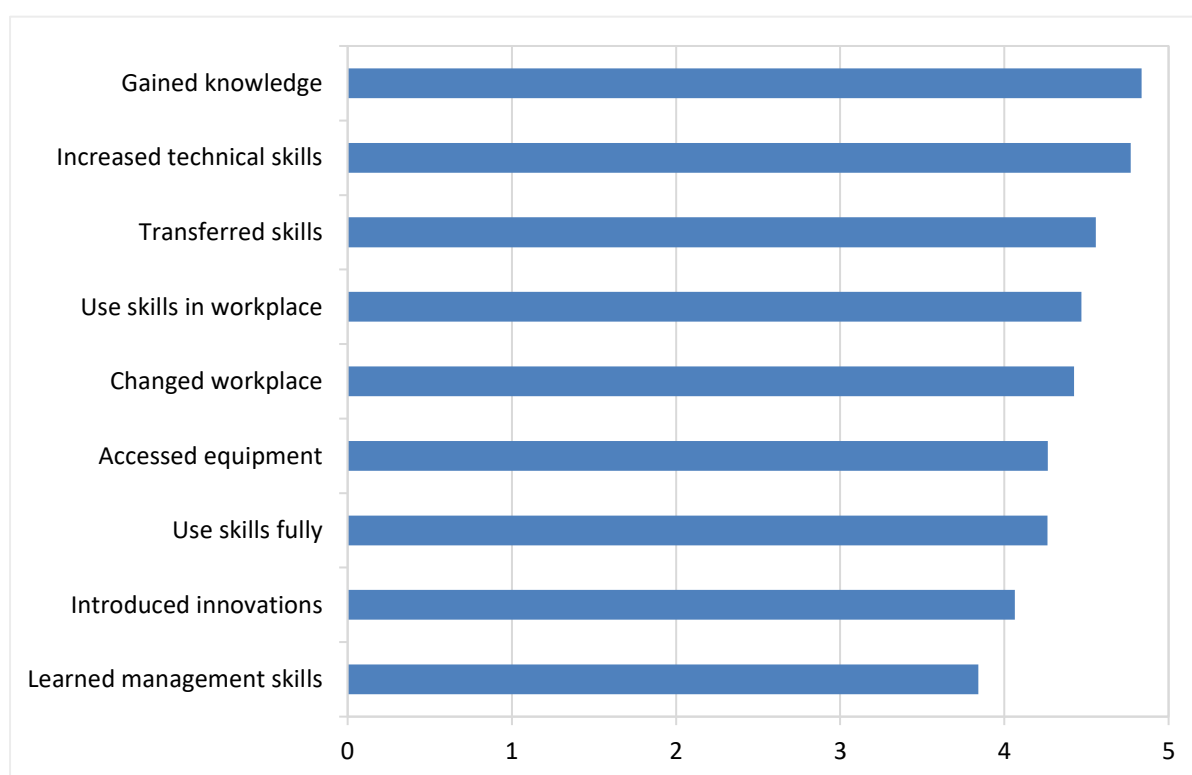
Skills and Activities

Employment within developmentally-important sectors of the countries participating in Commonwealth PhD Scholarships is a crucial component of the scheme's outcomes (as will be discussed in Section 3.2), but does not in and of itself tell us much about the role that Alumni play in strengthening their country and its institutions. The ways in which the advanced knowledge from their doctoral study is used is crucial to fully understanding the impact of the scholarship. It is not inevitable, for instance, that returning Alumni will find themselves in a position to readily innovate and exercise the full potential of their post-doctoral careers. For example, in the Kazakh Bolashak scholarship scheme there have been cases of "brain waste" when returning scholarship recipients had been locked into underemployment for a set period

upon graduation in an attempt to limit the issue of institutional brain drain.⁴⁴ Clearly this is undesirable both for Alumni themselves, and from the policy perspective of the CSC.

With respect to skills gained and their use post-award, the outcomes of a Commonwealth award were highly regarded across the cohort of PhD Alumni. Alumni gave high ratings in response to all questions assessing knowledge and skills gained and the application of those gains to current employment. Figure 13 shows the average rating assigned to each of eight outcomes on a scale of one to five. Some outcomes refer to skills or gains from doctoral study⁴⁵ and some to their application post-scholarship.⁴⁶ Unsurprisingly, the highest rated categories of scholarship gains were in knowledge and technical skills while undertaking the doctorate, and the lowest in learning management skills, largely because PhD Scholars are undertaking an academic, not professional, qualification. Importantly, on the application end of outcomes, the transfer of knowledge and skills to others and their use within the workplace were also highly rated.

Figure 13: Average Rating of Skill Gains and Applications by PhD Alumni



Within higher education, it is clear that research and teaching are central activities in the transfer of knowledge and skills. In their combined survey responses, Commonwealth PhD Alumni reported having trained over 1,350 additional PhD students, over 25,000 Master's students, and several hundreds of thousands of undergraduates. These figures are also undoubtedly conservative for the impact of the PhD programme as a whole, since any tendency towards exaggeration in survey responses is likely more than offset by the small percentage of total PhD awards covered by the 617 survey respondents. If the rate of further

⁴⁴ Perna et al, 2015; Mawer, 2014.

⁴⁵ Specifically: Gained knowledge, Increased technical skills, Accessed equipment, and Learned management skills.

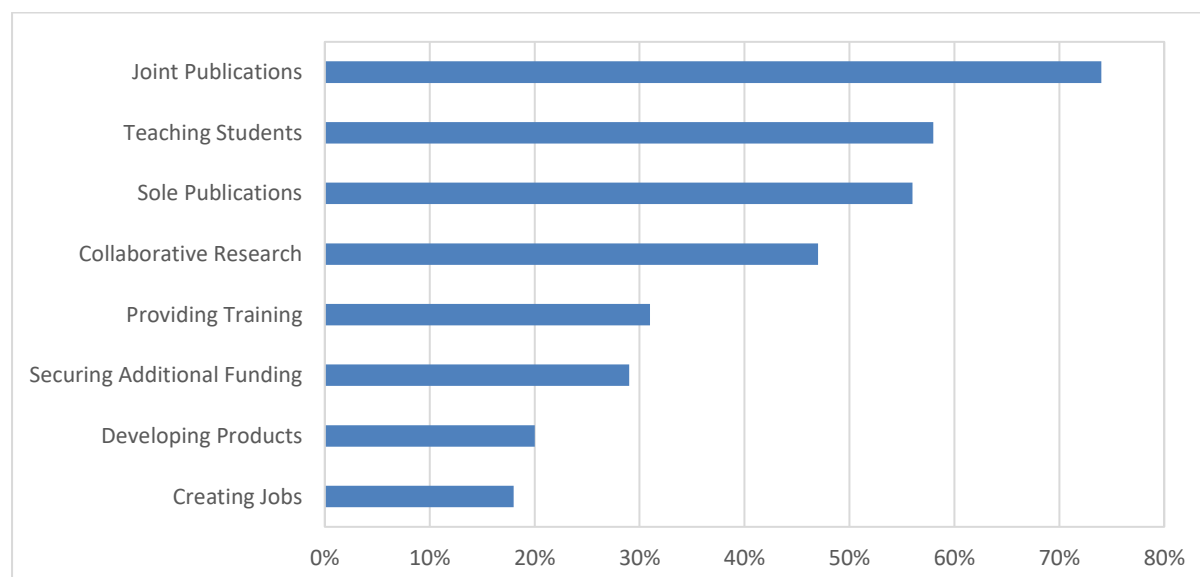
⁴⁶ Specifically, Transferred skills, Use skills in workplace, Changed workplace, Use skills fully, and Introduced innovations.

training reported in the survey was replicated across the entire cohort of Commonwealth PhD Scholarships, even taking only the more conservative median measure for PhDs supervised, then the figure for PhDs supervised by Alumni could be broadly estimated to be approximately 21,000.

Nonetheless, these are important observations in the context of achieving ongoing and sustainable impact from Commonwealth PhD Scholarships. While the activities of individual Alumni may have substantial positive influence on the social and economic development of their organisations, local area, or even country, if broader long-term benefits are to be realised, then it is important that others benefit from knowledge transfer and training from the Alumni. Clearly teaching and the supervision of doctoral students are routes through which PhD Alumni are contributing to sustaining and developing the academic talent pools and future labour forces of their countries.

However, teaching and training were not the only avenues through which PhD Alumni realised tangible outcomes from their Commonwealth Scholarships. The majority of PhD Alumni also reported publishing both sole-authored and joint-authored publications related to research conducted during their Commonwealth Scholarship. Consistent publishing is itself a notable outcome for Commonwealth Scholarships, given the differential in international research participation between various Commonwealth nations.⁴⁷ The importance of joint-authored publications through international collaboration should also not be underestimated, especially as the concentration of international collaborations may be low even in research economies on an upward trend,⁴⁸ although there are many subtleties to interpreting such bibliometric trends.⁴⁹ Many PhD Alumni have also been involved in further collaborative activities, winning a variety of small and large grants to fund research projects and in some cases to develop and commercialise resulting products.

Figure 14: Reported Outcomes of Work Conducted by Doctoral Scholars Post-Award



As can be seen, in Figure 14, few PhD Alumni indicated that they had directly created jobs as a result of their Commonwealth award, but it is important to consider that survey respondents

⁴⁷ See, for instance, Kahn (2011) on South Africa, Evidence (2012) on India, or Sawyerr (2004) on the difficulties related to research capacity in Africa generally.

⁴⁸ For example, India. See Evidence, 2012.

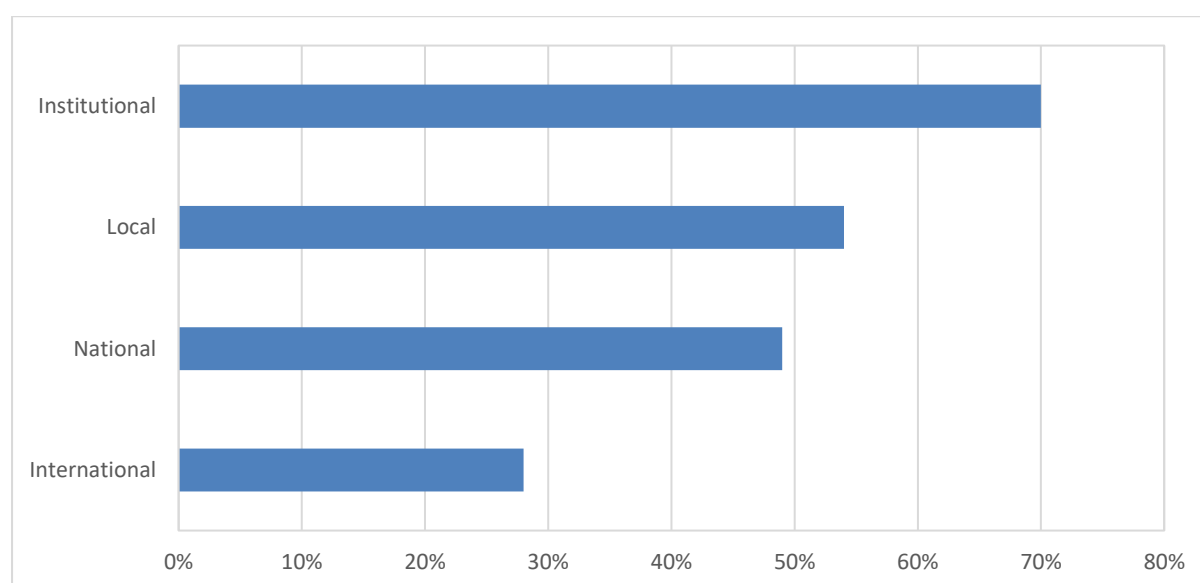
⁴⁹ See Chuang, Chuang, Ho and Ho, 2011.

may or may not have factored in the influence of winning research grants on job creation and stability within academic facilities. The generation of research funding income, particularly where the funding is derived from international sources and thus did not originate from taxation in the Alumni's home country, could potentially create or sustain research jobs within academic faculties that might otherwise not exist. Similarly, the supply chain and output of scientific activity frequently sustains and generates jobs within the wider economy.⁵⁰ As such, indirect job creation may be somewhat more difficult for respondents to self-assess than other more direct outcome metrics, such as winning research funding or teaching students.

3.2 Evaluating Outcomes: Developmental Impact

Both “development” and “impact” are terms that in practice are difficult to define and quantify. However, the 2012-2015 survey employed a series of questions to identify the breadth, area, and type of impact that Alumni felt they were having. With respect to breadth, Alumni reported on whether they had an impact on development in any of four progressively broader domains: institutional, local, national, and international. Following the same pattern as Commonwealth Scholars and Fellows more generally, the most PhD Alumni reported having an impact at the institutional level, with progressively fewer reporting impact as the domain became broader. Notwithstanding this pattern, half (49%) of PhD Alumni still reported that they had an impact at the national level, and over one-quarter (28%) at the international level, indicating a substantial contribution to higher-level policy and operation within both their country of residence and internationally.

Figure 15: Reported Domains of Impact by PhD Alumni

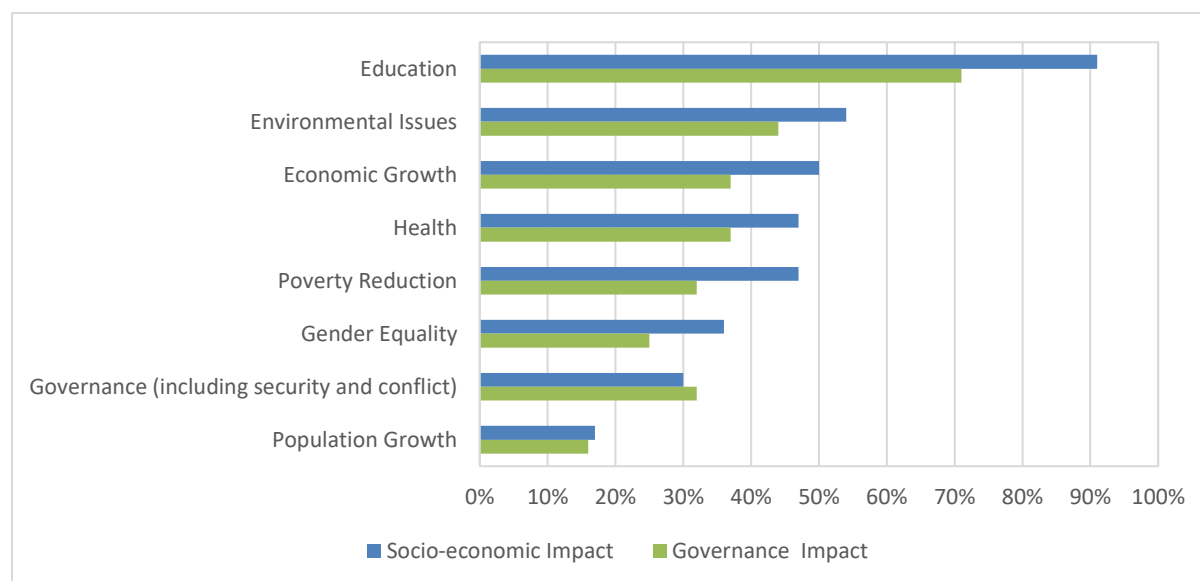


While it is tempting to view these different domains in a hierarchical manner, it is important to realise that many important outcomes of Commonwealth Scholarships are primarily found at the local and institutional levels, particularly those related to organisational strengthening and political advocacy. The number of PhD Alumni who felt they had an impact on the development of their institution accords with the high average rating reported for having been able to make changes in the workplace. Indeed, it is a reflection of the catalytic effect Commonwealth Scholarships aim to achieve on capacity building.

⁵⁰ See Weinberg et al, 2014.

With respect to the area of impact, the 2012-2015 survey asked PhD Alumni about their activities within eight broad areas of particular relevance to social and economic development: education, environmental issues, health, poverty reduction, economic growth, gender equality, governance (including security and conflict), and population growth. For any areas where they reported having an impact, Alumni were asked what type of impact they had, either in the form of social or economic development (socio-economic impact) or through influence on government policy (governance impact). It should be noted that it is difficult to assess where these two forms of impact overlap and whether differing definitions of “socio-economic” or “governance” substantially influence the activities Alumni report.

Figure 16: Reported Areas and Type of Impact by PhD Alumni



The areas of activity in which PhD Alumni reported impact was substantially skewed towards education, as might be expected from the dominance of higher education as an employment destination as discussed in Section 3.2. Over nine-tenths (91%) of PhD Alumni reported having a socio-economic impact in an education-related field such as tertiary education, research, and Technical and Vocational Education and Training (TVET). Moreover, almost three-quarters (71%) of Alumni reported having an impact on government policymaking within the field of education, helping to shape the governance frameworks that structure education within their country. The proportion of Alumni reporting involvement in educational policymaking is also remarkably high and, even if the scale of influence reported varies greatly between Alumni, could be interpreted as a sign that Commonwealth PhD Alumni are often perceived as experts within their countries. Certainly, many of the government policy impact activities reported by Alumni related to commissions, consultancy, advising ministries, and other forms of expert guidance. Similarly, around one-third of PhD Alumni reported having regularly undertaking consultancy roles in addition to their primary employment.

Dr Tong Lan Ngiam was awarded a Commonwealth Scholarship in 1967, to study a PhD in Pharmaceutical Chemistry at the University of London. Originally from Singapore, he was an Associate Professor at the National University of Singapore from 1970 until his retirement in 2003, as well as Head of the Department of Pharmacy at the university from 1994-1996. His work also had a wider impact:

“As a member of the Medicines Advisory Committee, I helped to safeguard the safety, efficacy, and quality of medicinal products registered in Singapore and as a member of the Singapore Pharmacy Board, I helped to formulate policies on the pharmaceutical profession and the practice of pharmacy. As Principal Investigator, I supervised and completed major research projects in the following areas: antimalarial drugs, long-acting contraceptive steroids (both supported by the World Health Organisation), and novel neuroactive drugs.”

Previously published in Lee-Woolf, 2011.

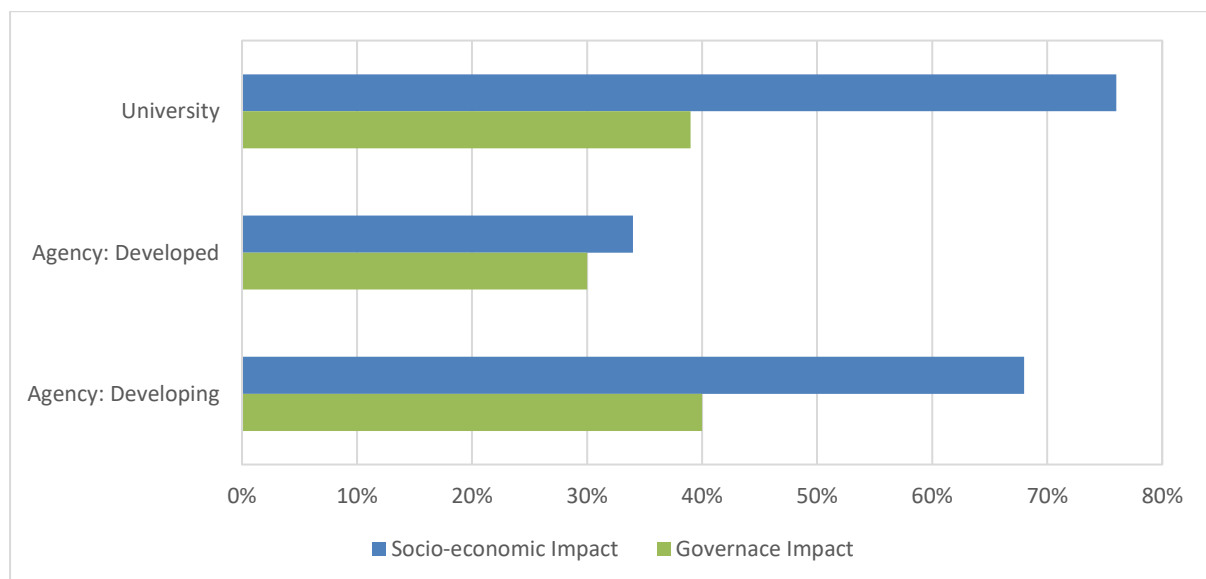
In addition to education, a substantial number of PhD Alumni reported having engaged in development-oriented activities in environmental issues, economic growth, health, and poverty reduction. Much of this engagement was done through the research projects undertaken by PhD Alumni, often developed collaboratively and underpinned by funding grants. The scope of these projects ranged greatly, from small-scale health projects to involvement in government censuses or international environmentalism.

Interestingly, the range of development activities (defined as the number of distinct areas in which activity was reported) reported by PhD Alumni was among the narrowest in the CSC scholarship portfolio. Both those on short-term Fellowships and those funded to study Master’s degrees reported having been involved in a broader range of development activities post-scholarship than PhD Alumni. A likely explanation for this difference is the effect of academic specialisation, both during the doctorate and post-scholarship activities in the higher education sector.

As with Alumni’s employment trajectories, it is useful to examine some of the differences in reported impact between the nomination routes through which Alumni had become Commonwealth Scholars.

Figure 17: Reported Types of Impact by Nomination

Route



An important distinction to recall is that PhD Alumni nominated by developed-country agencies are not selected on the basis of their potential future contribution to home country development

or international development issues, but rather their potential as leaders. However, despite different selection criteria, around one-third of these Alumni nonetheless reported having socio-economic and governance impacts in the development-related areas examined. Although this proportion was far lower than Alumni who were nominated through either developing-country agencies or universities, the involvement of developed-country agency PhD Alumni in development activities is a good indication of how the Commonwealth Scholarships, although bilaterally arranged, do not necessarily result in solely bilateral outcomes. The cases of Alumni from high-income countries involved in development projects and PhD Alumni having moved between, but not away from, low-income countries show how Commonwealth awards can both create collaborative links and catalyse mobile expertise within the Commonwealth.

Summary

The Alumni surveys that have been conducted by the CSC have shown that on the whole, Alumni return to their home country or region and have found employment after their award. A large majority of PhD Alumni are employed in the academic sector, many of whom have returned to their previously held position. This is a strong indication that the programme is helping to address the shortage of PhD-trained staff experienced by academic institutions in the developing Commonwealth, and growing the capacity of these institutions. Alumni have strongly indicated that they successfully developed their skills and knowledge over the course of their study, and have effectively implemented those skills and knowledge in their workplaces.

Alumni reported a number of outcomes from their work, many of which are linked to the academic career paths that most Alumni have followed. Many Alumni have published both jointly and on their own, taught students, and engaged in collaborative research, among other activities. They have also reported that they believe they are having an impact at all levels of society (from the institutional to the international) to varying degrees, in both the socio-economic and governance spheres. While the primary area of impact is understandably in the area of Education, a substantial number have also reported an impact on Environmental Issues, Economic Growth, Health, and Poverty Reduction. This Section has described the broad, overall impact that all PhD Alumni have had upon completing their studies. The next Section provides specific examples of the impacts that Alumni have had post-scholarship.

4. Behind the Numbers: Stories of Impact

The two main survey exercises conducted to date have generated a wealth of data not only on PhD Scholarships, but also on the holders of Fellowships and Master's Scholarships. However, the CSC recognises that in order to gain a full picture of the outcomes and impacts of its programmes, a mixed-methods approach needs to be employed, incorporating interviews and other qualitative methods to complement the largely quantitative data gathered through the surveys. The qualitative element of the CSC's evaluation activities on PhD Scholarships discussed in this report comprised of Alumni career path and professional activity stories initially identified in open-ended survey responses, and then collected through in-depth interviews. These interviews have been used to illustrate the outcomes discussed in the previous section through the creation of evaluation profiles that provide examples of the socio-economic and governmental impacts individual Alumni have reported.

The proportion of PhD Alumni survey respondents reporting impact in the eight development areas (education, environmental issues, health, poverty reduction, economic growth, gender equality, governance (including security and conflict), and population growth) were summarised in Figure 16 in Section 3.2. In addition to the quantitative survey data, alumni who reported that they had contributed to socio-economic development or influenced government policy were asked to provide details of their activities in free text boxes within the body of the survey, with the option to provide up to four examples (two examples each for socio-economic impact and influencing government policy) for their areas of work.

The next stage from this was to gather more detailed data that would allow the Commission to have a more in-depth understanding of the activities that respondents reported in the surveys. Follow-up surveys were sent to respondents to the 2012, 2013 and 2014 surveys who had:

- Indicated that they had an impact in socioeconomic development and government policy;
- Agreed or strongly agreed that they had used specific knowledge and skills developed during their scholarship in their workplace; and/or
- Agreed or strongly agreed that they had introduced new practices or innovations in their work place as a result of their Commonwealth scholarship.

The purpose of this supplemental survey was to gather additional details on topics such as the experiences of returning to work or seeking employment after the scholarship, the application of knowledge and skills gained during the scholarship to their work places (such as introducing new practices or innovations at their work place as a result of the award), details on socio-economic and government policy impact, and general reflections on their Commonwealth award. The data collected by the follow-up survey consisted almost entirely of qualitative data, with respondents encouraged to provide detailed responses in the areas of interest.

Figure 18: Qualitative Data Collection Methods to Measure the Impact of CSC PhD Scholarships



Respondents to the second survey were then also invited to participate in a semi-structured evaluation interview via Skype.⁵¹ Interview questions were focused on pre-scholarship, on-scholarship, and post-scholarship experiences and were shared with Alumni in advance to allow them to prepare.

The descriptions of activities and outcomes detailed by respondents provided a useful basis for understanding the range of activities that PhD Alumni are involved in, and the contributions that they make to local, national and international development. As would be expected of PhD Alumni who have returned home to academic careers, higher education activities such as research and teaching feature prominently. However, the responses also showed that Alumni have gone beyond academic activities and are involved in a range of consultancy and advocacy roles, contributing to designing and implementing development projects and government policies. This section reviews some of the qualitative data that has been gathered from PhD Alumni, and the profiles that have been constructed as a result.

4.1 Education

As discussed in the previous Section, the most frequently cited examples of impact related to educational or research activities. These activities include teaching undergraduate and postgraduate students, providing supervision for doctoral students, publishing books and research papers, and developing university-level courses on diverse subjects such as leadership and governance, poverty alleviation, statistics, construction project management and agricultural engineering. Some Alumni also reported an impact in the development of their university, such as establishing governance structures or a new laboratory. For example, one Alumnus reported that they had established an academic staff association which evolved into a registered trade union that improved working conditions for its members, while another established IT courses for non-academic staff at their university. Other Alumni have worked to improve the accessibility of their schools. As one Alumni reported:

[I] mobilised higher intake of disabled students at the university level and introduced exam reforms for disabled students at a national level. This has been done through [a] planned document for the UGC and through a number of awareness raising workshops with special educators at school level in government run schools in all 6 districts of the Delhi municipality in addition to 60 workshops at the College level.⁵²

As a result of this Alumni's efforts, more disabled students were admitted and were passing exams in the municipality of Delhi. The number of disabled students admitted to university and college level schools more than tripled from 200 to 700 over the course of one year, and those students were provided better options for taking exams with respect to the modes of examination and facilities provided.

Alumni have also reported engagement in development activities in primary and secondary education, such as curriculum development, the creation of assessment measures, or teacher training initiatives. As another Alumni reported:

As part of a Commonwealth of Learning (COL) project I trained secondary school teachers to develop Open Educational Resources in selected subject areas for

⁵¹ In some instances where it was not possible for alumni to participate in interviews, due to poor internet connectivity for example, respondents were asked to provide detailed written feedback to the interview questions.

⁵² Source: 2015 Alumni Evaluation Survey.

*use by students studying for 15 + examinations both in the English-speaking Caribbean and other Commonwealth countries. Course materials were developed in 3 subject areas namely Principles of Business, Agricultural Science and Technical Drawing. Materials for 2 of them have been uploaded on to a specially created website to make the materials accessible to a wide target audience.*⁵³

This Alumni was thus able to help with the training of secondary school teachers and the development of new course materials for use by schools across the Caribbean and Commonwealth.

These two examples help to illustrate some of the more in-depth activities that PhD Alumni are involved with in the area of education. They help to show that Alumni are not just publishing articles and teaching at a higher education level, but are also involved in widening the scope of education available to those who might otherwise be excluded, or who may not be exposed to all the educational (and future career) possibilities available to them.

Dr Sultana Khanum was a Commonwealth PhD Scholar at the University of Keele between 1990 and 1994, and she returned to the UK as a Commonwealth Academic Fellow at the University of Manchester for six months in 2003. She has been a Professor of Sociology at the University of Rajshahi, Bangladesh since 1999 and in this role has conducted extensive research on women and health with a particular interest in health issues affecting the Bangladeshi and British Bangladeshi populations. Through the establishment of a link programme with the University of Manchester and involvement in government initiatives she has contributed towards improving the teaching and research capabilities of the University of Rajshahi, as well as offering consultancy services to a number of ministries in Bangladesh and international organisations such as the World Food Programme, CARE, the United Nations Development Programme, and the European Union. She is a member of the Area Review Panel for the Higher Education Quality Enhancement Project (HEQEP) of the University Grants Commission & the World Bank, and member of the Research and Publication Evaluation Committee, UGC, Bangladesh and the editorial board for the Journal of The Institute of Bangladesh Studies and Social Science Journal.

4.2 Health

PhD Alumni's activities in areas related to health also tended to include academic activities in health-oriented areas. These activities included conducting research, publishing and teaching, developing and implementing methods for health care, and training health care workers. However, Alumni research does not just lead to publications and additional research in the academic sphere. In many cases this research is translated into policy changes and the establishment of local health infrastructure which has a direct impact on the lives of thousands upon thousands of people. Some projects that Alumni were involved in included the establishment of a research and diagnosis centre for thalassemia, the establishment of centres for treatment of HIV, the creation of a kidney foundation to provide dialysis and transplant facilities for poor patients, and the development of national guidelines for cervical cancer screening. For example, one Alumnus reported on research that they had done on maternal health that led to improved policies and facilities in Kenya:

My research has had major impact in influencing social and health policies in African countries. I have published over 60 articles in peer-reviewed journals and produced more than 50 research reports. An example of work that has had direct influence in changing policies and practice is research that I

⁵³ Source: 2013 Alumni Evaluation Survey.

conceptualised and led on maternal mortality in Nairobi city in Kenya. In this research, we showed that slum residents had about 25% higher mortality than other women in the country mainly because they were using informal, unregulated facilities in the slums instead of formal maternity healthcare. Our research also examined the causes of maternal deaths in slum communities and found that there were more deaths due to unsafe abortions and HIV/AIDS than what the District Medical Health Officer (DMHO)'s officer was reporting from hospital records. The research prompted the DMHO's officer to request the government to build maternity facilities in two slum areas so that pregnant women could access good healthcare within their locality. The DMHO's office also revised the way they report maternal cause of death. More than 2 million people live in Nairobi slums, so impact of this research is large.⁵⁴

Other Alumni have been involved in major health policy initiatives at the national level. This includes efforts towards the establishment and financing of national universal health care programs. As one Alumni reported:

I am involved in a project on monitoring and evaluating reforms towards achieving Universal Health Coverage in Tanzania. I am also sitting in the Health Financing Technical Working Grouping (TWG) of the Ministry of Health and Social Welfare which is currently overseeing the process of designing the National Health Financing Strategy. The project is implemented in the form of action research involving key policy implementing stakeholders. We expect that this research will help to improve implementation process. Sharing my knowledge in the TWG would help to improve the process of developing the financing strategy.⁵⁵

Again, this example helps to illustrate another instance where an Alumni's impact is potentially far-reaching, with the possibility of improving millions of lives through their efforts. It also helps to illustrate that many Alumni activities span multiple domains, such as both Health and Government Policy in this case.

4.3 Environment

Within the area of environment, PhD Alumni have been involved in projects and research in a number of crucial areas including water management, conservation, agricultural and farming activities, waste management, and the development of sustainable technology. Water management in particular was a particular area of emphasis, with Alumni involved in projects on adopting rain water harvesting technology, using solar energy for water purification in rural areas, and preparing guidelines for water management authorities. Given the critical role that water management plays in a variety of developmental areas, this is an important area of work for Alumni to be involved in. One Alumni in particular was involved in water management in both the policy and academic spheres:

At the national level, I was engaged as a Lead Resource Person in the development of a Model Water Safety Intervention in the Nigerian Public Water Utilities and to train trainers in Water Safety Plans (WSP) activities. Water safety planning of drinking-water supply systems is an international regulatory requirement for water supplier at all levels of supply systems (public, communal or self-supply). It is however more important for public drinking-water supply

⁵⁴ Source: 2015 Alumni Evaluation Survey.

⁵⁵ Source: 2013 Alumni Evaluation Survey.

*systems for the large number of the human population being served. The project was the first of its kind in Nigeria. My doctoral training in water safety management made me well placed to take on such premier role. The overriding importance of a WSP is public health protection. I have, by virtue of my involvement in the academia, introduced courses on Water Safety Planning of water supply systems in the academic curriculum of relevant Water Resources Department at all tiers of study program: Bachelors and Masters, and facilitating doctoral research in the same topic towards the development of appropriate water security framework. At the international level: continued involvement in the advocacy of mainstreaming water safety planning for small systems. So far, three major public utilities in Nigeria have been assessed and WSP developed for the schemes ... Water safety plans documents have been published for each of the assessed utilities and at least 20 member team had been trained in WSP activities.*⁵⁶

Professor Anoja

Wickramasinghe 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. Anoja is currently an Emeritus Professor at the University of Peradeniya, Sri Lanka, and is an expert on social forestry and gender. She 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 role is currently covering development issues from the perspectives of gender, natural resources management, and biomass development.

A number of Alumni reporting an environmental impact from their activities have been involved in research or projects related to another critical environmental issue, climate change. Activities vary from raising public awareness about the effects of climate change to contributing to government policy, either through research and publications or as members of relevant committees and government bodies. For example:

*[I] worked along with a team on a climate change education project. This was a national project to raise awareness about climate change and to help communities develop adaptation strategies to the effects of climate change. The project received numerous accolades, community training sessions, government sector training sessions, and performing artistes were trained to prepare a submission for parliament on a national communication strategy. The messages were prepared and delivered via radio and television through music videos and public service announcements done by the performing artistes that were trained. Concerts were held in schools and communities in Jamaica and other parts of the Caribbean. More than 20 performing artistes trained and engaged in spreading the message on climate change and making oneself and community resilient. 5 sectoral workshops held to sensitize agencies of government in an attempt to have them work together in driving the climate change message within their respective institutions. More than 10 school tours and community concerts held to sensitize persons about climate change and its effect.*⁵⁷

In addition to providing examples of the environmental work that Alumni do, these two examples help to illustrate the different ways in which Alumni can transfer what they have learned to others. This transfer can take a targeted, specialised form, such as through the

⁵⁶ Source: 2015 Alumni Evaluation Survey.

⁵⁷ Source: 2013 Alumni Evaluation Survey.

establishment of complex technical policy or specialised academic courses, or it can take a broader more popular form, appealing to everybody through different mediums in an effort to raise awareness about critical issues that impact everybody.

4.4 Gender Equality

A few PhD Alumni described involvement in activities geared towards the promotion of gender equality. Some of these activities occurred at an institutional level, such as developing policies on gender equality in recruitment, or chairing a sexual harassment committee. Others worked in the national domain, such as writing national gender reports, while others worked on efforts that were oriented more locally, including projects on gendered violence and developing women's capacity for improved employment prospects. One Alumni reported on a project they worked on to promote the living standards and income generation for women, noting that they:

Improved the livelihood of the rural women in the eastern region of Sri Lanka. Initially conducted a survey to identify the need of the rural women population. Conducted workshops and training programmes for selected individuals. Provided guidance and advise to improve their standard of living. Monthly income of the families increased significantly more than 20% (sample of 50 numbers) and their standard of living also improved. They have started self-earning activities to improve their status of living. Status in the community is increased. The family has a better standard of living compared to earlier.⁵⁸

It is worth noting that this project not only helped to improve the women's status in their communities, helping to address the issue of gender equality, but the project also helped improve the standard of living for both participants and their families, addressing the issue of poverty reduction as well. This again helps to illustrate the fact that many of the projects that Alumni work on cut across multiple areas and types of impact that the CSC is interested in.

Professor Ingrid Palmary is an Associate Professor at the University of Witwatersrand, based in Johannesburg, South Africa. She completed a PhD in Psychology from Manchester Metropolitan University in 2005. Ingrid's main research areas include gender and violence, a topic which dates back to her PhD. She also coordinates Master's and PhD programmes on Forced Migration within the University of Witwatersrand, as well as having general teaching responsibilities.

4.5 Government Policy

In addition to the government policy activities related to education, health, and environment discussed above, it is worth noting that Alumni have been involved in a number of other aspects of local and national governance and policy development. Other

examples of governance impact reported by Alumni included advising their federal government on strategies for research and development funding, contributing to government policies related to poverty reduction, writing reports for development of human resources, and advising on legal policy relating to human rights promotion and protection. One Alumnus reported:

I participate in government and NGO forums that help shape government policy. For example there have been forums set up to manage the humanitarian crisis on the Zimbabwe/South Africa Border. I have also given input regarding legislative

⁵⁸ Source: 2014 Alumni Evaluation Survey.

developments into trafficking and the decriminalization of sex work in South Africa. I regularly conduct research that supports the work of advocacy organizations and NGOs as well as conducting research for funding agencies in order to guide their funding strategy to the migrant rights sector.⁵⁹

This example, plus those described previously, show that Alumni do a great deal of work that impacts Government Policy. The means through which Alumni have had this effect is both direct and indirect, either through the primary focus of their work, or as a secondary effect of research, analysis, or advocacy that they are involved in. Alumni have also impacted Government Policy through consultancy as experts in their fields of work.

Summary

This section has presented a mere snapshot of some of the activities identified through the CSC's qualitative data gathering activities. It illustrates some specific examples of the impact that PhD Alumni have had in the areas of education, health, the environment, gender equality, and government policy. It has also helped to illustrate that the specific ways in which Alumni can contribute to the different development areas can be quite varied, and that projects that Alumni are engaged in can cut across multiple areas, domains, and types of impact. These types of findings also help to illustrate why the CSC is interested in pursuing additional qualitative evaluations of Alumni to complement its quantitative evaluations and provide in-depth examples of the work that Alumni are engaged in. The next section examines the Commonwealth PhD Scholar programme from a different perspective, providing details on the experiences of Scholars' supervisors with the programme.

Dr Valda Henry is the Chief Executive Officer of VF Inc., a consulting firm based in Dominica that provides services in a variety of areas including corporate governance and human resource management. She completed a PhD in Finance at the University of Warwick in 2001. Through her PhD and work, Valda has become an expert in governance and social security in the Caribbean. In addition to her current work, Valda has advised governments and international organisations such as the International Labour Organisation (ILO) on governance-related matters. Valda's company, VF Inc. is also involved in a number of community initiatives such as the Phenomenal Caribbean Women's Symposium, Phenomenal Caribbean Men Symposium, and VF Inc.'s Youth Series, aimed at empowering women, men and Dominican youth respectively.

⁵⁹ Source: 2013 Alumni Evaluation Survey.

5. Supervisors' Perspectives of Commonwealth Doctoral Scholarships

The CSC Evaluation team has been developing tools and methods aimed at encouraging better engagement with non-Scholar stakeholders in PhD Scholarships, including hosts, employers, nominating agencies, and academic supervisors. These stakeholders have a vested interest in the outcomes of the various schemes, providing investments of time, human resources, and often finances in the case of joint funding arrangements. With this in mind, the CSC has undertaken work aimed at gathering more information from the academic supervisors of its past PhD Scholars. As a group, they are arguably the stakeholders closest to our Scholars, not only in terms of their experiences in the UK and while on-award, but also with respect to the actual research that is being undertaken and its potential impact on both home countries and the global knowledge pool.

Academic Supervisors have long been part of the Commission's formal and informal monitoring processes, as they are routinely asked to complete first-term and annual reports on their Scholars' progress as part of the scholarship process. However, previously their views had not been systematically collected in an evaluation context. This is now being addressed through a series of data collection activities, including interviews, focus group discussions, as well as an online survey. The feedback that has been received through these activities has provided a different lens for assessing the value of PhD scholarships, and the effectiveness of the CSC's policies and administration of those scholarships.

The first stage of this process involved in-depth discussions with supervisors aimed at understanding their experience supervising Commonwealth PhD Scholars. Particular emphasis was placed on contacting those who had supervised multiple PhD Scholars who had commenced studies from 2000 onward. A more recent timeframe was considered to be appropriate as supervisors would have better recollections of their experiences, and be able to provide relevant feedback on recent CSC policies. The interviews and focus group discussions were conducted in-person at the respective universities, and were audio recorded to accurately capture the conversation. Discussions were semi-structured and centred around the following themes: supervisors' experience of supervising Commonwealth scholars, including Scholars' abilities and the benefits of the scholarship to the UK host department or university; outcomes from the scholarship including supervisors post-scholarship contact and work with the Scholar, such as joint research projects after their return to their home country; and, supervisors views on the CSC's policies and administration.

Ten supervisors participated in individual interviews, and an additional three in a focus group discussion. The thirteen supervisors were from University College London, Imperial College London, the London School of Hygiene and Tropical Medicine, the University of Manchester, the University of Warwick and the University of Birmingham. In total, they had supervised 27 Commonwealth PhD Scholars between them in a variety of subjects including health economics, applied linguistics, and environmental law. At the time of the discussions, five supervisors were working with one or more active PhD Scholar. Prior to the start of their PhD programme, supervisors had varying levels of contact with their Scholars, ranging from established links with the Scholars' home institution or research groups, to no prior contact. The majority were very experienced supervisors, each having individually supervised between 6 and 30 students, and all having experience supervising international students other than their Commonwealth Scholars.

After the completion of our qualitative data collection, an online survey was sent to all supervisors of Scholars who commenced their doctoral studies between 2000 and 2010. The survey design was informed by the initial analysis of the interviews and focus group discussion, and was divided into three main sections. Section one asked supervisors to rate

statements related to their Scholar's academic abilities, the progress of their studies, and the advantages of hosting the Scholar to the supervisor or university. Section two asked supervisors if they were engaged in any post-award activities with their scholar, including joint-authored publications, further collaboration after completion of the PhD, visits to the Scholar's home country or region, and collaboration with other colleagues in Commonwealth countries as a result of the scholarship. The final section asked supervisors about their experience working with the Commonwealth Scholarship Commission and asked them to rate the CSC's scholarship administration, policies, and reporting requirements.

In total, 232 supervisors responded to the survey, with an overall response rate of 28%. Among the respondents, twenty-three had supervised more than one Scholar who had commenced studies between 2000 and 2010.⁶⁰ As with the supervisors who participated in the interviews and focus group discussion, the majority of respondents were experienced supervisors. On average, respondents had 22.7 years of experience supervising PhD students (i.e. the number of years that had passed since they started supervising their first PhD student at the time of the survey). All but four had supervised international students other than their CSC Scholars, while two-fifths (41%) of respondents had also co-supervised PhD students based at institutions outside of the United Kingdom. This section discusses supervisors' responses provided through the survey, interviews and focus group.

5.1 Supervisors' Experiences with Commonwealth PhD Scholars

Supervisors who participated in the interviews and focus group discussion noted that they had very positive experiences supervising their PhD Scholars which they attributed primarily to Scholars' academic capabilities and their relevant past experience. Strengths that Scholars possessed at the start of their PhDs included good organisational skills, the ability to "hit the ground running", and clear objectives for their PhDs. Their self-motivation, intellectual capability, commitment to timeframes, and willingness to take advantage of the opportunities and resources offered at the university to train and expand their skill set were some of the specific qualities that supervisors felt made the Commonwealth PhD Scholars amongst their best students.

One supervisor's comments reflected the generally positive view of Scholars' abilities:

*She was the kind of student that you could leave just to get on with it. We had regular meetings, and she would always contact us if she had any questions or queries, but she was very self-sufficient. She was able to take on board the comments and she knew what she needed to do to address those. But she also had ideas, she wasn't someone you had to spoon-feed, so she was able to think for herself, and she knew exactly what she wanted to achieve in her PhD, and she felt really passionate about the topic that she was researching. She was a great student.*⁶¹

Scholars' knowledge of their field through relevant past work experience was also identified as an important trait which set them apart from other doctoral students, and allowed them to produce high quality work. This was noted by supervisors as a key strength, as Scholars had a sound understanding of areas related to policy development and project implementation which allowed their research to be grounded in the challenges that needed to be tackled in their home countries. It was also noted that Scholar's professional experience as lecturers and

⁶⁰ In these cases, supervisors were asked to respond with respect to the most recent Scholar that they had supervised.

⁶¹ Source: 2015 interviews with Doctoral Supervisors.

researchers at their home institutions allowed them to have a better understanding of the research process, as well as a commitment to making improvements at home. As one supervisor noted:

[The scholar] was already working in the Ministry of Finance so he knew the challenge that [his country] was facing in terms of the economy and he could also see things working in the Ministry of Finance. So that meant that he was much more grounded in what he wanted to do in his PhD, because he was working in the aid section of the Ministry of Finance and he saw, year in year out, the amount of aid going into [the country] and he wondered why things were not changing, so when he came here he wanted to understand whether aid has got any impact at all on poverty in [the country].⁶²

However, it was also clear that there were individual differences between Scholars' strengths, and supervisors with multiple Scholars did highlight differences between their Scholars. Indeed, while the supervisors' overall experience with Scholars was positive, one supervisor mentioned that they had a very poor experience with their only CSC Scholar, who was described as "not up to the mark" and required careful supervision during the course of their PhD. Supervisors also noted areas where Scholars had to make concerted efforts to improve their skills, included learning to use software that they had not previously encountered, improving their language skills, and developing discipline-specific skills such as legal research. As noted previously, some Scholars took the lead in their research projects early on in their studies, whereas for others this process took longer. Other academic challenges noted by supervisors included planning a research project that could be realistically achieved as part of the PhD, learning laboratory practices and culture, and moving away from clinical practice where a "right way of doing things" was established to conducting research. Supervisors also noted that Scholars faced cultural challenges such as adjusting to the smaller power distance between supervisors and students in the UK.

Supervisors also spoke of the personal challenges that Scholars faced in being away from their families and maintaining long distance relationships, as well as balancing commitments when they had children with them in the United Kingdom. However, despite these challenges several supervisors noted that having families in the UK were a source of significant support for Scholars. Supervisors were asked about the extent to which gender played a role in these challenges and a mixed response was received, with some responding that there was no difference between male and female students, while others noted that there were specific challenges that female Scholars had encountered. These specific challenges included the disruption to studies caused by pregnancy, and the loss of momentum in female Scholars' research as a result of breaks.

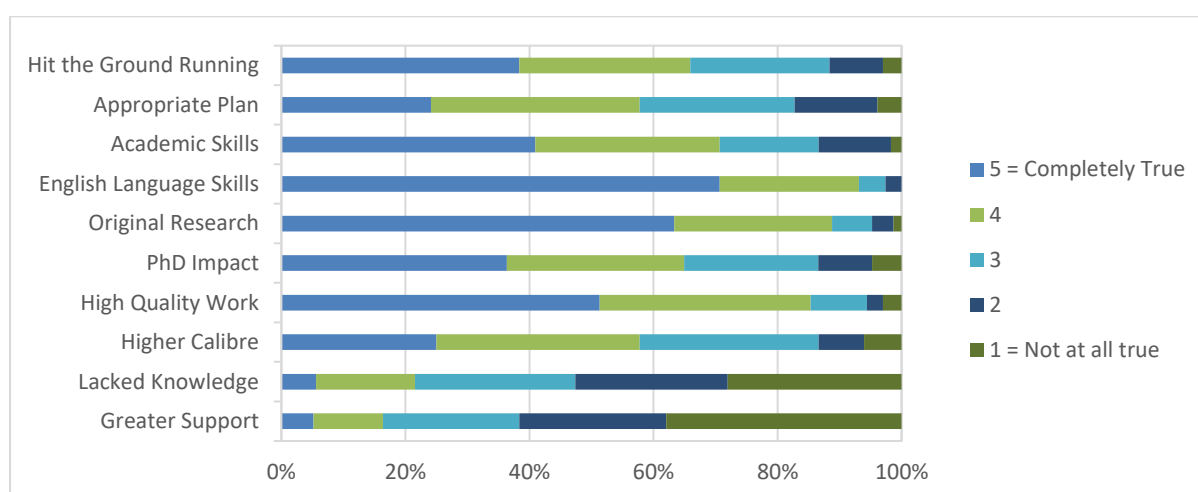
In order to understand the extent to which these views and experiences were reflected more widely by CSC supervisors, respondents to the Commonwealth PhD Supervisors survey were asked to rate ten statements based on the findings of the interviews and related to their experience supervising Commonwealth Scholars. Supervisors provided a rating of the extent to which they felt the following statements were true on a five-point scale with respect to their PhD Scholar. For the first eight statements, a higher number indicated a positive rating of Scholars, whereas this was reversed for the last two statements (Figure 19).

⁶² Source: 2015 interviews with Doctoral Supervisors.

The Fellow...

1. ...was able to 'hit the ground running' upon arrival in the UK (**Hit the Ground Running**)
2. ...had developed an appropriate plan of research for doctoral level study before commencing the PhD (**Appropriate Plan**)
3. ...had the academic skills required to conduct doctoral level research before commencing the PhD (**Academic Skills**)
4. ...had a good level of spoken and written English language skills at the start of the PhD (**English Language Skills**)
5. ...understood the need to conduct an original piece of research at PhD level (**Original Research**)
6. ...was focussed on the impact that the PhD research would have on their home country or region (**PhD Impact**)
7. ...produced high quality work as part of the PhD (**High Quality Work**)
8. ...was of a higher calibre than other students I have supervised (**Higher Calibre**)
9. ...lacked knowledge of existing research in the field (**Lacked Knowledge**)
10. ...required greater support than my other PhD students (**Greater Support**)

Figure 19: Summary of Supervisor Ratings for Statements Related to Experience of Supervising CSC Scholars



On the whole, the ratings provided by supervisors reflect a positive view of the capabilities of CSC Scholars and the experience of supervising them. Looking at the ratings at the upper end of the scale (either a rating of 4 or 5) for the first eight statements, over nine-tenths (93%) indicated that their Scholar had a good level of English language skills, while just under nine-tenths (89%) agreed that the Scholars understood the need to conduct original research. A similar number (85%) indicated that their student produced high quality work as part of the PhD. Seven-tenths (71%) of supervisors felt that the Scholars had strong academic skills, while two-thirds (66%) felt that their Scholar was able to "hit the ground running" and were focused on the impact of their research on their home country (65%). Additionally, over half (58%) of respondents indicated that the Scholar was of a higher calibre than their other PhD students. Conversely, approximately one-fifth (22%) of supervisors indicated that their Scholar lacked knowledge of existing research while slightly less than that (16%) noted that their Scholar required greater support than their other students.

Another area that was examined during interviews and focus group discussion was the extent to which the PhD Scholars contributed to their supervisor's work or added value to their

department or university. Supervisors noted that Scholars' home country knowledge and their different perspective provided a better understanding of local contexts and challenges faced by communities around the world, which provided valuable insight to research groups in the UK. Other examples where supervisor's relationship with their Scholars was beneficial included the support that Scholars provided to research groups, the drive and motivation of PhD Scholars which was diffused to other students, and supervisors' satisfaction of knowing that they were contributing to international development via Scholars' research. The opportunities for networking, both internally within the university and externally as a result of supervising Scholars were also highlighted. One supervisor noted the interdisciplinary link she had developed with a colleague in another department as a result of supervising her Scholar, while another described the collaborative relationships he expected to develop with the colleagues in the Scholar's home country as a result of the PhD.

One supervisor's comments illustrated the wider links that have been established through the Commonwealth PhD Scholarship scheme:

*We had some colleagues from the London School of Economics and Political Science who were trying to do some work in [the Scholar's country] and they got in touch with us. We linked them up with [the Scholar] and they found him very, very supportive and helpful, particularly in accessing data that they needed for the type of analysis that they were doing.*⁶³

The survey responses also reflected these benefits. Three-quarters (76%) of supervisors indicated that their Scholar's research had enhanced their own knowledge of a particular topic or field, while a similar number (75%) indicated that there were distinct advantages to their department or university from hosting the Scholar (percentages based on those who provided a rating of 4 or 5 to those statements).

5.2 Supervisors' Experiences with Scholarship Outcomes

The outcomes from the scholarship and the extent to which supervisors continued to work with their Scholars after the completion of their doctoral studies were another area examined by the interviews and survey. Of the 232 supervisors who responded to the survey, three-fifths (59%) had joint-authored publications with their Scholar. An interesting pattern was noted when this data was examined by Scholars' discipline. While almost nine-tenths (87%) of supervisors in the Pure Sciences had published jointly with their Scholars, this was only true for one-fifth (19%) of supervisors in the Social Sciences. However, it should be noted that this divergence is likely to be a reflection of the publication patterns in the Pure Sciences and Social Sciences.

However, while it was clear from discussions with supervisors that there was scope for joint projects after the completion of the PhD, the commitments of Scholars when they return home, supervisors own work loads, and other barriers such as difficulty in obtaining visas for Scholars to visit the UK meant that in many cases projects had not been implemented. Commenting on this, one supervisor noted:

I think the challenge is if they come from different countries, there is a limited capacity that any of us have to really support projects all over the world. That is a little bit of a challenge. I think it's easier to stay as a mentor and a friend. And many of them, once you stop the hierarchical student/supervisor relationship; it becomes a much more equal relationship. It's easy to provide support from here. It's slightly

⁶³ Source: 2015 interviews with Doctoral Supervisors.

*harder to provide support to set up projects in lots of different countries...there is a limit to how many separate projects you can help with just because of a time issue.*⁶⁴

However, despite these challenges, just under half (48%) of survey respondents had additional collaboration with their Scholar after the completion of doctoral studies, while almost one-quarter (22%) had collaborated with other colleagues in Commonwealth countries as a result of their involvement with the CSC Scholarship programme.

Discussions with supervisors highlighted that communication post-scholarship tended to be through informal email exchange. Supervisors had detailed knowledge of their Scholars' activities post-scholarship, and their primary role was that of mentor. Examples of post-scholarship contact include providing encouragement to Scholars who returned home to teaching and administrative commitments to continue with their research and publications, corresponding for exchange of research ideas, collaborating on the design of teaching courses at Scholars' institutions, and providing career advice and work references. As noted previously, Scholars had contributed to supervisors' work by keeping them up-to-date on developments in the Scholar's home country or region or helping them establish a wider network of contacts. However, over one-quarter (27%) of survey respondents did indicate that they had visited their Scholar's home country or region.

5.3 Supervisors' Experiences with Commonwealth Scholarship Commission Administration and Policies

Supervisors' rated both the Commonwealth Scholarship Commission's administration of the scheme and the level of support they received from CSC secretariat staff very highly. In interviews, they noted the responsiveness of administrators, quick turnaround on decisions at the secretariat allowing for a swift resolution of issues, considerate and helpful responses, timely emails that provided reminders regarding reports, and clear channels of communication. Overall, nine-tenths (91%) of survey respondents rated the administration of the PhD Scholarship programme as "Excellent" or "Good" while only four survey respondents (less than 2%) rated the administration of the PhD Scholarships as "Poor" or "Very Poor".

Supervisors also noted that the PhD Scholarships offered by the Commonwealth Scholarship Commission are particularly valuable as they occupy a niche where there are few other funding opportunities for international doctoral students. They also noted that Scholars receive excellent support while they are in the UK, and that the scholarships provide a significant opportunity for Scholars to take back knowledge and skills to their home countries.

Survey respondents were asked to rate the extent to which they agreed that the quality of candidates that the CSC selects is high, on a scale of 1 (not at all) to 5 (completely), and (excluding 36 respondents who selected the "Don't know" option) 85% of respondents provided a rating of 4 or 5 to the statement, while only 10 respondents (approximately 5%) provided a rating of 1 or 2. Supervisors were also specifically asked about the CSC's reporting requirements, and respondents rated the extent to which they agreed with statements related to administrative support. The responses indicate that supervisors felt supported by the CSC during the period of the scholarship. Additionally, supervisors who were interviewed appreciated the "light touch" approach which required minimal paperwork, and generally felt that the reporting requirements of the CSC were reasonable. One supervisor who was supervising his first CSC PhD Scholar noted:

⁶⁴ Source: 2015 interviews with Doctoral Supervisors.

I've been really impressed. And I think your strategy of the contact, particularly in the first year, 'how's your student settling in'; I think that's a really good thing because, as a supervisor, I could feel that support from you. It wasn't 'here's the money, off you go, see you in three years'...it reassured me that if there was anything you needed me to do, nothing would drop between the gaps.⁶⁵

The main policy concern that supervisors raised during the interviews and focus group discussion related to the three-year PhD funding and scholarship extension policies. A number of comments were received that suggested that there was an imbalance in their PhD programmes in expecting CSC Scholars, who may have to overcome a number of academic and personal challenges after arriving in the UK, to complete their PhD in three years, when many of their UK counterparts were taking on-average four years. Consequently, this was a policy area that supervisors felt the CSC needed to re-examine.⁶⁶ For example, one supervisor commented that he had not had *any* student complete their PhD within three years in the past decade, while another noted that the pressure to complete in three years could compromise on the quality of Scholars' research. One supervisor observed:

If we take undergraduates we have quite a lot of allowance made for things like dyslexia, quite rightly so. But when it comes to overseas students that have just the same or possibly more difficult language issues and cultural issues, we make very little allowance really... So they've got all the difficulties of language, the culture, getting used to being independent of supervisors and so on. All of this sort of cultural change, as well as completing quicker than a colleague that's started at the same time but from Britain with all the advantages of not having the language problems and everything like that.⁶⁷

Supervisors whose Scholars had requested or received an extension of six months raised other issues that occurred during the extension period that may have an adverse effect on the time that it takes for Scholars to complete their PhD. For example, one supervisor noted that while his Scholar had received a six-month extension, the reduction in the stipend meant that he had to take on teaching responsibilities in the final stages of his PhD, which was a distraction from completing his thesis. Another supervisor flagged the policy of requiring partners and families to return to their home country during the period of the extension, and suggested that this was not an appropriate "one size fits all" policy. Supervisors also commented on the stress that Scholars experienced when requesting an extension. Furthermore, while there was an acknowledgment that restricting PhD funding to three years may contribute to Scholars' motivation and focus to complete, it was suggested that their ability to finish within three years was mainly attributable to the Scholars' own abilities which were noted in the previous sections.

To further examine supervisors' views regarding the CSC's three-year PhD policy, survey respondents were asked to rate the extent to which they agreed with statements related to the CSC's scholarships funding period and extension policies. Supervisors were presented with text that outlined the CSC's current policies and their responses to the statements are

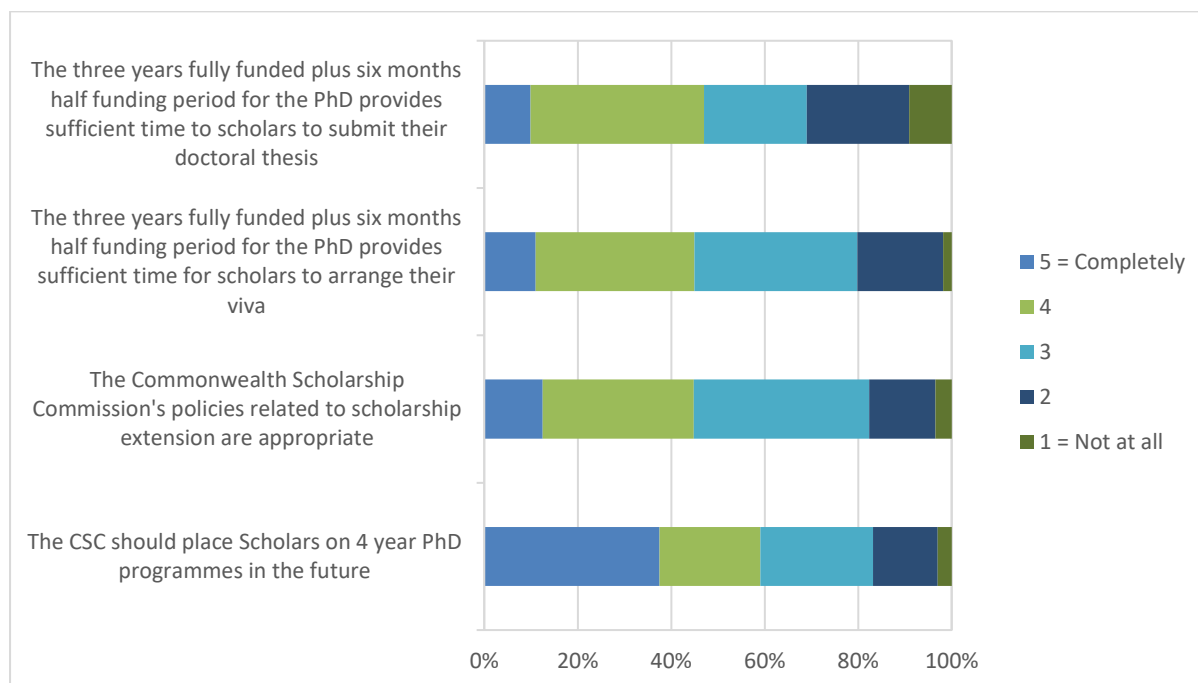
⁶⁵ Source: 2015 interviews with Doctoral Supervisors.

⁶⁶ Note: The Commonwealth Scholarship Commission awards scholarships for PhD study for 22 months in the first instance. This is extended to 36 months at the point that the Scholar is upgraded to PhD level by the university. Since 2010, PhD Scholars have been able to apply for an additional six month extension at half stipend to support the period of writing their thesis. The Commission does not currently place Scholars on 4-year PhD programmes.

⁶⁷ Source: 2015 interviews with Doctoral Supervisors.

summarised in Figure 20 (it should be noted that the second statement was only presented to supervisors who provided a rating of 4 or 5 for the first statement).

Figure 20: Summary of Supervisor Ratings for Statements Related to the CSC's PhD Funding Policies



The summary of results for the first three statements indicates that overall, supervisors' opinions were close to the middle of the scale. However when the ratings for the first statement were examined by discipline, a significant difference was found between the Pure Sciences, which gave an average rating of 3.4, and the Social Sciences, which gave an average rating of 2.9. Hence supervisors in the Social Sciences were significantly less likely than those in the Pure Sciences to agree that the three years fully-funded plus six months half-funded period provided sufficient time for Scholars to submit their doctoral thesis.

The final statement asked supervisors to rate the extent to which they agree that the CSC should place Scholars on four-year PhD programmes in the future. Overall, three-fifths (59%) of respondents provided a rating of 4 or 5, while an additional quarter (24%) provided a rating of 3, indicating a very high level of agreement with the statement.

The support that the CSC can provide to Scholars after the completion of their PhDs was another discussion point during the interviews. The CSC provides PhD Alumni the opportunity for direct application to the Academic Fellowships programme, which allows academics in developing Commonwealth countries to conduct research at a UK university for up to 10 months. Supervisors' opinions were divided on the extent to which the programme would be beneficial to PhD Alumni. On the one hand, supervisors noted the added value of a Fellowship to the Scholar's PhD and it was expected that Scholars would be well-placed to take full advantage of the opportunity as they would have a clear understanding of research projects that are achievable in the time frame, and therefore have a strong plan for the Fellowship. Supervisors also noted that it would be a useful springboard to establish new areas of work and networks. However, some supervisors were more cautious of the suitability of Academic Fellowships for past Scholars, particularly as the scheme is only relevant for academics and not Alumni who go back to roles in other areas of employment. Supervisors also noted that its

usefulness would be dependent on the individual circumstances of the Scholar and their home institution.

Some other suggestions for support that the CSC can provide to Scholars after the completion of their scholarship included support for attending conferences for Alumni who are unable to be away from their posts for an extended period of time, and providing support in-country, particularly at the reintegration stage when a lack of resources can prevent an Alumni's research from progressing. One supervisor commented:

I think the opportunity of a funded sabbatical would probably be incredibly valuable for some people. Otherwise it's difficult to be able to finance a period of sabbatical and institutions will not fund sabbatical cost. They might be allowed to take the time out, but it won't fund the costs of it. And to have that sort of point at which you can spend a bit of time of writing, because that's often what suffers. If you finish the project, but because you are self-funded, funded through research grants, as we are here, we have exactly the same problem. You finish a project and you move on to the next one before you necessarily complete all the really great papers from the project. So I would have thought that some people, it would suit them very nicely to have the opportunity for an extended stay. I think it would also allow them to refresh their networks, and possibly, if they're in teaching institutions, to contribute to teaching and maybe to...partake of the staff development programme, and develop other types of new skills...It won't suit everybody, and not everybody can go away for a year. It depends on your sort of stage of life and family and things. But for people who are seeking sabbatical, I think it's a great opportunity.⁶⁸

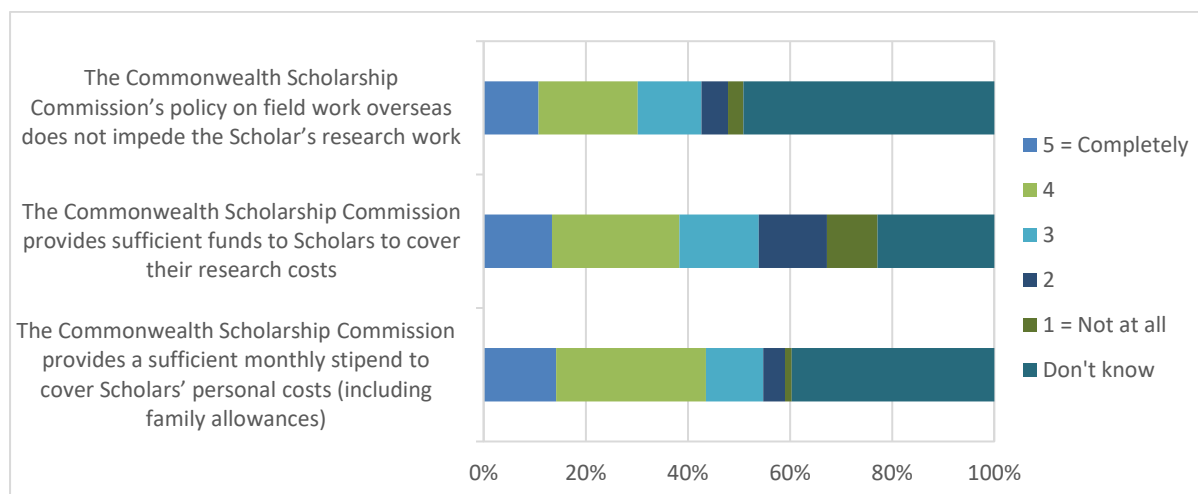
Other policy-related issues were also raised in interviews and focus group discussion. Supervisors in clinical research highlighted that the CSC's policy of allocating six months for field research in Scholars' home countries did not allow sufficient time for collection of data samples. While one supervisor noted that her Scholar had to a large extent restricted his scope of study to stay within the six-month period of research, another noted that her Scholar had to seek additional sources of funds for the fieldwork period that was not covered by the CSC. They stated that the expectation for many international student research topics would be to collect clinical samples in the field, and that consequently their students would typically spend at least 12 months conducting field research.

The need to communicate relatively minor changes in procedure more clearly to supervisors was also highlighted in an interview. A supervisor commented that in the past he had more direct communication with the secretariat as he would send annual reports directly to administrators and that it was disappointing that he was now required to send these through a central contact at the university. He noted that it was unclear as to why the direct channel of communication had been removed. While the CSC introduced this change to provide a secure method for transfer of confidential information, a clearer communication of this to supervisors who had previously had direct communication would have been fruitful.

Discussions with supervisors also emphasised other financial difficulties encountered by their Scholars. This included the costs of private halls of residence in London which the CSC stipend did not fully cover, and the shortfall between the fees that the CSC provided and those charged by programmes within University College London's Faculty of Life Sciences. To further examine these issues, supervisors were asked to rate the extent to which they agreed with statements related to the CSC's stipends and fieldwork policies (1 = not at all; 5 = completely; don't know). The results of these questions are summarised in Figure 21.

⁶⁸ Source: 2015 interviews with Doctoral Supervisors.

Figure 21: Summary of Supervisor Ratings for Statements Related to the CSC's PhD Stipend and Fieldwork Policies



As can be seen, many supervisors were unable to answer these questions, with almost half (49%) responding “don’t know” to the first statement. However, examining the responses that were provided, it is clear that the area of greatest concern for supervisors is the funding provided to Scholars to cover their research costs.

One final area of concern raised in discussions with supervisors was the tension between scholarship and university application time lines. One supervisor noted that there was a sequencing issue with a Scholars’ CSC Scholarship and their university applications, as she and other colleagues had received requests for admission offers before the university’s admissions process had been completed. She noted:

People often come to us just before the Commonwealth deadline and say I need an offer from the university in order to apply for scholarship. And they’re not in a position to have a full application to the university so you’ve asked me to make a decision, a judgement, without the application... It has come up a number of times...and we definitely have found ourselves having to write vaguely worded letters of support saying yes I will supervise you if the application I haven’t seen yet meets the requirements of the university.⁶⁹

This disconnect between the application timelines for PhD Scholarships and university admissions is also an issue that is worth examination by the CSC.

Summary

On the whole, the qualitative and quantitative data collected demonstrate that supervisors have a positive opinion of their experience supervising Commonwealth Scholars and of the CSC’s administration of PhD Scholarships. They highly rated Scholars’ academic abilities, organisational skills, and past experience. And while the interviews highlighted challenges some Scholars faced in areas such as English language abilities and cultural adjustments, a high proportion of survey respondents provided a positive response to the statements related

⁶⁹ Source: 2015 interviews with Doctoral Supervisors.

to their experience supervising CSC Scholars. There was also strong evidence that PhD Scholars contribute positively to their supervisors' work, and that there are wider benefits to the department or university from hosting PhD Scholars. The results also highlight the longer-term outcomes of the CSC's PhD Scholarships. Just under half of the supervisors who responded to the survey had continued to actively collaborate with their Scholar after the completion of their studies, while around one-quarter had visited their Scholar's home country, and just over one-fifth had collaborated with other colleagues in Commonwealth countries as a result of their involvement with the CSC Scholarship.

The key areas of concern that supervisors highlighted in interviews revolved around the CSC's policies for PhD Scholarships. In particular, the policy of funding three-year rather than four-year PhDs was an area that many supervisors mentioned in interviews, and survey data indicates that there may be discipline-specific differences with supervisors in the Social Sciences significantly less likely than those in the Pure Sciences to agree that the three years fully-funded plus six months half-funded period provided sufficient time for Scholars to complete their doctoral thesis. Supervisors also expressed concern that changes in the CSC's administration policies were not always clearly communicated to them, and that the application timelines for PhD Scholarships and the PhD positions themselves can cause administrative issues for potential host institutions.

Conclusions

This review has provided an overview of the Commonwealth PhD Scholars programme between 1960 and 2015. It has reviewed the origins of the programme, its history, and its structure. It has also situated how the programme operates within the global contexts of development and higher education, particularly the challenges faced by higher education institutions in the developing Commonwealth involving shortages of doctoral-trained staff members and the bottlenecks that those shortages can create in their higher-education systems. It has also traced the changes that have occurred within the programme over time, from its initial conception as part of the Commonwealth Scholarship and Fellowship Plan, to its transformation into a vehicle for development.

These evolutions in the programme have engendered a number of changes in the demographics of the Scholars accepted into the programme, including a move away from residents from the developed Commonwealth in North America and Australasia towards those from the developing Commonwealth, particularly in Sub-Saharan Africa. This geographic refocusing of the programme has also led to an increase in the average age of PhD Scholars over time, from the mid-twenties early on in the programme, to the early thirties in recent years due to the differing demographics of doctoral students in the developed and developing Commonwealth. An increased emphasis on gender equity has also narrowed the gender proportions from one female for every nine males to an almost one for one ratio, including the first instance of a cohort being a majority female in 2012.

Scholars have studied a broad variety of disciplines over the course of their scholarships, although STEM subjects were the most studied in general. Specific disciplines that are the most-studied were Engineering, Physical Sciences, Biology, and the Social Sciences. They also study at a wide variety of UK higher education institutions, with over 130 institutions having hosted a Commonwealth PhD Scholar to date, 23 institutions hosting more than 100 Scholars to date. Scholars are highly regarded by their supervisors, who have indicated that PhD Scholars are generally well-equipped for their studies, with good language and academic skills, a strong plan and ability to immediately begin work on their PhD, and an ability to produce high-quality work throughout their studies. This provides a strong indication of the calibre of both applicants that the CSC receives for the PhD programme, as well as the selection processes used by the national nominating agencies and Commonwealth universities responsible for putting forward nominees.

However, supervisors have also expressed some reservations about the CSC's funding policies, specifically the restriction of the funding to three years as opposed to four years. While there was some division between supervisors who worked in the Social Sciences and the Pure Sciences, there were still strong reservations expressed about the current schedule of three years fully-funded plus six months half-funded and the impact that it had on Scholar's work. This suggests that it would be worthwhile for the CSC to examine the potential costs and benefits of implementing a four-year PhD programme. Supervisors also noted a need for clearer communication about changes to the CSC's administration policies, as well as a disconnection between application timelines of their own institutions and those of the PhD Scholarships.

Despite these concerns, almost nine-tenths of Commonwealth PhD Scholars that have remained in contact with the CSC have completed their programme and received their qualification as of 2015. This means that the programme has enabled approximately 5,000 individuals to achieve their PhD qualification at minimum, with the true number likely to be much higher. Many of these graduates have also maintained a strong connection to the CSC through the Alumni Association, particularly those Alumni who had been PhD Scholars more recently. While the overall membership number stands at just under half of all Alumni, this is

largely due to lower membership rates for those who held their awards some time ago. Conversely, almost all Scholars from recent cohorts are members of the Alumni Association, a good measure of how successful the Alumni programme has been in its outreach efforts to Scholars while they are on-award, and an indicator of potential future growth of the Association and the network it is helping to create.

Creating and maintaining this type of network is important, as nine-tenths of Alumni have returned to their home country or region, and the Alumni Association provides a route for potential international collaboration. This potential for collaboration is particularly rich as far as research and publications as almost nine-tenths of PhD Scholars go on to a career in the academic sector. This concentration in the academic sector is particularly important as it demonstrates that the PhD programme is helping to address the stresses experienced by the higher education systems in developing Commonwealth countries due to shortages of doctoral-qualified staff. Of particular note is that a strong majority of Scholars who had been nominated for their award through a university employer returned to their workplace post-award. These annual cohorts of newly-trained graduates can then provide their employers with a greater capacity for both teaching undergraduate courses, as well as supervising their own graduate students at the Master's and PhD level, contributing to the sustainability of their national academic ecosystems.

Employed PhD Alumni not working in the academic sector are mostly employed in the public or private sectors, with a small handful working in the NGO sector or reporting themselves as self-employed. Regardless of their sector of employment, PhD Alumni have reported that they are having a development-oriented impact in the areas of education, the environment, economic growth, health, poverty reduction, and gender equality among others. These impacts are situated within both the socio-economic and governance spheres, and can be found at the institutional, local, national, and international levels. And while the CSC has good numbers with respect to Alumni's developmental impact, further efforts to gather qualitative information will help to better contextualise and substantiate these impacts. This is an area for further investigation currently being pursued by the Commission.

There are also other lines of potential inquiry that may be worth pursuing for the Commission, including:

- Follow-up surveys or interviews with hosting institutions, nomination agencies, and employers;
- A comparative examination of the post-scholarship trajectories between Alumni who return to their home regions and those that do not; and,
- Research into "poor outcomes", including definition, causes, and potential mitigations to avoid them.

Research into any of these areas would help to provide additional information and context about PhD Scholars' experiences both on-award and post-award.

This report has provided evidence, both quantitative and qualitative, which suggests that the Commonwealth PhD Scholarship programme is meeting the core objectives set out by the Commission, as well as the priorities of its funders. It has also identified several areas for further investigation and development, which will both benefit the Commission as it continues to advance its own understanding and effectiveness, as well as inform the wider community of those concerned with scholarships, higher education, and development.

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Appendix A

Commonwealth Doctoral Scholarships 1960-2015 by Country.

Country	HDI	Fragile State	SIS	1960-2015		2000-2015		2010-2015	
Anguilla	N/A			2	0%	0	0%	0	0%
Antigua and Barbuda	58		*	9	0%	6	0%	3	0%
Australia	2			668	9%	77	5%	12	2%
Bahamas	55		*	4	0%	2	0%	0	0%
Bangladesh	142	*		684	10%	179	11%	93	14%
Barbados	57		*	26	0%	4	0%	2	0%
Belize	101		*	2	0%	2	0%	1	0%
Bermuda	N/A			12	0%	2	0%	1	0%
Botswana	106			29	0%	15	1%	6	1%
Brunei Darussalam	31			1	0%	1	0%	0	0%
Cameroon	153	*		41	1%	34	2%	18	3%
Canada	9			759	11%	92	5%	18	3%
Cayman Islands	N/A			1	0%	1	0%	0	0%
Cyprus	N/A			27	0%	10	1%	3	0%
Dominica	94		*	7	0%	4	0%	3	0%
Falkland Islands	N/A			2	0%	0	0%	0	0%
Fiji	90		*	15	0%	4	0%	0	0%
Ghana	140			242	3%	76	5%	26	4%
Gibraltar	N/A			10	0%	0	0%	0	0%
Grenada	79		*	4	0%	1	0%	0	0%
Guyana	124		*	39	1%	7	0%	2	0%
Hong Kong				119	2%	0	0%	0	0%
India	130			1,047	15%	131	8%	56	8%
Jamaica	99		*	87	1%	32	2%	13	2%
Kenya	145	*		166	2%	51	3%	21	3%
Kiribati	137	*		1	0%	1	0%	0	0%
Lesotho	161			32	0%	8	0%	3	0%
Malawi	173	*		127	2%	78	5%	37	5%
Malaysia	62			186	3%	27	2%	12	2%
Maldives	104		*	7	0%	6	0%	1	0%
Malta	37			60	1%	9	1%	2	0%
Mauritius	63		*	26	0%	6	0%	1	0%
Montserrat	N/A			3	0%	2	0%	1	0%
Mozambique	180			9	0%	9	1%	6	1%
Namibia	126			15	0%	11	1%	2	0%
Nauru	N/A		*	1	0%	1	0%	0	0%
New Zealand	9			309	4%	41	2%	9	1%

Country	HDI	Fragile State	SIS	1960-2015		2000-2015		2010-2015	
Nigeria	152	*		700	10%	155	9%	83	12%
Pakistan	147	*		291	4%	63	4%	33	5%
Papua New Guinea	159		*	24	0%	6	0%	2	0%
Rwanda	163	*		2	0%	2	0%	2	0%
Saint Kitts and Nevis	77		*	4	0%	0	0%	0	0%
Saint Lucia	89		*	4	0%	2	0%	1	0%
Saint Vincent and the Grenadines	97		*	7	0%	4	0%	1	0%
Samoa	105		*	3	0%	1	0%	0	0%
Seychelles	64		*	2	0%	2	0%	1	0%
Sierra Leone	181	*		92	1%	32	2%	10	1%
Singapore	11		*	59	1%	7	0%	1	0%
Solomon Islands	158	*	*	3	0%	2	0%	0	0%
South Africa	116			240	3%	164	10%	54	8%
Sri Lanka	73	*		313	4%	55	3%	22	3%
Swaziland	150			24	0%	12	1%	3	0%
Tanzania	151			150	2%	70	4%	30	4%
The Gambia	175			27	0%	11	1%	2	0%
Tonga	100		*	8	0%	3	0%	2	0%
Trinidad and Tobago	64		*	52	1%	12	1%	7	1%
Uganda	163	*		125	2%	68	4%	31	5%
Virgin Islands (British)	N/A			2	0%	2	0%	0	0%
Zambia	139			130	2%	67	4%	39	6%
Zimbabwe	156			107	1%	5	0%	0	0%
Grand Total	-			7,148	100%	1,675	100%	676	100%

Note: See http://hdr.undp.org/sites/default/files/2015_human_development_report.pdf for HDI rankings. See <http://www.oecd.org/dac/conflict-fragility-resilience/states-of-fragility-report-series.htm> for Fragile State listings. See <https://sustainabledevelopment.un.org/topics/sids/memberstates> for Small Island Developing States listings.