



Australia Awards

Australia Awards Global Tracer Facility

Case Study in Papua New
Guinea in information and
communication technology

June 2019



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Acronyms and abbreviations

ADB	Asian Development Bank
ACU	Australian Catholic University
ADS	Australia Development Scholarships
AFMA	Australian Fisheries Management Authority
ANU	Australian National University
ARoB	Autonomous Region of Bougainville's
CEO	Chief Executive Officer
COO	Chief Operating Officer
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DAL	Department of Agriculture and Livestock
DFAT	Australian Government Department of Foreign Affairs and Trade
DWU	Divine Word University
GBV	Gender-based Violence
GDP	Gross domestic product
GESI	Gender Equity and Social Inclusion Policy
GIS	Geographic Information Systems
GoPNG	Government of PNG
HIES	Household Income and Expenditure Survey
ICT	Information Communication Technology
IGIS	Integrated Government Information System
JCU	James Cook University
K4K	Kina-for-Kina
MTDP	Medium Term Development Plan
NFA	National Fisheries Authority
ODA	Official Development Assistance
OSTC	Oceania Skills Training College
PNG	Papua New Guinea
PNGAAA	Papua New Guinea Australian Alumni Association

PNGRIS	Papua New Guinea Resource Information System
PNGDSP	Papua New Guinea Development Strategic Plan, 2010-2030
PWD	People with Disability
RF	Radio frequency
SCB	Scholarships and Alumni Branch
UIS	UNESCO Institute of Statistics
UN	United Nations

Executive Summary

This report is based on interviews with eight alumni and key stakeholders to examine the long-term outcomes of Australian Government scholarship alumni from Papua New Guinea during the period of 1996-2005. Alumni in this Case Study undertook Australian Development Scholarships (now known as the Australia Awards) in information technology and related fields in engineering. This research was conducted by the Department of Foreign Affairs and Trade's (DFAT) Australia Awards Global Tracer Facility (the Facility).

The overall aim of the Australia Awards is to help 'partner countries progress their development goals and have positive relationships with Australia that advance mutual interests'. This aim is extrapolated in four long term outcomes for the Australia Awards, which form the basis of the findings for the alumni from this Case Study.

Outcome 1: 'Alumni are using their skills, knowledge and networks to contribute to sustainable development'

Alumni in this Case Study have described using skills and knowledge developed through their scholarships to make significant contributions linked to national development objectives of PNG related to empowering citizens, adapting to climate change, efficient service delivery and transparency. For this group of alumni, **Australia Awards long-term Outcome 1 is being achieved** by:

- Creating a skilled workforce through technical training to upskill the PNG workforce;
- Introducing quality improvements to the higher education sector through educational leadership;
- Supporting environmental sustainability and biodiversity through the use of geographic Information Systems (GIS) modelling;
- Improving the regulation and expansion of the Information Communications Technology (ICT) sector;
- Contributing to economic development through liquefied natural gas exports; and
- Contributing to good governance through greater accountability and transparency.

Outcome 2: 'Alumni are contributing to cooperation between Australia and partner countries'

Alumni in this Case Study have demonstrated sustained personal and professional connections with Australia, Australians and fellow scholarship holders. The strongest evidence of these links is identified through ongoing personal friendships

developed with Australians, fellow Papua New Guineans and other international students while on award. These include:

- Informal networks with the Australian community including Australian expatriates from PNG, local church groups, Australian employers;
- Personal networks with other international students and the PNG community in Australia
- Professional networks which has facilitated academic partnerships and regional cooperation

For alumni in this Case Study, Australia Awards long-term Outcome 2 – cooperation with Australia – is being **achieved**.

Outcome 3: ‘Effective, mutually advantageous partnerships between institutions and businesses in Australia and partner countries.’

Outcome 3 examines alumni’s contribution to the development of formal partnerships between Australian and PNG organisations. Alumni in this Case Study have been able to leverage the existing institutional links between their organisations and Australian institutions to build and maintain strategic partnerships with Australia. These include:

- fostering links between Australian and PNG universities for professional development, academic partnerships and research collaborations;
- maintaining links between PNG and Australian government organisations through technical capacity building; and
- creating links between PNG and Australian businesses through alumni’s knowledge and experience with Australian culture

For alumni in this Case Study, Australia Awards long-term Outcome 3 – partnerships with Australia – is being **achieved**.

Outcome 4: ‘Alumni view Australia, Australians, and Australian expertise positively’

Alumni in the PNG Case Study hold enduring positive views about Australia, Australians and Australian expertise, indicating that **long-term Outcome 4 is being achieved**. Evidence of positive views shared by alumni relate to the quality of Australian education, the friendliness and openness of Australia and Australians and exposure to Australian education and business practices.

Specifically, all alumni were emphatic about the quality of Australian higher education and this factor contributed to alumni’s positive views of Australia and Australian expertise. In addition, the friendliness of individuals and the openness of Australian society framed the positive views that alumni had of Australia. They also noted that their exposure to Australian education and business practice positively influenced their perceptions of the country and their own aspirations when they returned to PNG.

Addressing social inclusion

The Australian High Commission, Port Moresby and Australia Awards in PNG have been proactive in their approach to gender and social inclusion, which has seen improved access for women, people with disability and those from rural areas in the uptake of long-term scholarships.

Alumni in this Case Study have made notable contributions to gender equality in their workplace and local communities. They noted no significant difference in opportunities for males and females in the workplace, although some female alumnae stated that they've had to work harder than their male counterparts to receive recognition and reach senior level positions. Factors that have contributed to the career advancement of female alumnae in this Case Study include a strong policy-enabling environment in the workplace, personal aptitude, demonstrated capability and the support of male advocates.

Factors contributing to these outcomes

Evidence collected from this Case Study highlight the leadership and contributions eight alumni are making to the development of PNG within a broad range of sectors. Factors that have been identified by alumni, which have enabled them to contribute to the four long-term outcomes of Australia Awards include:

- relevance and quality of skills gained on award;
- exposure to Australian cultural practices and working environment;
- enabling workplace policies supporting gender equality and career advancement for female alumnae;

The Australian High Commission in PNG and Australia Awards in PNG are implementing specific measures and policies to increase the likelihood of alumni achieving the long-term outcomes of Australia Awards including pre-departure and on-award support for women and people with disability, targeting 50 per cent scholarships for women, facilitating partnerships with Australia and Australians through on award enrichment programs and support for the PNG Australian Alumni Association.



Australia Awards Alumni are leading ITC initiatives in Papua New Guinea

Australia Awards alumni are contributing to:



Regulation and expansion of the Information Communications Technology (ICT) sector



Quality improvements to industry and education through new technologies



Geographic Information Systems (GIS) modelling to support environmental sustainability and biodiversity



Accountability and transparency

Australia Awards results

1 Alumni provided strong examples of development contributions

Achieved



"I think the greatest benefit [of the award] is that it develops people like myself ... [to] come back home and contribute to the development of this country... Like here in fisheries, I'm building a platform that assists the organisation to curb illegal, unreported and unregulated fishing activities."



2 Alumni are contributing to cooperation between Australia and Papua New Guinea

Achieved



"...we have some connections to the Australian Maritime Authority. So there's some help that we get from them, and also when they come here, we collaborate and assist, in terms of the fisheries information systems, network and all that."



3 Alumni support effective institutional partnerships between Australia and Papua New Guinea

Achieved



"Scholarships help us to make links to institutions (in Australia) because many of our staff need further training...we use these personal contacts, links to help us... For example we have a good relationship with James Cook University."



4 Alumni view Australia and Australian expertise positively

Achieved



"Because the course that I took in Australia, it was a very, practical hands-on course at TAFE. We did a lot of technical stuff and we were able to build this power board and power supply and other things, electrical soldering technologies and stuff like that. So it helped me to come back and apply that same skill in the workplace."



Participants: Alumni who completed scholarships between 1996-2005

Case study participants:



■ Female alumni
■ Male alumni
■ Colleagues of alumni
■ Stakeholders

1. Background of the Study

The Australia Awards Global Tracer Facility (the Facility) is a four-year project funded by DFAT. Through this project, DFAT assesses the development contributions and public and economic diplomacy outcomes of Australia's investment in the Australia Awards.¹ The key research and reporting activities being undertaken are a quantitative Tracer Survey and qualitative Case Studies, which are prepared concurrently throughout the four years of the project.

This report gives the key findings of the Papua New Guinea Case Study, which focussed on alumni who had studied under scholarship in between 1996-2005 in areas relating to information technology and related engineering fields. The majority of the data collection for this Case Study was undertaken by Facility researchers in Port Moresby in late March 2019.

1.1 Objectives

The Facility seeks to generate high-quality information on former scholarship holders, with a focus on less recent alumni. This information provides a strong evidence base for country programs and the Scholarships and Alumni Branch (SCB) of DFAT to evaluate the impact of Australia Awards on alumni and, by implication, on their home institutions and countries.

All research by the Facility is undertaken with close reference to the long-term outcomes of the Australia Awards. These outcomes underpin the interviews, surveys and the reporting of the Facility. The long-term outcomes are detailed in the *Australia Awards Global Strategy: Investing in the next generation of global leaders for development 2016-2018* (the Strategy) and the Australia Awards Global Monitoring and Evaluation Framework (M&E Framework). These are:

Outcome 1: Alumni are using their skills, knowledge and networks to contribute to sustainable development.

Outcome 2: Alumni are contributing to cooperation between Australia and partner countries.

Outcome 3: Effective, mutually advantageous partnerships between institutions and businesses in Australia and partner countries.

Outcome 4: Alumni view Australia, Australians and Australian expertise positively.

In addition to these long-term outcomes, the Australia Awards aims to address issues of gender equality and disability inclusiveness. As such, the analyses and reporting of the Facility explores these cross-cutting issues, as well as other factors

¹ See <http://dfat.gov.au/people-to-people/public-diplomacy/Documents/public-diplomacy-strategy-2014-16.pdf> and <http://dfat.gov.au/trade/economic-diplomacy/pages/economic-diplomacy.aspx>

relating to disadvantage that impact the ability of alumni to contribute to these outcomes following their award.

1.2 Scope

The Facility's specific focus is on alumni of DFAT's Australia Awards and previous DFAT-funded scholarships programs, awards and fellowships. For each Case Study undertaken by the Facility, this focus is further refined to a specific cohort of alumni based on the years they completed their scholarship and particular field of education or sector.

For this Papua New Guinea (PNG) Case Study, the research focus is on alumni who completed their scholarships in the late 1990's and early 2000s, and studied a course that had an emphasis on building capacity relating to information and communications technologies (ICT) and digital infrastructure.

1.3 Country context

PNG is Australia's closest neighbour, with only four kilometres separating it from Australia at the nearest point (DFAT, 2016b). PNG consists of four regions, 20 provinces, the Autonomous Region of Bougainville and the National Capital District. PNG is considered one of the world's most culturally diverse countries, with more than 200 different cultural groups and more than 860 different spoken languages (World Bank Group, 2015).

PNG's progress against a number of social indicators has been mixed. During the first 15 years of independence², life expectancy increased from 40 years to 50 years in under a decade. Infant mortality also declined in the same period (AusAID, 2007). However, since 2002 progress has slowed and PNG is ranked 153 out of 189 countries on the United National Development Programme (UNDP) Human Development Index (UNDP, 2018b). It is estimated that one third of the 8.6 million people in PNG remain poor and/or face hardship (DFAT, 2015; Shoobridge, 2014; World Bank Group, 2019a). In addition, lacklustre performance in law and order, governance arrangements, equality, health and education services are identified as challenges to PNG's future prosperity (DFAT, 2015).

PNG is experiencing positive economic growth but its dependence on the natural resource sector, makes it vulnerable to internal and external changes. High international prices for PNG's mining and agricultural exports led to GDP growth of over 15 per cent in 2014 (World Bank Group, 2019a). The revenue generated underpinned key reforms such as fee-free education. However, declining international commodity prices pose significant fiscal challenges for PNG. These issues were compounded by a 7.5 magnitude earthquake in February 2018, which the World Bank (2019a) states had a devastating impact on the economy and the population of the country. It is estimated that real gross domestic product (GDP) growth slowed from 2.8 per cent in 2017 to 0.3 per cent in 2018, which stands in contrast with the pre-earthquake projection of 2.5 per cent for 2018 (World Bank Group, 2019a). The PNG government has cited poor economic performance as

² PNG gained independence from Australia in 1975.

one of the key impediments to it achieving its aspirations (Government of PNG, 2007).

PNG is a remote country which impacts employment opportunities. Approximately, 85 per cent of its citizens live in rural areas (PNG Department of Communication & Information, 2008). Formal sector employment accounts for 16 percent of all employment (World Bank Group, 2019a). The urban unemployment levels are around 50 per cent, with levels particularly high amongst young people (Shoobridge, 2014). Around 75 per cent of the labour force earns a living in the informal sector.

The Government of PNG (GoPNG) notes that an overhaul of the education system is necessary to prepare the country for high and sustained growth and development (Department of National Planning and Monitoring, 2010). It is estimated that the average number of years of schooling achieved by adults in PNG is four (Hayward-Jones, 2016). This is the lowest level in the Pacific and is comparable to the levels of schooling attained by adults in sub-Saharan Africa. Low youth literacy rates, poor numeracy standards, absenteeism, high attrition rates, low transition rates, under-trained teachers and poor quality curriculum are all cited as impeding the government's goal of promoting and enhancing integral human development (Department of National Planning and Monitoring, 2010).

During the period of focus of this Case Study, Australian assistance in PNG focused on a number of sectors. These included education, health, infrastructure, rural development, law and justice, and governance. Scholarships have been a cornerstone of Australian support since PNG gained independence. Since 1996, Australia Awards (and its predecessors such as Australian Development Scholarships) have supported over 2000 Papua New Guineans to complete their studies at Australian higher education institutions. Each year, Australia Awards provide 90 in-Australia scholarships for PNG students across priority sectors identified in the PNG-Australia Partnership. In 2019, Papua New Guineans represented the second largest group of awardees studying in Australia (DFAT, 2019).

During this period in Papua New Guinea there was a demand for skilled IT professionals to provide ongoing expertise to build the infrastructure and support the roll out of new telecommunication technology. According to Kelegai and Middleton (2001), human resources are seen as vital and the "single most important element in successful ICT diffusion for many LDC's" (least developed countries). Australian aid at the time supported a "revolution in information and communications technology" to reduce poverty and achieve sustainable development (AusAID 2000). The Government of Papua New Guinea's Medium Term Development Strategy 2005-2010 described the internet as "bridging the digital divide" and identifies improved telecommunications as being able to "impact positively across all the objectives and sectoral priorities of the MTDS (Medium Term Development Strategy)".

1.4 Alumni and interviewees

Eight alumni were interviewed as part of this Case Study. Each had studied in Australia on a scholarship during the late 1990's and the early 2000's and had

undertaken courses in information and communications technologies (ICT) and related engineering fields.

The eight alumni of focus are introduced below. More detailed profiles are provided in Chapter 7.

<p>Dr Joseph SUWAMARU Australian Development Scholarship 1998-1999 President, Oceania Skills Training College, Bougainville</p>	<p>Ms Lulu KUSO Australian Development Scholarship 2000-2002 Support Services, ICPS Department, PNG University of Technology</p>
<p>Ms Zillar MIRO Australian Development Scholarship 2004-2005 Training Supervisor, ExxonMobil PNG Ltd</p>	<p>Mr Elias NANAU Australian Development Scholarship 2001 Digital Editor, Post Courier</p>
<p>Mr Martin DANIEL Australia Awards 2012 Australian Development Scholarship 2001-2005 Dean, Faculty of Business and Informatics, Divine Word University</p>	<p>Ms Regina KIELE Australian Development Scholarship 2002-2003 Acting Director, PNG Remote Sensing Centre Lecturer, School of Natural Resources Sciences, University of PNG</p>
<p>Ms Annuncia KOKIAI Australian International Development Assistance Bureau 1995-1997 Acting Chief Operations Officer General Manager, Internet Services</p>	<p>Mr John Gulpo MUKEKIT Australia Awards Scholarship 2014-2015 Australian Development Scholarship 1996-1997 Acting ICT Manager, National Fisheries Authority</p>

In addition to these eight alumni, a further 14 interviews were carried out as part of this Case Study. These were designed to build an understanding of the PNG context, further explore the contributions of alumni, and better understand the Australia Awards in PNG. These included interviews with four colleagues/ employers, one alumni association executive, four staff from the managing contractor in PNG and five High Commission staff. Further details on interviewees can be seen in the Methodology section (Annex 1).

2. Development Outcomes

Summary findings

Alumni have described using skills and knowledge developed through their scholarships to make **significant contributions to supporting the development of a skilled workforce through educational leadership and capacity building, infrastructure, environmental sustainability and climate change, economic development and accountability and transparency.**

These contributions have had an impact at an organisational, national, and regional level. Alumni are linked to national development objectives related to empowering citizens, adapting to climate change, efficient service delivery and transparency. In addition to the technical skills alumni developed as a result of their study in Australia, soft skills and intercultural competency gained on award enabled alumni to advance in their careers and contribute to the development of PNG.

Examples of **contributions to development** include:

- educational leadership and capacity building
- infrastructure, regulation and expansion of the information and communications technology (ICT) sector
- Geographic Information Systems (GIS) modelling to support environmental sustainability and biodiversity
- research into technical solutions for disaster management and climate change
- economic development through improvements to maritime surveillance, and the exploration and export of natural resources
- accountability and transparency.

Key enabling factors

Alumni identified the following factors, which enabled them to make contributions following their scholarship:

- soft skills developed on award such as communication and leadership
- intercultural competence to work with a range of local and international stakeholders
- improved critical thinking skills and relevant technical knowledge.

Key challenging factors

Alumni experienced a number of challenges in making further contributions, these include:

- technological delays in the implementation of critical information and communications technologies (ICT)
- a lack of opportunity, resources and the high cost of equipment.

2.1 Introduction

This chapter details the development impact made by Australian Government scholarship alumni who graduated in the field of information technology and related engineering fields between 1996 and 2005. The analysis and discussion of this chapter offer specific reference to Australia Awards long-term Outcome 1: Alumni are using their skills, knowledge and networks to contribute to sustainable development' (DFAT, 2017a). From this outcome the following propositions are explored:

- alumni use their skills, knowledge and networks to contribute to achieving partner-country development goals
- alumni develop skills, knowledge and networks on award that enable and are used to contribute to achieving partner-country development goals
- alumni understand, value and want to contribute to partner-country development goals.

2.2 Background – information technology and related engineering fields

PNG has one of the lowest information technology penetration rates in the world. Even though internet services first appeared in the country in the early 1990's, the population did not acquire widespread access until 2007 (Logan & Suwamaru, 2017). It is estimated that less than ten per cent of the population has access to the internet and fixed broadband penetration is below 1% of the population (PNG Department of National Planning and Monitoring, 2018b). Mobile phone ownership has expanded rapidly but still lags behind low and middle income countries. The most up to date figures estimate that 41 percent of the population own a mobile phone (Suwamaru, 2015). This has earned the country the title of the "land of the disconnected" (Logan & Suwamaru, 2017).

Cost rather than accessibility has been identified as the main barrier to greater uptake of information technology. PNG has some of the highest internet access costs in the world (Galgai, 2017). A 2016 survey of 12 Pacific Island countries found that the monthly cost of fixed broadband services are 100 per cent of average annual income (Mou, 2016). The country's geography have made the costs of building information technology infrastructure prohibitively expensive. In addition, a lack of competition and policy governing the development of the IT industry led to a fragmented and expensive sector (PNG Department of Communication & Information, 2008).

Information technology features prominently in all current PNG development strategies. The Government of PNG (GoPNG) believes that ICT has the power to facilitate development goals in a unique and valuable way, through improved communication and exchange of information, supported by an environment that will create improved and novel economic and social structures (PNG Department of Communication & Information, 2008). The country's, 'Medium Term Development Plan III 2018-2022: Volume Two Implementation Framework and Investment Plan' sets out ambitious targets to create a modern and affordable information and

communications technology that reaches all parts of the country. By 2022, PNG has a target to increase telecommunication services to 51 per cent of the country from a 2017 baseline of 30 per cent. In the same period, it aims to increase fixed or mobile subscribers to 70 per cent from 54 per cent; increase access to the internet to 80 per cent and connect all provinces to the Integrated Government Information System (IGIS) network and national data centre (PNG Department of National Planning and Monitoring, 2018b). An undersea fibre optic cable (see Box 1), between Port Moresby and Sydney is also a sector priority for PNG. Upon completion, the Coral Sea Cable System will deliver faster, cheaper and more reliable communications infrastructure across the country (DFAT, 2018b).

The alumni featured in this Case Study returned to PNG when the information technology sector was still in its infancy. Their studies in Australia equipped them with highly sought after technical knowledge, valuable English language skills and intercultural competencies. This made them highly employable across a number of sectors and allowed them to contribute to the rapidly developing information technology sector.

The following section will explore the contributions alumni have made to the development outcomes of PNG. Alumni have been able to utilise their skills in a variety of sectors of strategic importance to the country. This includes human development, environmental sustainability and climate change, infrastructure, wealth creation and accountability and transparency.

2.3 Skills developed on award

Within this chapter are examples of a range of skills that alumni developed while on their scholarship which they have been able to utilise on their return from Australia. While these skills are implicit throughout the analysis that follows, a list of skills identified by the alumni, their colleagues and/or employers is provided here to highlight the breadth in knowledge gained by alumni on award.

Generic/broad/soft skills developed fall into Weber et al., (2009) categorisation of:

- leadership/people/relationship skills: negotiating with others, participating in a team environment, customer service, resolving conflict
- communication: listening, presenting, verbalising and non-verbal communication
- management/organisation: articulating goals, organising people and resources, monitoring progress and resolving problems
- cognitive skills and knowledge: creative thinking, decision-making, problem solving
- intercultural competency: set of cognitive, affective and behavioural skills and characteristics that support effective and appropriate interaction in a variety of cultural contexts (Williams, 2009).

Areas in which *practical/technical/'hard'* skills were developed include:

- Geographic Information Systems (GIS) modelling

- mathematical treatment and simulations of signal processing in ICT
- repairing computer software and hardware
- micro computing, PC and Network Support
- electronic-commerce
- computer programming language (Java)
- database management
- curriculum development.

2.4 Alumni contributions

Alumni in this Case Study have used their skills and knowledge developed in Australia to make significant contributions to key pillars of PNG's past and present development priorities. The societal and economic impact that alumni have made is sizeable due to the niche skills they have gained in the information and communication technologies and related engineering sectors. Alumni have been demonstrably effective in their impact on development outcomes in the areas of: technical training and capacity building; digital infrastructure; environmental sustainability and climate change; wealth creation; accountability and transparency. Alumni meet Wilson (2015) and Mawer's (2018) two main pathways for yielding broader impacts. The first pathway is termed the **elite multiplier**, where the alumni go on to be disproportionately powerful in a personal capacity. Alumni examples include, senior positions in government, academia and private sector organisations. The second path to impact is as a **catalytic multiplier**, where the alumni exert a disproportionate influence on public opinion and the actions of others. Alumni examples include being an educator, journalist or trainer. The majority of alumni fit into one or both categories. The section below provides key examples of alumni impact.

2.4.1 Contributing to a skilled workforce through educational leadership and capacity building

The higher education sector's strategic importance has increased as PNG looks to reduce its reliance on foreign workers. The Government has an ambitious agenda for the sector to supply the skilled workforce that is required for the country's development. Papua New Guinea Development Strategic Plan, 2010-2030 (PNGDSP), has a target of increasing the number of graduates from the current 6,496 a year to 17,500 a year by 2030. This will require 45,000 tertiary places in 2030 (Department of National Planning and Monitoring, 2010). **Mr Martin Daniel, Dr Joseph Suwamaru, Ms Regina Kiele and Ms Zillar Miro** are four alumni who are supporting PNG to achieve this development outcome through providing education leadership and technical training to upskill the PNG workforce.

Mr Daniel is the youngest Dean in the history of Divine Word University (DWU). He heads the Faculty of Business and Informatics. Mr Daniel's research areas include building computer networks and information software systems, modelling technological developments and adoption of electronic systems and services, curriculum development and quality assurance in PNG (DWU, n.d). Mr Daniel can

be classified as an elite multiplier due to the work that he is doing at the national level to reform the higher education sector. Mr Daniel is part of a cohort of local and international professional and industry experts who are providing regulation and quality assurance to the higher education sector (DHERST, 2018). Mr Daniel identified the qualifications that he achieved over the duration of the Australia Awards and the subsequent experience gained, as a key factor that has enabled him to understand and contribute to PNG's development goals.

So I'm a member of the panel of experts and that's one of the areas that I contribute towards higher education in the country, again, because of the qualifications I gained, because of the exposure and experiences that I had from interactions with people from different areas of life. I'm a member of that panel of experts and they've asked me to be part of the external auditing.

In addition, Mr Daniel has managed national programs that are focused on improving the quality of higher education institutions. Mr Daniel managed the Kina-for-Kina (K4K) project, which was an initiative of the Australian Government to match contributions that PNG universities put towards quality improvements. Mr Daniel oversaw initiatives targeting the improvement of business programs, training for the development of teaching and learning, and a teaching quality assurance system audit (Australian High Commission Papua New Guinea & Trade, n.d). Mr Daniel cited his work on this program as "contributing towards the development of the country in terms of program delivery at [the] university level".

At an organisational level, Mr Daniel has also been instrumental in DWU's move into electronic-learning. He noted that "One of the objectives of the university is to one day provide fully online programmes. We are slowly getting there. We are getting there and we are working towards that." The Government of PNG (GoPNG) is promoting online learning in universities, including electronic-learning and distance education, as a strategy to meet its ambitious graduate targets. Hayward-Jones (2016) notes the 4700 students who continue to higher education are already saturating the capacity of PNG's universities and vocational training institutions. Mr Daniel has published extensively on this area. His research on the factors that impact upon the use of electronic-learning, the university sectors use of software packages (enterprise systems) and DWU moves into online learning has stimulated debate both nationally and regionally (Daniel, 2013, 2014, 2016).

Mr Daniel, Dr Suwamaru and Ms Kiele can be classified as catalytic multipliers due to the thousands of students they have trained in their roles as senior lecturers at PNG's leading universities. Professor Jeanette Baird noted that Mr Daniel was "extremely active in promoting good practice in learning and teaching" in his role as Head of the Faculty Quality Assuring Committee in the Faculty of Business and Informatics. His efforts to increase the standard of course offered within his department are achieving results. Mr Daniel noted:

Our graduates are getting good jobs. I think last year, BSB [Bank South Pacific] got 11 graduates through the country for their graduate development scheme, and out of those 11, seven of them are from the information systems department. So that's a big achievement, seven out of the 11, four from other universities, but seven of them from one single department.

Ms Kiele is also playing a key role in supplying the skilled workforce that is required for the country's development. Ms Kiele estimates that she has trained a number of students in areas such as geographic information systems (GIS)³, agriculture and livestock. In the latter field, Ms Kiele predicts that she has students:

In most organisations, private and public organisations, and they always say that it's Regina that taught us this. So it's something that I'm happy that I made a decision to come here [to UPNG], so I'm contributing more to the development of the country's human resource development

Dr Suwamaru is using his skills and experience to teach a new generation of students. In 2017, Dr Suwamaru built and designed the Autonomous Region of Bougainville's (ARoB) first college, the Oceania Skills Training College (OSTC). The College conducts research in alternative energy, climate change, ICTs and development. It also offers certificate and diploma level skills (Kolma, 2017). In an interview with PNG's national newspaper, the Post Courier, Dr Suwamaru noted that he built OSTC to cater for the growing population in the region who do not have access to quality education (Kolma, 2017). Dr Suwamaru identified the college as his contribution to the aspirations of the PNG Vision 2050. Prior to moving back to the ARoB, Dr Suwamaru was a senior lecturer at DWU for seven years. During his tenure he up-skilled cohorts of students to apply ICT to a number of the country's development challenges. This included topics such as SMS-based HIV/AIDS education and awareness models for rural areas in PNG and mobile phone usage for socioeconomic development in PNG (Suwamaru, 2012, 2015).

Ms Zillar Miro is also playing a pivotal role in providing technical training within the mining sector. Ms Miro completed a Master of IT Computing at Flinders University in 2004. After consulting for a number of private and public industries, Ms Miro is now the Training Supervisor for ExxonMobil PNG Limited (ExxonMobil). The organisation, in partnership with other parties, operates the PNG Liquefied Natural Gas Project (PNG LNG). PNG LNG is the largest resource project ever conducted in the country and according to Voigt-Graf and Odhuno (2019), the US\$19 billion investment cost of the project was more than double PNG's GDP, when the project began in 2010.

In her capacity as Training Supervisor, Ms Miro is overseeing the training of a significant number of PNG nationals to work on the project. At any one time Ms Miro manages the training over 250 "operations and maintenance technicians in the field". As part of their involvement in the project ExxonMobil report that they have trained more than 10,000 nationals in a variety of fields including construction, transport services, office administration and computer skills (Voigt-Graf & Odhuno, 2019).

³ Dawsen (2011), describes a geographic information system (GIS) as any system that captures, stores, analyses, manages and presents data that are linked to locations. In the simplest terms, GIS is the merging of maps, statistical analysis and database technology, and can be used in archaeology, geography, cartography (drawing maps), remote sensing, land surveying, public utility management and natural resource management.

2.4.2 Environmental sustainability

Environmental sustainability is one of the seven strategic priorities of the Government of PNG. The country has a goal to adapt to the domestic impact of climate change and contribute to global efforts to abate greenhouse gas emissions (Department of National Planning and Monitoring, 2010). Both, **Dr Suwamaru** and **Ms Kiele** can be categorised as elite and catalytic multipliers due to the development impact they are having in this area.

Dr Suwamaru has had a distinguished career since he completed a Master of Engineering Sciences at Queensland University of Technology in 1998. When he returned to PNG, he was the Executive Director of the Engineering Department within the former ICT regulator in PNG, PANGTEL. He also served as Vice Chairman of the Asia Pacific Telecommunity Study Groups. On completing his doctorate at DWU, he became a senior lecturer within the Department of Information Systems (Goggin & McLelland, 2017). Dr Suwamaru has made leading contributions to PNG and the wider Pacific's understanding of climate change and disaster risk reduction. In 2017, Dr Suwamaru co-authored a book chapter that provides evidence and recommendation on how ICT can be used by Pacific Island countries in their climate change and disaster risk reduction policy (Pelesikoti & Suwamaru, 2017). Dr Suwamaru is a leading contributor to debates and strategy around ICT's role in climate mitigation and adaptation. In 2017, he was given an award for outstanding ICT research in PNG by DWU. His work is directly contributing to PNGDSP, which calls for more research to support a greater understanding of the implications of climate change in the country (Department of National Planning and Monitoring, 2010).

Ms Kiele is directly using the skills that she gained on award to support PNG's climate change efforts. Ms Kiele studied a Master of Applied Science at James Cook University in 2002, where she specialised in GIS. Ms Kiele is the Acting Director of the PNG Remote Sensing Centre at the University of PNG and a Lecturer at the School of Natural Resource Sciences. Ms Kiele's work in GIS is directly supporting PNG's environmental development efforts. For example, she is using GIS technology to provide evidence on how climate change is impacting coastal communities. Ms Kiele is also working with communities in Manus to manage their resources so that they can become more resilient to climate change. Ms Kiele is also supporting the country's biodiversity efforts. She has conducted biodiversity field assessments on drought and forest fires and is the technical manager for a European Commission sponsored project looking at forest governance. Ms Kiele is a catalytic multiplier in the field of biodiversity as she is training whole communities to be sustainable users of their environment. This is a key strategy of PNGDSP. As Ms Kiele noted:

We've got a big project with the Tenkile Conservation [Alliance]. This is the smallest tree kangaroo ... They're trying to improve their lives and save the tree kangaroos ... we are going with these skills and we say, "This is a GPS tool. This is how you go and collect your data... where you spot the tree kangaroo or where your garden site is and bring it and we'll plot your maps." So we're teaching them all these skills.

2.4.3 ICT Infrastructure

Alumni are also contributing to the development and implementation of much needed ICT infrastructure. The GoPNG's Vision 2050 identifies infrastructure development, which includes the construction and maintenance of a high quality communication network, as a component of the enabling environment for the GoPNG to achieve its development outcomes (Independent State of Papua New Guinea, 2009). Four alumni, Dr Suwamaru, **Ms Annuncia Kokiai**, Ms Miro and Mr Daniel have used their skills and knowledge gained during the Australia Awards and predecessor scholarship programs, to support the GoPNG in this endeavour.

Dr Suwamaru played a foundational role in the construction and development of Information and Communication Technology in PNG. When Dr Suwamaru returned from his Master of Engineering Sciences degree he was promoted and appointed the Executive Director, Engineering with the former ICT regulator in PNG, PANGTEL. The organisation was responsible for the regulation and licensing of ICT in the country, including broadcasting, radio communications, and telecommunications (NICTA, n.d). Dr Suwamaru directly used the skills he gained during his award to have a macro-level impact on PNG. Dr Suwamaru designed the radio frequency (RF) spectrum for the country. Dr Suwamaru modestly noted that he used:

... mathematical treatment and simulations of signal processing in ICT ... I had to design ... so that every authority had equal access to spectrum management, spectrum frequencies.

The RF spectrum underpins all aspects of PNG's development outcomes⁴. Mazar and Azzarelli (2016, p. 1) classify a country's RF as a national limited resource, much like water, land, gas and minerals. They argue that RF serves as a lever to raise the economic and social conditions of society.

Ms Annuncia Kokiai, is using her skills and expertise to play a key role in developing high quality communication networks in PNG. Ms Kokiai studied at TAFE NSW, Penrith College and Druitt College between 1994-1995. During that time Ms Kokiai achieved training in Micro Computing, PC and Network Support. In 2011, Ms Kokiai gained a scholarship to complete a Master of Business Administration (MBA) from the University of Edinburgh, majoring in Strategic Management. Ms Kokiai is the Acting Chief Operating Officer (COO) and General Manager, Internet Services for Datec PNG Limited. The organisation, provides information and communications technology solutions to businesses in PNG, where it has been rated as a key service operating in the country (Bloomberg, 2019; Business Advantage PNG, n.d). Ms Kokiai is supporting the country's efforts to broaden people's access to ICT, noting that the internet "is congested [there is] no more bandwidth capacity ... I'm working to make sure that connectivity via the

⁴ RF underpin security and emergency readiness systems, support crime prevention and law enforcement, enable new wireless technologies and foster innovation in wireless infrastructures and services, make available efficiently nationwide and worldwide telecommunications services for personal and business use, support national and international systems for transportation and health, foster conservation of natural resources, disseminate educational general and public interest information and entertainment, promote scientific research, resource development and exploration (Mazar and Azzarelli, 2016).

mountains is routed through the fibre". Ms Kokiai is directly supporting the GoPNG goal for modern and affordable ICT that reaches all parts of the country. Specifically telecommunications services that reach 51% of the population by 2022 (PNG Department of National Planning and Monitoring, 2018b). Ms Kokiai can be classified as an elite multiplier due to the powerful position she holds in the information technology sector. Ms Kokiai is the first female and PNG national to assume this role. Mr Gokul Naidu, Acting Chief Executive Officer (CEO) for Datec stated that Ms Kokiai "has been identified as a potential leader to bigger positions within the Telikom Group" which is a PNG state-owned telecommunications company and parent company of Datec.

Box 1: Coral Sea Cable System

The Governments of Australia, PNG and Solomon Islands are working together to bridge the digital divide in the Pacific. Together they are building the Coral Sea Cable System, which is a 4,700km long fibre optic submarine cable system linking Sydney, Australia, to Port Moresby, Papua New Guinea and Honiara, Solomon Islands.

Australia's support for the Cable is a realisation of two key strategies. The project supports Australia's International Cyber Engagement Strategy (Commonwealth of Australia, Department of Foreign Affairs and Trade, 2017), to improve connectivity and access to the internet in the Indo-Pacific. It also supports Australia's 2017 Foreign White Paper: opportunity, security strength (Australian Government, 2017), where Australia has pledged to increase its engagement in the Pacific.

The Coral Sea Cable is expected to have a number of development impacts for PNG. This includes enabling e-governance and the digital delivery of services which are key initiatives of the Government of PNG. It also hopes that the project will stimulate the development of entrepreneurship, digital skills and their further integration into the global marketplace (DFAT, 2018b).



Map Credit, Coral Sea Cable System

Dr Suwamaru played a leading role in the development and installation of the current undersea cable between Port Moresby and Sydney which is nearing the end of its useful life. Dr Suwamary served on the board of DATACO, a state-owned enterprise which was tasked with rolling out the terrestrial and undersea fibre-optic cables across PNG and Melanesia.

Ms Kokiai and Ms Miro have also used their skills to support the banking industry in PNG. Banking has been identified as critical infrastructure and utilities in Vision 2050. It is considered necessary enabling infrastructure that will ensure effective service delivery (Independent State of Papua New Guinea, 2009). Upon Ms Kokiai's return to PNG, she worked for the PNG Banking Cooperation. Ms Kokiai used the skills and knowledge gained on award to manage banking services to 20 branches across the country. Ms Miro has had a substantial impact on the banking sector in PNG in a short amount of time. Ms Miro was contracted by the National Development Bank (NDB)⁵ to create customized reports from a loans database for the organisation. Ms Miro noted that the organisation was:

... in the red for a number of years. ... I worked for them for about six months and produced a number of reports they needed. The reports helped them to manage loan repayments in a timely manner. I believe it turned around the bank's profitability. I read in the papers they made profit that year. That was an achievement for me.

Mr Daniel's research is supporting the GoPNG's aim to move to e-government. The MTDP III Vol II, had identified the use of e-government as a strategy to support whole of government collaboration (PNG Department of National Planning and Monitoring, 2018b). In addition, the PNGDSP has a goal of "A unified and dynamic public sector that efficiently delivers on government goals with all central government agencies working in collaboration" (Department of National Planning and Monitoring, 2010). Mr Daniel is providing empirical evidence on this topic via his research. This includes evidence on the technological, organisational and environmental factors that influence the adoption of electronic government (Daniel, 2017b). He is also providing an understanding of the state of e-government service usage, to aid government in providing an environment for agencies to further implement services and encourage citizens in using those services (Daniel, 2017a).

2.4.4 Economic Development

The goal of a strong, dynamic and competitive economy has been the centre-piece of all PNG development strategies since 1989. Currently, PNG is seeking to become an upper-middle income country by 2050 through the implementation of its Vision 2050 strategy. The focus of the strategy is to create economic prosperity by developing manufacturing, agriculture, forestry, fisheries and tourism ventures to

⁵ The National Development Bank is the development finance institution of Papua New Guinea. It is wholly owned by the Independent Public Business Corporation as Trustee for the State and people of PNG. The National Development Bank is the successor company to the former Rural Development Bank Limited. Founded in 1967 its primary function is to provide accessible development credit to citizens to engage in income generation to improve the quality of lives of PNG nationals, especially those in rural areas where 80 percent of the population live (NDB, n.d).

generate around 70 per cent of GDP, with the remainder coming from the non-renewable sector (Independent State of Papua New Guinea, 2009). Two alumni, **Mr John Mukekit** and Ms Miro are making a direct contribution to this goal via the skills and knowledge that they gained during the Australia Awards and preceding scholarships programs.

Mr Mukekit has been the recipient of two Australia Awards, which he has used to support PNG's fisheries sector. The first was an Associate Diploma in Technology from TAFE NSW (1996-1997) and the second was a Master in Information Technology from Queensland University of Technology (2014-2015). Mr Mukekit is currently the Acting ICT Manager for the National Fisheries Authority (NFA). The NFA is mandated to oversee and regulate the fisheries and marine resources of the country. It is estimated that the sector contributes close to four per cent of the country's total GDP (NFA, n.d). Mr Mukekit's influence on the sector is substantial as he has been the "team leader in every IT project that NFA has done".

Mr Mukekit has also been responsible for implementing key development strategies that the government has initiated to create a sustainable and profitable fisheries sector. Mr Mukekit is using the skills and knowledge he gained on award to support the efforts of the GoPNG to increase maritime surveillance in the sector, where it is estimated that millions of Kina are lost in illegal or under reported fishing activities (Department of National Planning and Monitoring, 2010). Mr Mukekit cited his Australia Awards as enabling him to contribute to the country's development outcomes, noting:

I think the greatest benefit that I could see is that it develops people like myself ... [to] come back home and contribute to the development of this country...Like here in our company, fisheries, I'm really doing a lot on the projects, especially building a platform that assists the organisation to curb the IUU, which is the illegal, unreported and unregulated fishing activities. ... I think one of the benefits of this award is that it helps me to get that technical knowledge to come back and assist our team to actually build a platform. I would say it's probably the biggest in the Pacific in terms of their monitoring.

Mr Mukekit is using his skills to implement another key strategy of the GoPNG to create sustainable income from the fisheries sector. PNG is home to one of the largest tuna populations in the world and it wants to exploit this resource by becoming the tuna capital of the world in terms of income generated through the development of onshore processing facilities⁶ (Department of National Planning and Monitoring, 2010; Havice & Reed, 2012). In his capacity as Acting IT Manager, Mr Mukekit is working with the Madang fisheries processing facilities to:

"link up the province onto a wider network ... we are concentrating on projects that have fish processing facilities built, so that is another area that we will be looking into - to link up those provinces onto a wider network ... It's part of our strategic plan to have all those provinces covered and connected, so, yes. And from that

⁶ The use of ICT to increase the efficiency of onshore processing has real potential to generate wealth and jobs in PNG. Havice & Reed (2012) estimate that PNG captures 5–6 per cent of the value of tuna caught in its waters. Using data from 2010, they estimate that PNG would have collected roughly US\$45 million on unprocessed exports valued at over US\$766 million processed (Havice & Reed, 2012).

strategic plan we are taking on one province at a time, depending on our level of resources that we have.

Ms Miro is also supporting economic development in PNG through her work on the PNG LNG Project. The World Bank (2019b) estimates that PNG LNG accounts for 40 percent of PNG's goods exports and 16 percent of GDP. In her capacity as Training Supervisor for ExxonMobil, Ms Miro is contributing to the training and development of a workforce of national employees, which at its peak consisted of 4,564 staff (Voigt-Graf & Odhuno, 2019). Although revenues from the PNG LNG Project are less than forecasted in GoPNG planning documents (Dixon, Kauzi, & Rimmer, 2010; see Flanagan & Fletcher, 2018), the GoPNG considers they provide an important source of revenue to the Government for nation building (Department of National Planning and Monitoring, 2010).

2.4.5 Accountability and transparency

The GoPNG has identified corruption as the biggest threat to the success of Vision 2050. The Government aims to improve PNG's ranking from 158 out of 180 countries on the Corruption Perception Index to a ranking of above 50 (Independent State of Papua New Guinea, 2009). In 2018, PNG had a ranking of 138 out of 180 countries (Transparency International, n.d). Vision 2050 cites freedom of the press as a mechanism that has ensured a growing demand for good governance. **Mr Elias Nanau** is an alumnus who is contributing to accountability and transparency in PNG through his role as a reporter and producer in the media sector.



Alumnus Elias Nanau, at the PNG Post Courier printing facility. Photo: Australia Awards Global Tracer Facility

Mr Nanau gained a Diploma in Business Information Technology from RMIT in 2001. Since returning to PNG, Mr Nanau has worked across print, broadcast and

online media. In 2013, Mr Nanau won a United Nations (UN) award for anti-corruption for his work exposing corruption by a legal company. Mr Roy Trivedy, who was the UN Resident Coordinator for PNG at the time, noted in an interview for the national broadcaster, EMTV, that:

... Elias has done a good story to expose corruption, has done a fantastic story around the role of legal [corruption] fantastic story around the role of legal reporting ... it's a story that has exposed corruption in the country which has then been picked up by the Attorney General and exposed [the issue] and people have then paid for that (EMTV Online, 2013)

Mr Nanau can be classified as a catalytic multiplier due to influence that he has on public opinion as a journalist and producer. Currently, Mr Nanau is a reporter for the Post-Courier. The Post-Courier is considered the country's most influential publications as it has the largest circulation estimated at 33,500 (Press Reference, n.d). Mr Nanau writes regularly on politics and other matters of public interest (Nanau, 2019a, see 2019b, 2019c, 2019d). Mr Nanau is playing a key role in supporting PNG's efforts to increase accountability and transparency.

2.5 Enabling factors

As a result of their study in Australia, alumni have made a range of contributions to development of a skilled workforce, environmental sustainability, infrastructure, economic development and accountability and transparency. Through interviews with alumni, colleagues, and stakeholders key factors were identified that have helped facilitate these contributions. They are outlined here and relate to the soft skills and relevance of skills developed.

2.5.1 Soft skills

Alumni consistently reported that the soft skills gained during Australia Awards and preceding scholarships programs, had enabled them to make an impact upon their return to PNG and subsequently support the country's development outcomes. As previously noted, the skills referenced by alumni fall into Weber et al., (2009) taxonomy of soft skills and Williams (2009) definition of intercultural competency.

Communication was a commonly cited soft skill that alumni stated that they had gained on award. Mr Nanau, Mr Mukekit and Ms Miro each made reference to how their time on award had enhanced their listening, presenting, written and verbal communication. Mr Nanau noted that the skills he gained on award:

...taught me about how to communicate, how to be let in ... it was business IT, organisational development in IT, how to build up an organisation in communicating and getting the infrastructure, and talking, getting feedback, strategising all these things.

Mr Mukekit emphasised how the communication skills gained during his time in Australia had impacted his career. Mr Mukekit noted how markedly his English language skills improved. Upon returning to PNG he had the confidence to interact with his bosses who were all expatriates at the time. Mr Mukekit noted that "having that confidence and that level of English that I spoke at the time" facilitated closer relationships with his bosses as he was able to communicate his ideas, which supported his progress. Ms Miro expressed similar sentiments when she noted:

.. that ability to just communicate with expatriates enabled me to do that because I'm comfortable being surrounded by people from all over the world. Before then, I was a little reserved. I would not speak up. But I'm very comfortable now. ... The lecturers I had were great people. I could talk to them, I could ask them questions. They were very helpful. So that diminished the fear I had that I couldn't speak to an expatriate, especially someone at a senior level.

Professor Baird reflected that Mr Daniel had also gained communication skills while he was on award, noting that "I would assess that it certainly gave him confidence to speak up and speak out. He's very articulate. He's thoughtful and considered."

Three of the alumni, Ms Kokiai, Mr Daniel and Ms Kiele, made reference to the **critical thinking skills** and knowledge that they gained on award. Critical thinking skills and knowledge are broader than the technical skills gained on award. They relate to things such as creative thinking, decision-making and problem solving (Weber et al., 2009). Mr Daniel revealed that this set of soft skills gained on award were a key factor in him obtaining his current position as Dean at DWU, noting:

I took up all of this because of my exposure to studying in Australia. That really gave me the confidence and the courage and the qualifications to think outside the box and to be confident in what you are doing and all that. So it was not just gaining a bachelor degree or diploma or a masters in Australia ... So these other things too, we had to learn and acquire that from our studies.

Ms Kiele believes that her time on the Australia Awards enabled her to broaden her skills and knowledge. Ms Kiele noted that she and others who study in Australia "can now see things in a different perspective". This testimony supports evaluation research cited by Wilson (2015), that has offered clear evidence that those who participate in overseas scholarship funded studies believe that they gain greatly in their cognitive skills and knowledge by obtaining the sensitivity to bridge the domains of methodological competence and theoretical knowledge.

Alumni and stakeholders identified **intercultural competency** as a skill that they had gained on Australia Awards. Many of the alumni echoed the sentiments of Ms Jennifer Ross, Australia Awards Scholarships Manager for PNG, about the impact of studying in Australia. Ms Ross noted:

Having exposure to other cultures helps you build understanding, compassion, empathy, a different point of view. I see awardees going down on scholarship – they've already got work experience, they've already got qualifications, they've already got knowledge. But when they're in Australia, they add a lens and layers of knowledge on top of it through their studies.

Both Ms Kiele and Mr Nanau commented on how studying in Australia had given them vital understanding on how to interact within a variety of cultural contexts. Mr Nanau noted that "living in a multicultural environment ... [made him feel] equal to anyone. So if I walk to a meeting, I see this Australian, "Hi, how are you?"

Dr Suwamaru identified intercultural competence as one of the most important skills that alumni gain on award, stating that "The award is one thing but it's really the culture, the work ethics. To me, that's the main thing. It's not really the qualification." Dr Suwamaru's statement supports research with Indonesian

scholarship recipients who indicated that the intercultural dimensions of study in Australia were as important to post-scholarship trajectories as the academic content of study (Chalid, 2014 cited in Wilson, 2015).

The soft skills of leadership, stakeholder and organisational management were also cited by alumni and colleagues. Mr Naidu praised Ms Kokiai's skills in this area. He stated that her role as:

The General Manager, Internet Services, involves a lot of interactions with our corporate customers on technical and commercial matters ... has to demonstrate good leadership ability, communication skills for the success of our business ... she is very knowledgeable technically, as well as in her leadership and communication skills. She is very good in what she does.

Mr Nanau noted that his time in Australia exposed him to management and organisational skills that he now utilises in PNG. He noted that when he was studying in Melbourne he realised that you "turn up to work on time ... [being] late that just doesn't help in productivity. So these, probably soft skills, I think it's shaped me up in my work and how I do things".

2.5.2 Relevant technical skills

Alumni identified the relevancy of the skills gained on award as enabling them to do well when they returned to PNG. Mr Mukekit encapsulates this view when he noted:

Because the course that I took in Australia, it was a very, very practical hands-on course – that's from TAFE College. We did a lot of technical stuff and we were able to build this power board and power supply and other things, electrical soldering technologies and stuff like that. So it helped me to come back and apply that same skill in the workplace. So that's why I was in charge of fixing all the electronic stuff and computers, the hardware part of it. So that skill that I gained there, it really helped in actually doing some practical work here in PNG.

Both Mr Nanau and Ms Miro noted that although they are not directly using all the technical skills they have gained on award, the knowledge and methodological understanding gained has been relevant to them. Mr Nanau noted that his technical knowledge helped him to get his current job at the Post-Courier. Ms Miro supported this view when she noted that although she does not have the opportunity to directly use her technical skills "having that IT knowledge enables me to explore and do more".



Alumnae Ms Kiele, PNG Remote Sensing Centre. Photo: Australia Awards Global Tracer Facility

The relevancy of the skills gained by Ms Kiele has given her a leading edge in her field. Ms Kiele was one of the first PNG nationals to be trained in GIS and remote sensing and is widely recognised and highly respected, both nationally and regionally, for her specialised skills and contribution to her field. The technical skills that Ms Kiele gained in GIS have made her into an elite multiplier. Ms Kiele noted:

... because I was the first one that was taught in GIS in the country and remote sensing ... my name kept appearing everywhere that “she is the only GIS person in the country”. So I was offered a job.

Mr Walos Palista, a lecturer in environmental science and sustainability at UPNG, confirmed the relevance of Ms Kiele’s skills and the status that she has in the country. He stated that:

She specialises in the IT section and remote sensing. So she teaches all those courses on her own, with no assistants, recruiters, whatever. So we see her as one of those highly productive officers in our discipline because that’s a very highly specialist area. She’s on her own, actually, teaching these courses related to IT.

2.6 Challenging factors

Alumni referred to challenges they have faced when trying to apply their skills and knowledge gained in Australia. The most commonly discussed barriers were due to technological delay, lack of opportunity, and resources and equipment costs.

Information technology was still in its infancy when alumni returned to PNG in the late 1990’s and early 2000’s. This meant that a number of alumni were unable to fully utilise the skills that they had gained in Australia as the latest technology had

not been implemented in PNG. As previously noted, PNG has one of the lowest information technology penetration rates in the world (Logan & Suwamaru, 2017). Ms Kokiai, noted that she studied networking and relay frames being used in Australia but couldn't put what she learnt into practice in PNG due to differences in technology, with PNG using older technology. Mr Daniel estimated that he was able to use "maybe 5-10% of what I'd learnt in the entire four-year degree, because of the amount of work that was available at the time". When Mr Daniel returned to PNG he did consultancy work. Instead of utilising the latest skills and knowledge in IT that he had acquired during his Masters he was forced to install and fix computer software and hardware. Ms Miro echoed this sentiment but was more sanguine, stating: "I did not have the opportunity to use that skill. So I feel that I'm not using it, I'm losing it, but I've gained in other ways". The statements from the alumni above are a commonly cited issue in scholarship research. This has led the Asian Development Bank to refer to the phenomena as an organisation or sector not having the 'absorptive capacity' to productively integrate new expertise from returning scholarship recipients (ADB, 2007 cited in Mawer, 2018).

An interrelated challenge was the limited number of opportunities for alumni within the ICT sector. Both, Mr Nanau and Mr Daniel started small businesses when they returned to PNG. However, the small size of the ICT sector meant the demand wasn't there. Mr Nanau reflected on how eager he was to start up an IT company in his home province when he returned to PNG, however:

So I went back to Vanimo. ... I set up an internet café. But reflecting, looking back now, it was a very stupid decision. Because even if I had set up 20 computers in Vanimo at that time, I'd have no guests, because people didn't know about computers.

Mr Mukekit had a similar experience.

In PNG at the time, the opportunity to work in that electronic environment was very, very small. So you don't really have so much opportunity to really go out there and unleash the potential that you have.

Ms Kiele and Ms Kuso cited limited opportunities in the jobs they returned to or gained after their award. Ms Kiele worked for the Department of Agriculture and Livestock (DAL) for 12 years as the Manager of the PNG Resource Information System (PNGRIS)⁷. Despite the important role Ms Kiele was playing at DAL, she noted that the skills she had learned and the knowledge that she had gained would be better utilised at UPNG than with DAL. Ms Kuso noted the limited job opportunities in the ICT sector outside of the National Capital District. Ms Kuso is a technical officer for the PNG University of Technology in Lae. Ms Kuso was somewhat pessimistic about the opportunities available to her, noting that she did not see herself progressing from her current job.

⁷ PNGRIS was developed by CSIRO in Australia and PNG Department of Primary Industry (now DAL) in the 1980s and 1990s. It contains information on natural resources, land use and population distribution in PNG, with data in a mappable form (or geographical information system) (Bourke & Harwood, 2009) .

Of interest, only one alumni cited resources and equipment as a barrier. Ms Kiele requires hardware, software and datasets to conduct GIS work, which need to be constantly updated. Ms Kiele stated that:

... to get new datasets is really an issue ... because they are really expensive – or new tools, like GPS tools, like I need, or I need very good computers ... to learn, you need very high RAM, high capacity, high drive and so forth ... We are hoping that something will come up soon.

The main challenge for Ms Kiele is the chronic underfunding of research at PNG universities. A review into the sector in 2010 noted that expenditure on maintaining assets and investment in the quality of the teaching environment was cut to negligible levels (Garnaut & Namaliu, 2010). This has led to initiatives such as the Kina-for-Kina project noted above, which prioritised quality improvement in the tertiary education sector.

3. Economic and Public Diplomacy Outcomes

Summary findings

Alumni from this Case Study demonstrated strong evidence of sustained personal and professional connections with Australia, Australians and fellow scholarship holders, which **supports the Australia Awards long-term Outcome 2 and Outcome 3** (see below). The strongest links have been maintained with Australians, PNG and other international students on award, while professional connections were established on return as alumni progressed in their careers. Examples of cooperation and partnerships with Australia include:

- institutional links fostered between Australian organisations and alumni workplaces
- professional networks based on research collaborations and consultancy roles
- personal connections established with Australians, PNG and other international students on award, which have transformed into long-lasting friendships and employment opportunities.

In this particular Case Study, the close geographic, historical and cultural ties between Australia and PNG were key enabling factors facilitating alumni networks with Australia. Other factors that have enabled these linkages include practical coursework placements and employment while on award, which gave alumni the opportunity to extend their connections with Australian businesses and the broader Australian community. An active alumni association, supported by Australia Awards, has also facilitated opportunities for networking and professional development among alumni.

While alumni did not identify many challenges to maintaining contact with Australia and Australians, the most common factor was the expense and difficulty of travel within PNG, which limited their engagement in alumni events. They also noted the lack of opportunities to engage with alumni from their cohorts and proposed that the Papua New Guinea Australian Alumni Association (PNGAAA) explore different strategies to engage older alumni.

3.1 Introduction

This chapter explores the extent to which alumni and their organisations are contributing to two of the Australia Awards long-term outcomes:

- Outcome 2: 'Alumni are contributing to cooperation between Australia and partner countries'
- Outcome 3: 'Effective, mutually advantageous partnerships between institutions and businesses in Australia and partner countries.'

The Australia Awards Global Monitoring and Evaluation Framework (the Framework) describes activities under these outcomes as: facilitating business or trade links, participating in international or regional bodies, or advocating the relationship between Australia and partner countries (e.g. promoting study in Australia).

The Framework outlines Outcome 2, cooperation, as the connections and networks between alumni and Australia which represent the people-to-people links, such as alumni associations, friendships, or professional connections with former lecturers. Whereas Outcome 3, partnerships, 'looks beyond the individual links' and 'articulates Australia's intention to see organisational links' occur as formal partnerships.

Examples discussed in this chapter examine these outcomes in the context of PNG and the alumni featured in this Case Study. However, it is important to note that during the period that the alumni were on award (1996-2005), the Australia Awards did not have an explicit goal of building partnerships and making connections on award. As DFAT staff at the Australian High Commission noted:

...it's around the development outcomes here, especially in areas where people couldn't otherwise get the training. And it's also equally around strengthening the connections between Papua New Guinea and Australia. In the past, traditionally we only spoke about development outcomes, but now it's very clear that it's around those two outcomes together.

3.2 Background

Australia and PNG have a "shared history and deep social ties which has shaped bilateral relations between the two countries for over a century" (Wesley 2017). At the 2017 Papua New Guinea-Australia Ministerial Forum, Ministers reaffirmed the institutional links between PNG and Australia and agreed on the importance of expanding people-to-people links between the two countries (DFAT, 2018). They also recognised the maturing partnership between PNG and Australia, which has shifted from one dominated by development assistance to a growing strategic partnership based on shared economic, security and strategic interests.

Australia is PNG's largest trading and investment partner, with two-way trade worth \$5.9 billion and approximately \$16 billion in investments from around 5,000 Australian businesses operating in PNG (DFAT, 2019). Australia is, by far, Papua New Guinea's largest donor, and Papua New Guinea is the largest recipient of Australian Official Development Assistance (ODA), which makes up nearly 14 per cent of Australia's aid program (DFAT, 2018). In 2018-19, Australian aid to PNG was estimated at \$572.2 million, which accounted for nearly 70 per cent of Papua New Guinea's total ODA and approximately eight per cent of Papua New Guinea's national budget (DFAT, 2018).

As PNG's largest development partner, Australia is co-funding the Coral Sea Cable System to improve internet access and connectivity across PNG (See Box 1). It is expected that this investment will generate economic growth and job creation, as well as development benefits through strengthened e-governance and more

effective delivery of government services (DFAT, 2018b). As discussed in Chapter 4, three of the alumni in this Case Study have made a direct contribution to the development of sustainable and resilient technology that supports the roll out of IT infrastructure in PNG: Dr Suwamaru through his leading role in the installation of the existing undersea cable; Mr Daniel through his research on the effectiveness of electronic governance; and Ms Kokiai who is working to deliver faster internet connectivity for her clients across PNG. In their various roles, these alumni have continued to build the economic and public diplomacy links between Australia and PNG through the promotion of bilateral interests, such as the Coral Sea Cable System.

3.3 Examples of cooperation and partnership

This Case Study has found strong evidence of ongoing personal and professional partnerships developed between alumni and Australians. In particular, personal connections with Australians and other international students that were formed on award have been maintained over time, while examples of professional and institutional partnerships were established within the context of their workplaces as alumni progressed in their careers. In these cases, alumni were able to leverage the formal partnerships between their organisations and Australian institutions to further develop their professional networks.

3.3.1 Institutional links with Australian organisations and businesses

Most alumni in this Case Study have demonstrated enduring links with Australian organisations, in both the public and private sectors, since their return to PNG. These include partnerships with Australian higher education institutions, collaboration with Australian government organisations and facilitating business transactions with private sector providers. In some cases, the existing institutional links between the alumni's workplace and Australian organisations have created an opportunity for alumni to build and sustain a reciprocal partnership with Australian organisations. In other cases, alumni have drawn on their own knowledge and experience of Australian culture gained on award, to generate business interests with Australian companies.

For example, the University of Papua New Guinea (UPNG) and James Cook University (JCU) established a three-year twinning project in 2015, funded by the Australian Government, to further academic, research and teaching ties between the two universities (JCU, 2019). Under this formal partnership, Ms Kiele and her colleagues from UPNG accessed professional development opportunities to improve their teaching skills through the Graduate Certificate of Education (Academic Practice). Ms Kiele identified this as an important initiative in addressing the skills gap in her department, and expressed pride in receiving the training which has enabled her to become qualified after 15 years of teaching. Ms Kiele has also contributed to the twinning arrangement by sharing her research at the PNG Impact Conference in 2017, organised by JCU. Her colleague, Mr Walos Palista, highlighted the benefits of the twinning project in facilitating future opportunities for academic collaborations:

It helps us to make links to institutions there because many of our staff need further training, like do their masters or PhDs, training, or things like this. So we use these personal contacts, links to help us.

Similarly, there is a long-established partnership between the Australian Catholic University (ACU) and Divine Word University (DWU). In 2017, Mr Daniel was able to leverage the existing partnership between these two universities and his own professional networks to engage experts from ACU to review flexible learning programs at DWU. Mr Daniel and his colleague, Professor Baird, received funding under the Kina-for-Kina⁸ program to develop the capabilities to design and deliver online courses. Mr Daniel noted that:

One of the objectives of the university is to one day provide fully online programs...We are getting there and we are working towards that. So we had to bring in these people to provide workshops and show us how to do some of those things, as part of the review of the programs.

According to an article published on ACU's website (2017), collaboration on this project further strengthened the institutional ties between the two universities.

The visit and knowledge exchanged built on the long relationship already developed between ACU and DWU, and was evident in the hospitality and collegial atmosphere extended during the time spent in their academic community.

Mr Mukekit is another alumni who is contributing to ongoing institutional links between Australia and PNG through the National Fisheries Authority and Australian Fisheries Management Authority (AFMA). Using his ICT skills and knowledge gained on award, Mr Mukekit is collaborating with his Australian counterparts at AFMA on the fisheries information system.

Two alumnae who work in the private sector are facilitating business links with Australia through their employers. For example, as the Training Supervisor at ExxonMobil PNG, Ms Miro is working directly with Australian service providers to deliver various training programs including competency training and dangerous goods training for ExxonMobil's employees. Drawing on her connection to Adelaide, where she completed her degree, Ms Miro is exploring business opportunities with a local Australian company to provide computer-based training for her organisation. She explained:

We're trying to connect with [a company based in] Adelaide. They produce exceptional computer-based training packages. As a leading global energy company, we seek best in class business solutions. I met with them in February when I went to Australia. We are considering this vendor to help us produce some high-quality training.

Ms Kokiai is the Acting Chief Operating Officer at Datec. While she has not directly sought business opportunities with Australian organisations, Ms Kokiai's exposure and knowledge of Australian culture has been an asset to the company when

⁸ A joint initiative of the Governments of Papua New Guinea and Australia to improve the quality of higher education in PNG. For more information on the K4K program, see: <https://png.embassy.gov.au/pmsb/714.html>

dealing with Australian-based vendors such as IBM, CISCO and Lenovo. As noted by the Acting Chief Executive Officer of Datec, Mr Naidu:

A lot of our investors and donor agencies are from Australia and other Asian countries. Particularly, where new businesses are being set up in PNG, they look for a reliable internet services provider or an ICT provider and because of Annuncia's past overseas exposure, she is able to relate well with them and make a very good impact.

3.3.2 Enduring professional networks with Australian and international counterparts

Alumni in this Case Study continue to forge professional partnerships within their Australian and international networks. This is most evident in the academic and research collaborations between alumni working in the higher education sector. Dr Suwamaru, Ms Kiele and Mr Daniel are well respected within their fields of expertise in PNG and across the region. They have published extensively with other Australian and international researchers in the areas of climate change, disaster risk management, ICT and electronic government.

As one of the pioneers in the telecommunications industry in PNG in the late 1990s, Dr Suwamaru has made a significant contribution to the research and development of the industry through his various positions within the public and private sectors. As a lecturer at DWU and later as an independent consultant, Dr Suwamaru has engaged in various research collaborations with Australian and international academics and has published widely in the area of ICT. He has a well-established connection with the ANU's College of Asia and the Pacific as an invited guest presenter at the State, Society and Governance in Melanesia Seminar Series and as part of the ANU Pacific visitors program in 2015 (ANU, 2017). He has also been a regular contributor to the Department of Pacific Affairs discussion paper series. Mr Daniel is another alumnus who has a connection with the ANU's College of Asia and the Pacific through his previous participation in the Pacific Research Colloquium in 2017 (a two-week intensive workshop for social researchers from the Pacific to develop skills in social science research).

Ms Kiele is widely recognised for her research at the UPNG GIS and Remote Sensing Centre and has contributed to numerous publications both nationally and regionally on the use of spatial data to inform public health initiatives, climate change assessments and disaster risk management. She is also using her highly sought after skills to consult on projects for Australian and international organisations, such as the Independent Review of the Strengthening Disaster Risk Management in Papua New Guinea project for DFAT, the Climate Change Vulnerability Assessment for UN-Habitat, a resettlement project for UNHRC and is currently working with Birdlife International to implement a regional project on forest governance in Indonesia, Malaysia, the Philippines and PNG. As Ms Kiele's colleague attested:

On remote sensing and GIS, they contact her and outsiders come in, like UN representatives, whatever, they link up with her. So she is quite well known in our institution in that regard.

Other alumni that have also formed professional relationships with Australian organisations through their engagement as consultants include Dr Suwamaru who

provided technical expertise to Geosciences Australia and Mr Nanau, who was engaged on a DFAT project. Mr Nanau recalled:

...so one of the DFAT projects called PHAMA: Pacific Horticultural and Agricultural Market Access, needed someone to help them with their media and communications and video productions, so I think they [found] me on LinkedIn.

3.3.3 Strong personal networks formed on award

Consistent with other Case Studies, there is strong evidence of alumni maintaining a personal network with Australians, PNG and other international students formed while on award. Specific to this Case Study were the bonds alumni shared with Australians who were expatriates in PNG, where friendships were built on a common experience and deep understanding of PNG culture. For Mr Daniel, who arrived in Australia as a high school graduate, this group of Australians supported him to adjust to student life. He recalled:

I also met some other people who were expatriates in Papua New Guinea...I met some of those people, so we became very good friends...and they were willing to help. Because, for me personally, going to Australia and big cities, this was totally new for me. They said, "No, don't worry about your village or whatever. You have study." So I still maintain contacts with those people. During the holidays, sometimes I go and spend my holidays with them.

There are enduring connections with others in the Australian community cited by alumni, such as academic staff, local families and church groups. Ms Miro remains in contact with one of her tutors as well as people from her church community in Australia. Using her personal network, Ms Miro was able to facilitate a voluntary development project between her church and a rural community in PNG.

... friends from church that we know, connecting them with a remote community here who needed help. So we helped them come over and they stayed with us and went to this remote place in the Gulf to work on a clinic.

Ms Kuso spoke of her enduring friendship with an Australian/Italian family she met during her studies, which has broadened her experience of living in Australia.

We still keep in touch, we still help each other, like their family is my family...It is so nice to have met people, then it opens the other door for me to get to know other people and have the type of relationship that I don't think I would have.

Alumni also developed a close network of friends with other students from PNG and the PNG community in Australia. These connections provided alumni with social and wellbeing support while on award, and in some cases, created opportunities for employment when they returned to PNG. Mr Nanau fondly recalled a PNG family from the same province who looked after him while he was in Melbourne like he was their own son. He also described the network he formed with prominent PNG nationals who studied with him and who became his mentors.

...it was through the meetings in Melbourne that I happened to meet with them and form some really professional and a good networking that inspires me and challenges me to do things, and that probably suits me a bit different from the others because of the influence from them.

Mr Nanau has also been able to use his personal networks established while on award to find employment opportunities when he returned to PNG: “I’ve met a couple of people who actually did know me, and they were able to give me a job...we networked and we supported each other”. Similarly, Ms Kiele and Ms Miro described how the personal networks they formed while on award have led to referrals for work and research collaborations. Ms Miro shared:

I’ve had only one person who was my classmate. We did the same course on the same batch. We’re still in contact. She engaged me on a project for Air Nuigini when I first started freelancing work.

Other alumni spoke of the lasting friendships they developed with international students while on award. Ms Kiele and Dr Suwamaru attested to the benefits of being exposed to other cultures, which introduced them to new experiences and ways of working. Ms Kiele noted:

I was connected with people from Thailand, the Indonesians, who were all the time gathering, sharing, discussing assignments. It was an experience to learn from others. I was even invited by them to go taste the chilli food of Thailand – I had tears in my eyes. It was a good experience.

For Dr Suwamaru, it was the work ethic of his Indian friend that resonated with him.

I learnt a lot of things from this Indian...So he’s a friend of mine. We remained friends and we share some things through email and all that. So, to me, it’s really the work ethic. Their qualification is one thing...but the important thing is the work ethic.

3.4 Enabling Factors

This Case Study identified a number of factors which facilitated the connections alumni established with Australia and Australians while on award, as well as factors which helped alumni nurture those relationships when they returned to PNG. The close geographical and historical ties between Australia and PNG provided a unique context in which alumni were able to maximise the opportunities for economic and public diplomacy links with Australia and Australians. Examples of this are discussed below.

3.4.1 Geographic and cultural ties between Australia and PNG

One of the key factors supporting ongoing alumni engagement with Australia and Australians is the pre-existing institutional and personal links between Australia and PNG. As the Facility Director of Australia Awards in PNG, Dr Kaye Eldridge, observed, these pre-existing links can play an important role in fostering the economic and public diplomacy outcomes between the two countries.

I think it is the linkages, because they can maintain them more easily than people who are further away...We’ve had a couple of awardees in that situation, where they went to school in Australia because their parents were on scholarship. So it ends up being a multi-generational relationship with Australia. So I feel like we do have people who can bridge both cultures, in a way. They can see the Australian point of view...and they can also understand the PNG point of view, and so having people that can bridge both cultures and both understandings makes it easier to work with.

Most alumni in this Case Study described having had some prior connection with Australia either through their personal networks or through their workplace.

Ms Miro shared that her husband's positive experience of living and studying in Adelaide influenced her decision to choose Flinders University for her degree. As highlighted in the previous section, this connection with Adelaide has been used by Ms Miro to explore a potential business partnership between ExxonMobil PNG and a local Adelaide company.

Historically, Australian teachers have had a strong presence in the PNG school system before and after independence, as part of various formal education partnerships with Australia and through the religious/mission school system. Both Mr Daniel and Mr Nanau acknowledged that their Australian teachers had encouraged them to apply for an Australian Award.

Ms Kiele also experienced having Australian teachers throughout her schooling and noted the strong cultural ties that existed between Australia and PNG while she was growing up. This has created a positive impression of Australia and Australians and has helped her navigate the cross-cultural divide between the two countries in interacting with Australians during her studies and throughout her career. She reflected on the number of opportunities she's had in her career that has strengthened her personal and professional ties with Australia. This includes a scholarship prior to her Award, from CSIRO to undertake a Postgraduate Diploma in Land Resource Information Systems and Management at the University of Queensland through an institutional partnership with the PNG Department of Agriculture and Livestock. Ms Kiele attributed the success in her career to the enduring relationships she has formed with Australia and Australians.

[An Australian professor] came and he took me and a few of my colleagues...to visit all [the] agricultural plots, and it was to do with women and agriculture. That was the beginning of when I said I was getting involved with the Australian Government in one way or the other, with projects, with my learning experiences...they were always there and they were behind what I am now.

3.4.2 Australia Awards and the PNG Australian Alumni Association

Australia Awards have provided opportunities for alumni to build and sustain their engagement with Australia through further studies and through support for alumni during and post award. Both Mr Daniel and Mr Mukekit returned to Australia on a second Australia Award to complete their Masters degree, thereby strengthening their links with Australia and Australian universities. In recent years, Australia Awards in PNG has strengthened its focus on the Australia-PNG partnership and has introduced the on award enrichment program, with the aim of facilitating professional links between alumni and their Australian counterparts.



Janet Rangou, Vice President PNGAAA. Photo: Australia Awards Global Tracer Facility

Australia Awards is helping alumni maintain links with Australia through support for the PNG Australian Alumni Association (PNGAAA). Alumni are encouraged to join the PNGAAA by having their membership fees paid by Australia Awards in the first year. Most alumni in this Case Study identify themselves as members of the PNGAAA, although only two confirmed they are fee-paying members.

The PNGAAA is an active formal organisation which serves approximately 700 registered members under nine chapters across PNG. According to its website, the PNGAAA delivers a range of activities for its members including professional development workshops, networking events, leadership development programs, small grants and employment support (PNGAAA, 2019). Dr Janet Rangou, Vice President of the PNGAAA, identified a number of alumni projects and events held by the association in recent years, such as Alumni Café, Yumi Toktok discussion forum, alumni awards and community engagement.

Alumni in this Case Study expressed positive views about the PNGAA and attested to the benefits of being a member, including access to professional development workshops and networking events to help them maintain contact with other alumni. Mr Mukekit stated:

So it gives you that edge to be among some of the best people in their respective fields. And they organise leadership meetings and any events that support all the members to probably come up with constructive ideas and all that so that they can assist other unfortunate people around. So they do some maybe financial literacy or other things like that in the community.

Most alumni interviewed have had some active involvement with the PNGAAA in recent years, while some have said a lack of time prevented them from engaging in PNGAAA activities. Alumni mentioned professional development workshops as the most worthwhile activities, which have addressed relevant topics such as project management and financial literacy. In addition, Mr Daniel has been involved in the pre-departure briefings by sharing his experience of living in Australia with new awardees:

I represented Madang and we came for the pre-departure and provided some advice and some guidance and what to look for...So we shared our experiences. Then also it has created these connections for me, so I communicate with my colleagues through Facebook, through LinkedIn.

The PNGAAA uses its Australian alumni network effectively to make connections with Australia and Australians. They are actively looking for opportunities to further develop ties with Australia by seeking formal partnerships with Australian organisations to expand professional development and research collaborations for their members. Last year, they invited Professor Tim Flannery⁹ to PNG as a guest speaker on climate change. According to Dr Rangou:

He came because one of our alumni executives...also has this conservation project, and I think he's been a mentor and a part of this, the connection in terms of research and all that. So we brought him over...to give a public lecture here at the university to promote global climate change and all those issues. Then we had a breakfast with him [hosted] under the Port Moresby Chamber of Commerce when we invited the private sector to come on board...and also our alumni to come.

The PNGAA also receives secretariat support from the Australia Awards in PNG Facility and also works closely with the Australian High Commission to promote bilateral interests between the two countries. Dr Rangou noted:

I think we are in a very close relationship and partnership with the Australian High [Commission]. Whenever they call us to help them in any way to be representing the PNG alumni, we go, so that's one way of us connecting directly with Australian institutions and Australia as a whole.

3.5 Challenging factors

There were not many difficulties raised by alumni as challenges to maintaining connections with Australia and Australians. As discussed in the previous section, the strong geographic and historical ties between Australia and PNG created an enabling environment for alumni to develop and maintain links with Australia. In contrast to other Case Studies in the Facility research, PNG alumni were less constrained by language or cultural barriers which may have limited their ability to interact with Australians while on award. Examples in this Case Study demonstrated that it was easier for alumni to maintain personal relationships with those they met on award than their professional networks, which were more commonly established and forged through their workplace. As such, alumni

⁹ Professor Tim Flannery Professor Tim Flannery is one of Australia's leading writers on climate change. An internationally acclaimed scientist, explorer and conservationist.

discussed the challenges they faced in maintaining relationships with fellow awardees since their return to PNG.

3.5.1 Time and distance

Alumni identified the geographical distance across PNG as a major barrier to connecting with other Australian alumni. As Mr Daniel noted, events and training workshops are often held in Port Moresby and the cost of travel and accommodation can be prohibitive to attending. His colleague, Professor Janet Baird, reiterated this point:

...people come back from studies in Australia with good networks...but inevitably they seem to fall away, and fall away quite quickly...Part of that is that within the PNG university sector, there are very few opportunities to even meet colleagues in the same discipline because meeting colleagues basically requires an airfare, and there's not a lot of support just for general networking or good practice meetings and not a lot of funding for it.

The second most common challenge noted by alumni in this Case Study was the lack of opportunities to engage with older cohorts of alumni. For example, Ms Miro reflected:

I would like to connect with the batch I attended Flinders University with. I don't know if every one of them is a member of the alumni, but if the alumni can connect us that would be awesome. I think there is power in networking.

Some alumni have suggested that the PNGAAA could do more to facilitate networking among the older cohorts for example, by updating their database as a first step. Dr Rangou recognised the need for her organisation to reach out to old alumni and particularly the unregistered members on the PNGAAA database.

So we opened up, actually, to making sure that people who have gone [on scholarship] before...see where they can fit in and come in and join us. I think a lot of them we're getting from people from yesteryear. The tendency is that we will try to focus on the recent period and forget those, but we are very welcoming to those ones who come and say, "I went to school in the late 1990s or early '80s. How do I qualify?"

4. Views about Australia and Australian Expertise

Summary findings

Alumni in the PNG Case Study hold enduring positive views about Australia, Australians and Australian expertise. In particular, alumni have positive views of the quality of Australian education, the friendliness and openness of Australia and Australians and the alumni's exposure to Australian education and business practice.

The Australia Awards long-term Outcome 4, that 'Alumni view Australia, Australians and Australian expertise' has been achieved based on the evidence provided by alumni in this Case Study.

Alumni shared examples of how an Australian qualification was considered to be world class within PNG and beyond and it had given them positional advantage in the PNG workforce. They also noted that the friendliness of individuals and the openness of Australian society framed the positive views that alumni had of Australia. Finally, alumni stated that exposure to Australian education and business had influenced their perceptions of the country and their own aspirations when they returned to PNG.

4.1 Introduction

The Australia Awards aims to develop positive views of Australia, Australians and Australian expertise (DFAT, 2016a). One element of the 'theory of change' that underpins the Australia Awards is that undertaking an Australian scholarship will result in outputs that include:

- awardees/fellows and their families have a positive experience of life in Australia
- awardees/fellows complete good quality, relevant education, training, other professional development and research activities.

It is assumed that these factors will translate to the long-term outcome of alumni viewing Australia, Australians and Australian expertise positively. This outcome, in tandem with those on skills, networks, cooperation and partnerships, will contribute to the goal of the Australia Awards that partner countries progress their development goals and have positive relationships with Australia that advance mutual interests (DFAT, 2016a).

This chapter includes evidence of PNG Australia Awards alumni's views about Australia, Australians and Australian expertise based on their experiences in Australia and at Australian institutions. The discussion relating to these views focuses on three central themes. These are: the quality of Australian education, the

friendliness and openness of Australia and Australians and the alumni's exposure to Australian education and business practice.

These perceptions shared by alumni and stakeholders demonstrate that the **Australia Awards long-term Outcome 4, 'Alumni view Australia, Australians, and Australian expertise positively', has been achieved.**

4.2 Examples of positive views of Australia and Australian expertise

4.2.1 Quality Australian education

All alumni were emphatic about the quality of Australian higher education. This is an important finding as it adds to the evidence accumulated by the Facility over 12 Case Studies that the assumptions made by the Framework (DFAT, 2017a) theory of change are evidence based. Namely, it appears that completing good quality relevant education and training is part of the causal pathway that leads to alumni holding positive views of Australia and Australian expertise.

Alumni rated the quality of Australian education as world class. Of interest, it was alumni who work in the higher education system (Dr Suwamaru, Ms Kiele and Mr Daniel) who were the most unequivocal in their positive views of the standard of education they received. Dr Suwamaru classified the quality of Australian education as "world standard", noting that it was the "best part" of the Australia Awards. Ms Kiele stated that "the quality is excellent" she made reference to the "top scientific people ... they were so expert in so many little things that I wouldn't know". Mr Daniel commented that students at DWU would seek him out as they knew he had graduated from Australia.

Alumni noted that Australia's reputation for quality education was widely known in PNG. Mr Nanau acknowledged that a qualification from Australia was "regarded very highly". Mr Mukekit who has been the recipient of two Australia Awards stated:

I can say that they cannot be compared to any other education anywhere. Australian education, the professionalism and the knowledge that the lecturers have, they are very professional in their own specific areas that they taught us in.

Ms Kuso, Ms Kokiai, Mr Nanau and Mr Daniel, made reference to what researchers call the **positional advantage** of an Australian qualification. This refers to the benefits that an alumni receives from having an international education compared to one in their home country (Mawer, 2018). Ms Kuso commented on how Australia's reputation for quality education meant that her employers knew she would be able to do her job. Mr Nanau, made reference to networks that would vouch for him as a result of his Australian qualification and Mr Daniel noted that his former head of department knew the standard of education in Australia so stated "Wow, you got a bachelor at UQ (University of Queensland), so I know we will utilise you".

Two alumnae, Ms Kiele and Ms Kokiai felt that Australia's reputation as a provider of quality education was internationally recognised, which has strengthened their career pathway. Ms Kiele noted that the Graduate Certificate of Education (Academic Practice) she received via James Cook University was internationally

recognised, noting, “I could teach anywhere in the world with this certificate”. Ms Kokiai was more emphatic about the positional advantage that a qualification from Australia provided in terms of career development and further education opportunities stating that “Australian expertise and education can get you a job anywhere. [It was a] Stepping stone to getting a Master in the UK. It’s prestigious”

A commonly cited reason why Alumni felt they were able to gain positional advantage with their Australia Awards was because the quality of the PNG education system is still in development. However, Ms Kiele was optimistic about how Australia Awards alumni could support the PNG higher education system noting:

The standards, the relationships, we are a developing country. Our standards are not that high like in Australia, things like that. But if we can train in Australia and that kind of thing, we can bring better standards back and help.

4.2.2 Friendliness and Openness

The friendliness of individuals and the openness of Australian society framed the positive views that alumni had of Australia. Consistent with other Case Studies (Edwards & Taylor, 2019), the alumni discussed how they were embraced by Australians and their educational institutions during their time on scholarship. During the interview, Mr Nanau passionately reflected on the support he had received from individual Australians, recounting how he was met at each stage of his flight. When he arrived in Melbourne at night he remarked that there was a “guy just smiling there and picked me up. [He had a sign], I think it was “Welcome to Australia””. Ms Miro cited multiple individuals who had helped her form a positive impression of Australia including her lecturers who were “very helpful, very professional”, the Liaison Officers at Flinders University who went to extra lengths to help her succeed by arranging extra tutoring, and most poignantly a local couple who delivered bread to Ms Miro and her family for two years every Saturday evening. On average the alumni in this Case Study graduated over twenty years ago and yet each could cite numerous acts of kindness from Australians that appear to have impacted them and their views of Australia to this day.

In addition to individual acts of kindness, alumni spoke about the openness of Australian society more generally, which has given them a positive disposition towards Australia. Mr Mukekit described Australia as a “beautiful country with beautiful people, very friendly. I learnt a lot from people because they’re very open and it’s just a lovely place to live and work and study”. Three alumni, Ms Kuso, Mr Nanau and Ms Miro, remarked that Australia’s multiculturalism enabled them to feel welcomed and accepted. This is a finding similar to research conducted by the Australian Human Rights Commission that many new migrants who come to Australia feel a strong sense of belonging to Australia and that this feeling deepens over time (Australian Human Rights Commission, 2014). Ms Kuso felt that Australia’s multiculturalism and multiracialism meant that she could “fit in very well”. For example, Ms Kuso described an Australian-Italian family who she befriended while on award, who she has remained in contact with to this day stating “their family is my family”. Ms Miro and Mr Nanau noted that Australia was so diverse that they were able to meet fellow Papua New Guineans and Australians who had lived in PNG.

4.2.3 Exposure to Australian practice

Alumni and stakeholders noted that their exposure to Australian education and business practice positively influenced their perceptions of the country and their own aspirations when they returned to PNG. Ms Kokiai reflected that her time on the Australia Awards exposed her to female leaders, reminiscing how an encounter with a businesswoman who ran a fourth generation technology company had inspired her to think at the time “one day I want to be like her”.

A number of alumni noted that their exposure to Australian professionalism and knowledge has influenced their views of the country. Alumni expressed admiration for the calibre of the individuals teaching them when they reflected upon their Australia Awards. Ms Miro encapsulates this view when she remarked:

Our lecturers were professors and associate professors. Our tutors were working towards their doctorate or honours or something. Very highly intelligent people, so the quality of training we received there was very high.

The confidence that alumni gained from being exposed to Australian culture has been noted in Chapter 2. However, as well as being identified as an enabling factor for achieving development outcomes, alumni admired the confident nature of Australians. Mr Mukekit was personally influenced by his exposure to Australia during his Australia Awards noting “I learnt from how the Australians speak. They are not scared of anything. They can just speak their mind on what they think is right.”

During the period that the alumni were on award, Bradley et al., (2008) noted that Australia had developed a quality assurance framework for higher education, which was then at the forefront of international approaches. Both Ms Kiele, and Mr Daniel, who work in the tertiary education sector, made specific reference to how their exposure to these standards had impacted their own practice. A current strategy adopted by the Australia Awards in PNG to enhance alumni experiences in Australia is through the On-award Enrichment program. Dr Eldridge felt that alumni’s exposure to Australia via this program is one of the main strengths of the Australia Awards noting that it is “really important where [alumni] can get more exposure to actual practices in Australia in their study area, so they can come back [to PNG] and use it as a reference or as a model.”

4.3 Enabling Factors

There are a number of factors built into the experiences of alumni that have clearly helped in facilitating the positive views of Australia articulated above. A number of these are implicit in the examples shared, but a few additional factors are discussed below.

4.3.1 Work integrated learning and paid employment

Alumni cite work integrated learning opportunities and paid employment as providing a unique learning experience and exposure to Australian workplace culture. Mr Daniel's and Mr Mukekit's courses provided opportunities for them to gain practical experience with Australian companies. Mr Daniel recalled “...some of the projects were even sponsored by I think engineering firms in Brisbane. So we were actually doing real projects given by the engineering firms”. Mr Mukekit stated

that he was required to conduct a research project with a company as part of his Masters degree, but he was also able to apply his knowledge to the workplace when he took a job with Optus during the holidays.

I actually worked with Optus and we went around...Sydney, Manly, everywhere, Wollongong and all those places...because we were rolling out this Optus long-distance telephone call that was introduced during the time. So they needed people to work and get customers online...it was fun.

Ms Miro was another alumna who undertook paid work while on award, which gave her the opportunity to connect with new Australians (mostly refugees) while working on a strawberry farm.

4.3.2 Church community and support from classmates

The support alumni received from church communities and classmates helped to shape their positive views of Australia and Australians. Dr Suwamaru, Ms Kuso and Ms Miro each cited the positive support that they had received from the church community. Dr Suwamaru noted that he and his family, who had accompanied him on his Australia Awards, had made a number of friends from the local church. Ms Kuso stated that the “people at the church took care of us”. She also reflected that this community opened “the other door for me to get to know other people and have the type of relationship that I don’t think I would have.” Ms Miro noted that the friendships she made and support she received from within the church community enabled her to have an “awesome experience” while in Australia.

All alumni spoke warmly about the camaraderie and community that developed amongst classmates. Ms Kiele noted that the support she received from her classmates meant that she did not experience homesickness during her Australia Awards. Mr Nanua, Ms Kuso and Mr Daniel each reflected on how classmates helped each other out and shared notes. For Ms Miro this support extended to lecturers and tutors who she is still in contact with today.

4.3.3 Support from the PNG community

Many alumni made friends with other PNG scholarship students, members from the Australian PNG community or Australians who had lived in PNG and returned to Australia, when they first arrived in Australia. These connections helped students adjust to cultural differences and focus on their studies. Mr Daniel made friends with a number of Australians who had lived in PNG when he arrived in Australia. He noted that they were able to support him based on their understanding of PNG culture. Ms Kiele, recalled that “there were a lot of Papua New Guineans [at James Cook University] so we had a PNG group”. Mr Nanau connected with a number of Papua New Guineans in Melbourne who helped him to network and provided support during his Australia Awards.

4.4 Challenging Factors

The overwhelming sentiment from alumni in relation to their views of Australia are positive and inspiring. As such few inhibiting factors to developing positive views were apparent from the discussions. However, a number of alumni did

acknowledge that racism was a concern during their time in Australia. Both Mr Nanau and Dr Suwamaru noted that people 'talk of racism' in Australia but both stated that they had never encountered any issues during their Australia Awards. Ms Miro stated that she found the general population to be friendly but she did state that she just "avoided" racist behaviour. "If I noticed anything (I'd) avoid it".

5. Impact of Australia Awards on Addressing Equity Issues

Summary findings

The Government of PNG recognises that gender equality and social inclusion are critical to improve the social and economic status of all Papua New Guineans. It has therefore, adopted various policies and frameworks to promote gender equality, women's economic empowerment, disability inclusion and services to the rural sector. Australia Awards in PNG are proactive in their response to social inclusion within the program, for example, by targeting 50 per cent of scholarships to women, strengthening the pre-departure briefing to address issues of family violence, providing case management and on-award support for awardees. These efforts are seeing greater gender balance in the uptake of scholarships and increased representation from people with disability and people from rural provinces.

Alumni in this Case Study have been largely unaffected by barriers relating to gender, disability or rural background. Although alumni noted no gender disparities in the workplace, the general perception is that men still hold leadership positions. However, female alumni in this Case Study are making their mark within their own industries and are paving the way for others by advocating for gender equality in their workplace and their local communities. The presence of a strong policy-enabling environment in the workplace supporting gender equality has facilitated the career progression of two female alumnae in the private sector. Other factors that have been cited as contributing to women's career advancement includes personal aptitude, demonstrated capability and the support of male advocates.

5.1 Introduction

This chapter describes the impact of the Australia Awards in addressing gender equality and social inclusion in PNG. It explores how the scholarships contribute to 'address barriers to participation and provide on-award/post-award support where participation by women, people with disability and other disadvantaged members of society is low' (DFAT, 2016).

This chapter offers some context to equity and social inclusion in PNG, exploring the views of alumnae and stakeholders who participated in the Case Study. It outlines the strategies and initiatives supported by the Australian Government and other stakeholders to promote access to Australia Awards and professional development opportunities for women, people with disability and people from rural areas. It also highlights the contributions made by alumni to promote inclusion.

The alumni sample group included four women and four men, all from a rural background. Three alumni are working in the provinces, while others are returning

to their home province on a regular basis to contribute to community development. There were no alumni in this sample who identified as having a disability.

5.2 Background

The Australia Awards seeks to address cross-cutting issues relating to equity and social inclusion outlined in the Global Strategy's five principles applied to the Australia Awards investment approach decisions, including Principle 2: equity of access. Equity of access is encouraged at the promotion, application, on-award and post-award stages by:

- maintaining equal numbers of Awards for women and men at the global level
- ensuring Australia Awards opportunities are promoted widely across government, civil society and private sectors
- designing appropriate interventions to address barriers to participation and provide on-award/post-award support where participation by women, people with disability and other disadvantaged members of society is low
- ensuring equitable access to on-award and alumni engagement opportunities.

The Australia Awards in PNG is aligned with the approach outlined in the Global Strategy through the adoption of interventions promoting gender equity and social inclusion throughout the award cycle.

5.3 Gender Equality

Gender inequality remains a significant hurdle to economic and human development in PNG. International studies show that gender inequality can have a negative impact on economic growth through lower worker productivity, lower human capital investment, and weaker accumulation of human capital (PNG Country Gender Assessment, 2012). According to the Government of PNG National Public Service Gender Equity and Social Inclusion Policy¹⁰ (GoPNG, 2015) "gender inequality has led to a 60 per cent loss to potential human development". The latest United Nations Development Program (UNDP) Human Development Report ranks PNG 159 out of 160 countries worldwide on the Gender Inequality Index (GII)¹¹, a decline over a five-year period from a GII value of 0.617 in 2012 to 0.741 in 2017 (UNDP, 2018a).

Women and girls in PNG are adversely affected across multiple dimensions compared to their male counterparts. Women have substantially poorer access to healthcare, with maternal mortality more than three times the East Asia Pacific

¹⁰ The Gender Equity and Social Inclusion (GESI) Policy, produced by the Department of Personnel Management, provides an overarching framework for gender equality and social inclusion across the public service, focusing on the mechanisms to promote gender equity and inclusion through personnel management. For example, different government departments are supposed to have gender equity and social inclusion desks staffed with individuals to help manage issues such as workplace harassment.

¹¹ The Gender Inequality Index (GII) reflects gender-based inequalities in three dimensions – reproductive health, empowerment, and economic activity

regional average (UNDP, 2018a). Girls are less likely to attend primary school than boys, with an enrolment rate¹² of 74.83 compared to 80.41 (UIS, 2019). Only 9.5 per cent of females have at least some secondary level of education compared to 15 per cent of males (UNDP, 2018a). These factors also limit women's access to equal participation in economic activity and political life. Labour force participation for women is lower than men. PNG is one of only three countries in the world where there is no female representation in Parliament, and women's participation in political decision-making at the provincial and local levels remain poor (UNDP, 2018a). Gender based violence¹³ (GBV) is considered endemic in PNG and has serious implications for public health and social policies, economic development, and the law and justice system (PNG Country Gender Assessment, 2012). Similar to other contexts, the low status of women entrenched in PNG society is a key factor underlying GBV.

However, the Government of PNG has made a concerted effort to address gender inequality by strengthening the legal and policy framework to improve women's access to justice and legal protection. Indeed, the Government's National Strategic Plan, Vision 2050 "envisages – and strongly recommends – that intervention programs to achieve gender equity must be given more attention and be supported with sufficient resources" (Independent State of Papua New Guinea, 2009). Specific changes to the enabling environment include the introduction of the 2016 National Gender-Based Strategy and Family Protection Act, and amendments to the Civil Registration Act which outlaws polygamy, and changes to the 2015 Marriage Act which allows women equal rights to property and assets on divorce (Braun, 2017). In 2018, the Government of PNG introduced the first budget allocation for funding to the Department for Community Development and Religion for the implementation of these legislations (DFAT, 2018a).

Australia supports the Government of PNG's responses to gender inequality through a number of cross-cutting measures and direct investments in gender activities. This is guided by the Australian High Commission in Port Moresby Gender Action Plan 2015-2020 which identifies three main strategic objectives for the aid program:

- enhancing women's economic empowerment, leadership and peacebuilding;
- promoting women's economic empowerment; and
- ending violence against women and girls and increasing access to support services.

5.3.1 Alumni experiences

While gender inequality is widely recognised as a major barrier for women in all spheres of family, social, political and economic life in PNG, alumni in this Case

¹² Based on the Adjusted Net Enrolment Rate represented by the total number of students of the official primary school age group who are enrolled at primary education, expressed as a percentage of the corresponding population.

¹³ In PNG, the term "family and sexual violence" is more commonly used than "gender based violence". It is broadly defined as violence directed toward a person on the basis of their gender, and may be physical, psychological, emotional, economic, economic or sexual in nature (PNG Country Gender Assessment, 2012)

Study have reported being largely unaffected by these factors in their careers. In the workplace, alumni have noted no significant difference in opportunities for males and females, although some female alumnae stated that they've had to work harder than their male counterparts to receive recognition and reach senior level positions. For female alumnae working in the private sector, a strong enabling environment has provided the opportunity for them to progress to leadership positions. Female alumnae also noted that the skills and experience they gained on award have helped them become more competitive in the workplace and created opportunities for them to progress in their careers. Both male and female alumni are acting as advocates for gender equity in their workplace and in their local communities through training and mentoring activities.

Career progression

In general, alumni in this Case Study did not face any gender barriers that limited their career progression. The ICT industry was slowly emerging at the time many alumni returned from their Award in the early 2000s, and their specialised IT skills would have been in high demand. This created an enabling environment for both men and women to gain employment in the ICT sector and to advance in their careers.

While many alumni reported no significant difference in the opportunities afforded to men and women in their workplace, female alumnae acknowledged that they had to work harder and had to overcome some obstacles early in their careers, particularly as they were working in a male-dominated sector. However, through their tenacity and perseverance, these alumnae have reached leadership positions within their companies and are highly respected in their fields. For example, Ms Kuso recalled struggling to earn the respect of her male colleagues when she first returned to PNG, but was able to overcome this challenge by demonstrating her capability through her skills and experience. Speaking of her own experience, Ms Kokiai, who is the first female Acting Chief Operating Officer at Datec, observed that being in a male-dominated field such as ICT "women have to work five times harder to prove themselves. But once you break through that barrier, the glass ceiling, it's easy". Dr Kiele has had to learn to use her voice to advocate for herself and to inspire other women in her department.

...sometimes when men are up in leadership, they can look down on you. But I don't really let people look down on me...I want to [create] a step [so] that other female students or colleagues [can see] that we are all equal. I see that if we need to change this country, it's the females that will change. So I think maybe it's all been built into me and that I'm trying to portray it.

Workplace policies promoting gender equality

Examples from this Case Study indicate that workplace policies have played a key role in facilitating the career progression of female alumnae. This reaffirms the views of Ms Kate Butcher, Gender Advisor at the Australian High Commission in PNG.

You need to be working with the workplaces in enabling an environment that's open to women in leadership positions, as well as providing women, let's say, or men, with the requisite skills to recognise how gender inequality may be holding that organisation back, and what it could do for greater diversity of promoting

women on a merit basis, not just because they're women, but opening doors. So there's two sides of it. There's the individual skills and there's the enabling environment back at the workplace. And I think that's an area that perhaps we need to spend a bit more time on.

Two female alumnae working in the private sector have benefited directly from the gender equality policies of their companies, which have provided the enabling environment to support their career development. Early in her career, Ms Kokiai was identified by senior managers at Datec as a potential leader in the company and given opportunities for professional development and training to prepare her for her role. As her colleague, Mr Naidu, recalled:

...she was recognised as one of the potential candidates to take over the ISP business unit. After the training...which was sponsored by the organisation, she was promoted to take over the ISP General Manager role...there were three or four expatriates who were heading that business unit earlier and now she has climbed up the ladder to manage the business unit.

Ms Miro, who is the Training Supervisor at ExxonMobil PNG, described the company as supportive of gender equality through their recruitment policies and flexible working arrangements. She explained that the company has developed and stewards targets for the recruitment of female trainees, who are employed based on merit. As a result of this policy and as part of her role, Ms Miro has been able to offer fair positions to women. The company also recognises that women are often disadvantaged by the burden of family responsibility and therefore, promotes family friendly policies where women who work in the field can relocate to the office while raising young children. As Ms Miro pointed out:

We don't try to push anyone through just because they are female. But it's good to see that females in Papua New Guinea are stepping up to take on those kind of roles in the field, operations and maintenance technicians, including mechanics, instrumentation, electrical and process technicians.

These policies have created a gender inclusive culture at ExxonMobil PNG, which has helped Ms Miro in her role as a female supervisor. In describing how she thought she would be perceived by her male Papua New Guinean colleagues, Ms Miro recounted:

These two Papua New Guinean male colleagues were my concern. They may not accept [me] because we were all at the same level when my manager moved off, an expatriate, and I became the supervisor of the group. I wondered if they will they accept this. Understanding the Papua New Guinean culture, the man is the prominent figure. How would I handle this? But they are very supportive. I have no issue.

Gender inclusive policies are also being promoted within the university sector. According to Dr Martin, Divine Word University actively supports gender equality, where female students currently outnumber males, staffing ratios are near parity and both men and women assume leadership positions.

Advocacy for gender equality

Alumni are actively advocating for gender equality within their workplaces and their local communities. According to Ms Butcher, male advocacy in particular, is becoming more prominent and should be used more strategically in the workplace.

Under the GESI policy, for example, there's a whole stream on male advocacy...And one of the things I think we could be smarter at is recognising at the moment we've got more in senior positions, so...let's work with those men to advocate for greater gender equality and diversity in the workplace.

Mr Daniel is a noteworthy example. In his role as Chair of the Faculty Assessment and Curriculum Committee at Divine Word University, Dr Martin appointed a female colleague in the deputy chair position and provided her with training and mentoring support with the view to her taking over as Chair. He proudly shared "So now she's chairing that committee and she's doing a wonderful job".

Two alumni are also actively working to promote women's economic empowerment in their local and rural communities. Ms Kokiai, through a cocoa plantation in her home province, is helping mothers send their children to school. She is working with women and young people in the community by teaching them financial literacy skills. As she explained:

Financial literacy is a big gap back home. Mothers don't realise [how important it is] when they go to the market. For them, it's day to day subsistence. They don't look at [the] long term. [There is] no savings culture. When I go back home, I organise sessions with women. For example, like school fees. Don't wait until December.

Ms Kuso is part of a group at her university called the Reliance Group, where they help unemployed women with economic opportunities such as helping to sell their produce at the market.

As advocates for gender equality, these alumni who have benefited from an Australian education are playing an important role as drivers of change in PNG society. As Turner (1990) observed, education is "universally perceived as a major vehicle for women's advancement and in PNG it has been educated women who have been its staunchest advocates". In particular, these educated and successful women can be beacons for others in poor rural communities, where they can influence village discussions and reshape the public discourse on social issues such as women's economic empowerment and violence against women.

5.3.2 Impact of the Australia Awards

Strategies and policies supporting female awardees

Australia Awards and its predecessor programs in PNG have been committed to the promotion of gender equality and women's empowerment. It is a cross-cutting priority of Australian development assistance to PNG, where 80 per cent of the program was rated as effective in promoting gender equality in 2017-18 (DFAT, 2018a). Importantly, these efforts are providing visibility to gender inequality in PNG and facilitating women's empowerment.

One of the ways the Australia Awards is promoting gender equality is through the provision of at least 50 per cent of Awards to women. In 2017, Australia Awards met its target of at least 50 per cent women among long-term awardees (DFAT,

2018a). According to estimates provided by the Australian High Commission in PNG in 2014, of the 1800 Papua New Guineans who graduated with a qualification from an Australian higher education institution, more than half were women (Australian High Commission Papua New Guinea, 2014). As Ms Butcher, the gender advisor at the Australian High Commission in PNG stated:

I think the Australia Awards program is really good...So obviously, parity is really important. It's not an end in itself but it's really important in terms of enabling women to have access to opportunity, and I think that's an excellent route to go.

While gender targets are an important and necessary strategy to improve opportunities for women in accessing the Awards, other measures are employed by the Australia Awards to address the challenges for women in completing their awards. Notably, research conducted by DFAT in the tertiary sector found that despite growth in overall tertiary-level enrolments over the last five years, no significant increase was observed for women. Retention rates for women were also lower than men, suggesting that women face further obstacles in completing their qualifications (DFAT, 2018a). In response, Australia Awards have strengthened its pre-departure training program to include sessions on family violence and introduced case management support for female awardees.

Ms Butcher praised the responsiveness of Australia Awards in addressing barriers that potential female awardees face due to issues of family and sexual violence:

In response to Pacific Women and ourselves talking to Australia Awards saying, "Family and sexual violence is an issue. We've got a real lack of trained counsellors in the country." So in response, together with the gender programme here, Australia Awards included training for counsellors as one of their certificates that was on offer. So that's a fantastic example of their responsiveness and how it's all working together.

While these new strategies may not have been in existence when alumni in this Case Study undertook their studies, Ms Miro noted that the policy supporting families, which allowed her to bring her young children to Australia, made it easier for her to accept her Award.

We had a family stipend and I think the award supported us with medical as well...I was able to go without a second thought. I had two small children at that time: one in primary school and one was a toddler. Having that family stipend and not worrying about how we'd support them, made me just accept it, no hesitation.

PNG Australian Alumni Association

The PNGAAA is actively promoting gender equality through its various networking events and professional development activities. Last year, the organisation ran a workshop entitled "Creating an Enabling Environment Leadership in PNG" comprising of a panel of women speakers and one man, on the participation of women in PNG's social and economic development. Ms Butcher noted the importance of these events in highlighting the economic impact of gender inequality in the workplace and to explore strategies for creating an enabling environment for women in leadership positions. She also described these networking activities as important for building women's coalitions, which in her opinion, can be more effective in changing workplace cultures than individuals.

So I think there's quite a lot of evidence of a move towards -- there's a coalition of women in leadership, there's a public sector women in leadership, there's private sector women in leadership groups. So there's a real groundswell of women coming together to support each other in trying to make a change in their workplace.

The PNG Business Coalition for Women is a good example of this, which brings together male and female business leaders to support the private sector recruit, retain and promote women in business (DFAT, 2017b).

Other activities organised by the PNGAAA include the annual Women in Leadership Award, sponsored by the Australian High Commission, which raises the profile of a female alumna who has made a significant impact in her industry. The PNGAAA is also supporting a certificate in leadership for its members, which prioritises women.

In reflecting about the gender distribution in the PNGAAA, Ms Rangou noted:

The representation of women in our chapters and our executive is good – I think it's fair – and there's a lot more women coming forward to take part in the leadership...The President is a male, Vice President is female, Treasurer is female, Secretary is female. Women are well represented. And our committee members are like that too. We're trying to promote that. We don't want to be taking over the stage but we'd like to collaboratively work with our menfolk.

While a man currently holds the position of President, Dr Rangou noted that there are now more opportunities for women to be nominated to this role in the upcoming elections.

5.4 Disability Inclusion

Like many other developing countries, the prevalence of disability in PNG is high, although the number of people living with disability (PWD) remains largely unreported. Latest data from the PNG 2009/10 Household Income and Expenditure Survey (HIES) suggest that the population of PWD is at least the same, or even higher, than the World Health Organisation estimated global average of 15 per cent (Government of PNG, n.d.).

People with disability in PNG face cultural and structural barriers which limit their equal access to education, healthcare and employment opportunities. The Government of PNG is committed to promoting and protecting the rights of PWD by taking steps such as the ratification of the United Nations Convention on the Rights of Persons with Disabilities and the introduction of the National Policy on Disability 2015-2025. Central to the Policy are three priority areas: advocacy, improved access to quality services, and strengthening the institutional, legal and financial framework to support coordination in the disability sector. Further, the public sector's GESI policy recognises the adoption of disability inclusive measures as a necessity to improve the delivery of goods and services to the community as well as workplace practices to "allow people with disabilities to recognise their potential as productive and fulfilled individuals" (GoPNG, 2015 p.23).

The Australian Government supports disability inclusion in PNG as a cross-cutting measure. Australia Awards in PNG has introduced strategies to encourage men

and women with disabilities to apply. According to an official at the Australian High Commission, up to 5 per cent of long term scholarships were awarded to PWD for studies in Australia, although some may not identify as having a disability. She also referred to a recent study completed by Australia Awards in PNG, which found that almost half of these awardees with disability were failing and 30 per cent were downgrading their qualifications. This suggested that awardees were inadequately prepared for their tertiary studies and required additional support on-award to ensure their success. Australia Awards in PNG are working to address these issues.

The challenges for Australia Awards in attracting potential candidates who have a disability is reflective of the broader social and cultural barriers limiting access to education for people with disability. According to the HIES, 1.2 per cent of those surveyed cited disability as a reason for not attending school, with males reporting slightly higher than females (National Statistical Office, 2010). The Australia Awards in PNG Scholarships Manager, Ms Jennifer Ross, acknowledged that the lack of an educational pathway for people with disability is a challenge for attracting candidates with the minimum requirements for an Award. However, Australia Awards in PNG are proactively engaging with the Australian High Commission and other stakeholders to explore measures to address this gap in the recruitment and retention of scholarship recipients with disability.

5.5 Rural Populations

It is estimated that 80 per cent of PNG's eight million people live in rural and remote communities (DFAT, 2018a). The incidence of poverty is also highest in rural areas, with limited access to schools, health services and job opportunities. It is estimated that half the health services in rural communities are non-functional and the lack of trained health professionals are resulting in the poor health outcomes for rural populations (Government of PNG, n.d.). Only 33 per cent of rural people have access to an improved drinking water source and only 13 per cent have access to improved sanitation facilities, adding to the health burden of rural communities (PNG Department of National Planning and Monitoring, 2018a). District consultations for Vision 2050 indicate that "people have lost confidence in the system which is supposed to deliver services on their behalf" (Government of PNG, n.d.). In recognising the growing disparity in social and economic indicators between rural and urban centres, the Government of PNG has focused its development priorities in rural areas through one of eight key objectives of the Medium Term Development Plan III 2018-2022 to "improve quality of service delivery in rural districts across the country" (PNG Department of National Planning and Monitoring, 2018a).

Australia Awards support the human resource development in rural provinces of PNG through the provision of scholarships and training. The Performance Assessment Framework for Australian Development Cooperation in PNG 2017-18 monitors the number of women and men in the province who graduate from Australia Awards (DFAT, 2018a). In the most recent intake of Australia Awards, 46 per cent were allocated to people working in the provinces (Australia Awards in PNG, 2019).

All alumni interviewed in this Case Study are from a rural background, with many returning to their province post-award to work, while others have continued to contribute to their local communities through development projects. Mr Daniel reflected on the impact of his scholarship as “a big achievement”, on a personal level and on the ripple effect it had on his rural community:

At the personal level, it benefitted me in a lot of ways, providing me an opportunity to get an overseas qualification...Also, looking back in my village, where a lot of people do not have that kind of exposure...[it] has a big impact on my family...my community, in my village...Because I was, I think, one of the first people in my area to go to Australia or overseas for studies, it was like everyone knew, “Look, this guy’s going.” So it motivated my own family. I have my nephews, my in-laws who saw that: “Why not let me also do something?” So that motivated them to also seek education as a priority.

Mr Daniel and other alumni are also making significant contributions to their local communities through their work or voluntary projects. Mr Daniel is applying for an Australian Government grant to deliver financial literacy training to people living in the settlements close to his university. Dr Suwamaru has established a training college in Bougainville including the construction of classrooms and staff accommodation. As he described:

I’m doing what I can to support the community. I think that’s a bonus. People here see me as somebody who’s contributing some meaningful outcome, somebody who’s not waiting around for a government handout, somebody who’s not going out and knocking on members’ doors and asking for money all the time. So I think I have done well and I like it that way.

Ms Kokiai funded the establishment of a cocoa plantation in her home province with the aim of helping “locals earn an income and support their basic needs”. She is also using this as a platform to advocate for women’s economic empowerment and education by organising training workshops in financial literacy.

6. Conclusion

As Australia's closest neighbour, PNG shares deep historical and cultural ties with Australia. The 2017 Foreign White Paper: opportunity, security strength, notes that developments in PNG have substantial implications for Australia. This is why the Australian Government considers supporting a stable and prosperous PNG as one of its most important foreign policy objectives (Australian Government, 2017). Since 1996, Australia Awards (and its predecessor programs) have supported over 2000 Papua New Guineans complete their studies at Australian higher education institutions. The current cohort of Papua New Guineans represent the second largest group of awardees studying in Australia (DFAT, 2019).

During the period of focus for this Case Study, alumni returned to PNG at a critical time in the development of the country's ICT infrastructure, where there was high demand for skilled ICT and related engineering professionals. Australian aid at the time supported a "revolution in information and communications technology" to reduce poverty and achieve sustainable development (Commonwealth of Australia, Department of Foreign Affairs and Trade, 2017). This Case Study explored the contributions of alumni to the social and economic development of PNG since their return.

Alumni in this Case Study are employed across a number of industries in both the public and private sectors. Collectively, they are making an **impact across multiple areas of strategic importance** to PNG at the organisational, national and regional levels. They are using their technical skills and knowledge (such as GIS remote sensing, radio transmission, database management and electronic government) to contribute to the development of human resource capacity, ICT infrastructure, economic growth, environmental sustainability and climate change and accountability and transparency. Studying in Australia equipped them with highly sought after technical knowledge, valuable English language skills and intercultural competencies that made them highly employable on their return. Through their work, alumni are being **recognised as leaders** in their fields within PNG and across the Asia-Pacific region.

In this particular Case Study, the close geographic, historical and cultural ties between Australia and PNG were key enabling factors facilitating enduring networks with Australians and Australian institutions. Alumni have maintained close personal links with Australians, Papua New Guineans and other international students formed while on award. Some of these have transformed into lifelong friendships, while others have facilitated employment and career opportunities. Alumni are also utilising their skills and expertise to foster professional networks with Australian businesses, higher education institutions and government organisations. These professional connections through institutional links, professional partnerships and research collaborations are **enhancing the bilateral relationship between Australia and PNG**. An active alumni association, supported by Australia Awards, has also facilitated opportunities for further networking and professional development among alumni. However, alumni

identified the expense and geographical distance as barriers to their participation in formal alumni events.

Alumni hold enduring positive views of Australia, Australians and Australian expertise. In particular, alumni have positive views of the quality of Australian education which they noted gave them positional advantage in the PNG workforce and helped them gain respect from their colleagues. They also noted that the friendliness of individuals and the openness of Australian society framed the positive views that alumni had of Australia. Finally, alumni stated that exposure to Australian education and business had influenced their perceptions of the country and their own aspirations when they returned to PNG.

As the second lowest ranked country on the Gender Inequality Index, PNG faces insurmountable challenges in bringing equal rights for women and men in all spheres of social and economic life. Through a commitment to equal access to the Awards, the Australian High Commission and Australia Awards in PNG have introduced strategies that ensure gender balance in the allocation of scholarships and additional support for female awardees throughout the award cycle. Despite the barriers women in PNG continue to face in the workplace, where men still dominate leadership positions, female alumnae in this Case Study have been able to carve their own path to leadership through their skills and expertise, personal attributes and the support of male advocates. In particular, **alumnae working in the private sector have been elevated to senior positions** as a result of a strong policy enabling environment supporting women's career advancement. The Government of PNG is taking steps to ensure greater protection for women through changes in the legal code and policy reforms supporting gender equality in the workplace. Both male and female alumni in this Case Study are using their positions of influence to advocate for gender equity and in doing so, are helping to change the public discourse on the equal status of men and women and women's economic empowerment.

7. Alumni Profiles

Ms Annuncia Kokiai

It's phenomenal for me as an individual. I saw myself as an average student, but to be where I am today is because of the scholarship.



Scholarship	Australian International Development Assistance Scholarship
Years	1995-1997
Degree	Diploma Networking & Data Communications
University	TAFE NSW
Current position	Acting Chief Operating Officer & General Manager, Internet Services, Datec PNG
Brief biography	<p>Ms Kokiai is currently the Acting Chief Operating Officer and General Manager of Internet Services at Datec PNG. She is the first female and the first local Papua New Guinean to be promoted to the role of General Manager of Internet Services at Datec. Ms Kokiai has been identified as a leader within the company and received leadership development training to fast-track her career.</p> <p>Ms Kokiai studied at TAFE NSW, Penrith College and Druitt College between 1995-1997. During that time Ms Kokiai achieved training in Micro computing, PC and Network Support. In 2011, Ms Kokiai gained a scholarship to complete a Master of Business Administration (MBA) from the University of Edinburgh, majoring in Strategic Management.</p> <p>In her senior position at Datec, she is leading the delivery for improved internet services across PNG. In doing so, she is directly contributing to the Government of PNG's goal of modernising the Information Communications Technology sector through improved affordability and reach of the internet.</p>

Location at the time of field research: Port Moresby, Papua New Guinea
Date of interview: 22 March, 2019

Ms Regina Kiele

I'm a teacher, not just a GIS (Geographic Information Systems) and remote sensing expert, but I'm also a teacher. If it wasn't for the award, I wouldn't be in this position. So by learning from my experience, then the Australian Government should [be proud that] they are [contributing] to the development of this country and human resources.



Scholarship	Australian Development Scholarship
Years	2002-2003
Degree	Master of Applied Science
University	James Cook University
Current position	Lecturer, School of Natural and Physical Sciences, University of PNG (UPNG) Acting Director, GIS and Remote Sensing Centre, UPNG
Brief biography	<p>Ms Kiele joined the University of Papua New Guinea (UPNG) as an academic staff member when she returned from her studies in 2004. She is currently a lecturer and course coordinator at the UPNG's School of Natural and Physical Sciences. She is also the Acting Director of the GIS and Remote Sensing Centre. Prior to joining the UPNG, Ms Kiele was employed at the Department of Agriculture and Livestock for 12 years, where she was involved in natural resource management, food security assessment, biosecurity assessment and environmental planning.</p> <p>She was one of the first PNG nationals to be trained in GIS and remote sensing and is widely recognised and highly respected, both nationally and regionally, for her specialised skills and contribution to her field. For example, through her research at the GIS and Remote Sensing Centre, she is providing critical data on climate change, natural resource management, biodiversity and disaster risk management. She has previously consulted with UN Habitat on a climate change vulnerability assessment project study. Currently, she is involved in a regional project with Birdlife International on forest governance.</p> <p>As a lecturer at UPNG, Ms Kiele is also playing a key role in supplying the skilled workforce that is required for PNG's development. She is proud of her contribution to the training and development of the next generation of GIS and remote sensing experts.</p>

Location at the time of field research: Port Moresby, Papua New Guinea
Date of interview: 21 March, 2019

Mr John Gulpo Mukekit

[My family] were so excited. To this day, they have so much respect for the achievement. It's like a history in our area. Until today, not many students are able to make it through - only a few to university here in PNG but not to overseas.



Scholarship	Australian Development Scholarship; Australia Awards
Years	1996-97; 2014-15
Degree	Associate Diploma in Technology; Master of Information Technology
University	Granville College, TAFE NSW, Sydney, NSW Queensland University of Technology (QUT), Brisbane, QLD
Current position	Acting ICT Manager, National Fisheries Authority (NFA)
Brief biography	<p>Mr Mukekit is currently the Acting ICT Manager at the National Fisheries Authority (NFA) where he has been employed since 2007. In his role, Mr Mukekit is leading and coordinating IT projects across the organisation. Prior to joining the NFA in Port Moresby, Mr Mukekit worked for the NFA and the private sector in West New Britain Province.</p> <p>Mr Mukekit has been the recipient of two Australia Awards which he has used to support PNG's sustainable economic development through better governance of the fisheries sector at both the national and provincial levels. He attributes the technical and soft skills that he gained on award for the success in his career.</p> <p>Recently, Mr Mukekit has been responsible for implementing key national policies that the government has initiated to create a sustainable and profitable fisheries sector. He is using the skills and knowledge he gained on award to support the efforts of the Government of PNG to increase maritime surveillance in the sector, where it is estimated that millions of Kina are lost in illegal or under reported fishing activities. Currently, he is working with the Madang fisheries processing facilities and linking them into the national network. The aim of the strategy is to eventually expand the network across all provinces in PNG.</p>

Location at the time of field research: Port Moresby, Papua New Guinea
Date of interview: 20 March, 2019

Mr Martin Daniel

All of this [is] because of my exposure to studying in Australia. That really gave me the confidence and the courage and the qualifications to think outside the box and to be confident in what you are doing ...



Scholarship	Australian Development Scholarship; Australia Awards
Years	2001-2005; 2012
Degree	Bachelor of Information Technology Master of Information Technology
University	University of Queensland Queensland University of Technology
Current position	Dean, Faculty of Business and Informatics, Divine Word University, Madang
Brief biography	<p>Mr Daniel is currently Dean in the Faculty of Business and Informatics at Divine Word University (DWU). He is the youngest Dean to be appointed in the history of DWU. Mr Daniel's research areas include building computer networks and information software systems, modelling technological developments and adoption of electronic systems and services, curriculum development and quality assurance in PNG. This has earned him the DWU Researcher of the Year 2018 for research excellence.</p> <p>Mr Daniel joined DWU in 2008 as a lecturer. In this capacity Mr Daniel has been contributing to the human resource development of PNG and is deeply committed to promoting good teaching and learning practice. He has also made a significant contribution to improving the quality of the higher education sector in his capacity as Chair of the Faculty Assessment and Curriculum Committee. Mr Daniel is a strong advocate for gender equality and has used his leadership position to promote greater gender balance and women's empowerment at DWU.</p> <p>At an organisational level, Mr Daniel has also been instrumental in DWU's move into electronic-learning. His research on the factors that impact upon the use of electronic-learning, the university sectors use of software packages (enterprise systems) and DWU moves into online learning has stimulated debate both nationally and regionally.</p>

Location at the time of field research: Port Moresby, Papua New Guinea
Date of interview: 21 March, 2019

Mr Elias Nanau

I think that's probably one of my success stories. Even the managing director here said NBC is the best performing radio station. So it was because of that knowledge that I got from Melbourne. I was able to transform the radio station.



Scholarship	Australian Development Scholarship
Years	2001
Degree	Diploma in Information Technology
University	Royal Melbourne Institute of Technology (RMIT)
Current position	Digital Editor, Post Courier
Brief biography	<p>Mr Nanau is currently the Digital Editor at the Post Courier, which is considered one of PNG's most influential publications with a circulation estimated at 33,500. Prior to joining the Courier Post, Mr Nanau worked as freelance communications expert on the Pacific Horticultural and Agricultural Market Access (PHAMA) program funded by the Australian Government. He has also worked as a reporter and public relations officer for various private sector companies.</p> <p>Mr Nanau had just graduated from high school in West Sepik province when he gained scholarship to study a Diploma in Business Information Technology from RMIT in 2001. Since returning to PNG, Mr Nanau has worked across print, broadcast and internet media. He writes regularly on politics and matters of public interest through his role as a reporter and producer. In this capacity, Mr Nanau is making a significant contribution to improved accountability and transparency practices in PNG. In 2013, Mr Nanau was recognised for his work by being awarded a United Nations award for anti-corruption by exposing the fraudulent practices of a legal company.</p> <p>Mr Nanau is proud to have received an Australia Award and considers it one of his biggest achievements. The opportunity of an Award was not only transformational for him as an individual, but for his community where he's been able to inspire others. He attributes the different skills and experience he gained while on award as the key factors to his success today.</p>

Location at the time of field research: Port Moresby, Papua New Guinea
Date of interview: 22 March, 2019

Mr Zillar Miro

Just showing that I have a higher degree and I've got it from Australia has enabled me to go through doors that probably would not have opened for me if I just have that first degree in PNG and didn't do anything else.



Scholarship	Australian Development Scholarship
Years	2004-05
Degree	Master of Information Technology (Computing)
University	Flinders University
Current position	Training Supervisor, ExxonMobil PNG
Brief biography	<p>Ms Miro is currently the Training Supervisor at ExxonMobil PNG. In this role, she is making a direct contribution to the Government of PNG's development goal of strengthening the human resource capacity of the country. Ms Miro is responsible for the recruitment and training of hundreds of operations and maintenance technicians.</p> <p>Ms Miro completed a Master of IT Computing at Flinders University in 2005. After returning from her studies in Australia, Ms Miro worked as a consultant for a number of private and public industries. Using her skills in database design and management, Ms Miro was able to make a substantial impact on the banking sector in PNG. She was contracted by the National Development Bank (NDB) to help them produce reports that would facilitate better lending decisions. As a result, she was able to help turn the NDB around into a profit making organisation. Ms Miro noted that while she does not have the opportunity to directly use the IT skills she gained on award in her current role, the prestige and quality of an Australian degree has helped her advance in her career.</p> <p>Ms Miro is a strong advocate for gender equality and social inclusion in the workplace and in the community. She actively promotes gender balance and women's empowerment by applying policies in the recruitment and development of female staff. She regularly returns to her home province to create economic opportunities for poor rural women through training in financial literacy and support for small market enterprises.</p>

Location at the time of field research: Port Moresby, Papua New Guinea
Date of interview: 20 March, 2019

Dr Joseph Suwamaru

I think I've done well...like I've started this college out of nothing...I'm doing what I can to support the community. I think that's a bonus. People here see me as somebody who's contributing some meaningful outcome.

Scholarship	Australian Development Scholarship
Years	1998-1999
Degree	Master of Engineering Sciences
University	Queensland University of Technology
Current position	President, Oceania Skills Training College, Bougainville
Brief biography	<p>In 2017, Dr Suwamaru established the Autonomous Region of Bougainville's (ARoB) first college, the Oceania Skills Training College (OSTC). The College conducts research in alternative energy, climate change, ICTs and development and offers certificate and diploma level qualifications.</p> <p>Dr Suwamaru is a pioneer in his field. He was one of the first certified transmission engineers in PNG, trained in Australia. He has had a distinguished career contributing to the Government of PNG's development priorities in the areas of ICT, climate change and disaster risk reduction.</p> <p>Dr Suwamaru has held high-level positions in the ICT sector and is a well-respected academic in PNG and the Asia Pacific region. When he returned to PNG after completing his Master of Engineering Sciences at Queensland University of Technology in 1999, he was appointed the Executive Director of the Engineering Department within the former ICT regulator in PNG, PANGTEL. He also served twice as Vice Chairman of the Asia Pacific Telecommunity Study Groups from 2005-2009. He later served on the board of DATACO, a state-owned enterprise tasked with rolling out the terrestrial and undersea fibre-optic cables across PNG and Melanesia.</p> <p>On completing his doctorate at Divine Word University (DWU) in 2013, Dr Suwamaru became a senior lecturer within the Department of Information Systems. In 2017, he was given an award for outstanding ICT research in PNG by DWU. Recently, Dr Suwamaru co-authored a book chapter that provides evidence and recommendation on how ICT can be used by Pacific Island countries in their climate change and disaster risk reduction policy. He has been a regular contributor to research and debates around ICT's role in climate mitigation and adaptation.</p>

Location at the time of field research: Port Moresby, Papua New Guinea
Date of interview: 19 March, 2019

Ms Lulu Kuso

I enjoyed every bit of it ... even, outside the classroom the people were nice. The food was really nice. The teachers at the college were so helpful. I enjoyed every bit of my stay down there.

Scholarship	Australian Development Scholarship
Years	2000-2002
Degree	Diploma of IT (Business Analysis)
University	North Queensland State College
Current position	Support Services, PNG University of Technology, Lae

Brief biography Ms Kuso is currently a Senior Computer Operator and IT Support Specialist at the PNG University of Technology (Unitech) in Lae, a position she has held for almost 17 years since returning from her studies in Australia. In her role she is contributing to IT needs of the university by supporting end users.

Ms Kuso completed a Diploma of IT in Business Analysis from North Queensland State College in 2002. She is still using the skills she gained from her studies in her current role, particularly networking and data administration. Ms Kuso is most proud of her qualifications which has enabled her to get a job on return to PNG and her skills and experience has gained the respect of her colleagues.

Ms Kuso is also contributing to the economic development of her community, especially poor women, by creating opportunities for them to sell their goods at the local market.

Location at the time of field research: Port Moresby, Papua New Guinea
Date of interview: 22 March, 2019

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Annex 1: Methodology

This chapter includes an overview of the Case Study design, development and implementation. This is the twelfth Case Study of the Facility. PNG was one of five Case Study countries proposed in the Year 3 Facility Annual Plan. PNG was selected as a Case Study country on the basis there was a core group of alumni identified in the information technology, and related engineering fields, which have clear alignment with investment priorities. In addition, there has been limited previous research regarding alumni in the ICT sector in PNG.

Overall Case Study design

The purpose of the Facility Case Studies is to collect detailed qualitative data on the impact and benefits of the Australia Awards. The Case Study methodology proposed is based on the Facility Case Study Approach, which was developed in the inception phase of the Facility and reported in the Annual Plan for Year 1.

The Global Strategy and Australia Awards Global Monitoring and Evaluation Framework (DFAT, 2017a) (the Framework) form the basis for the Case Study design. The research questions, propositions, data collection instruments, and report template are built around these frameworks. Findings reported by alumni are triangulated with relevant stakeholders such as employers and colleagues, and primary and secondary sources thereby strengthening findings by providing further evidence to support or refute propositions. This methodology was developed by the Facility and SCB.

The overarching theory that has guided the design of this Case Study methodology is based upon the goal of the Australia Awards that ‘...partner countries progress their development goals and have positive relationships with Australia that advance mutual interests’ (DFAT, 2016a).

The Case Study research questions are framed by the intended long-term outcomes of the Australia Awards as guided by the Framework:

- 1 How do alumni use the skills, knowledge and networks gained on award to contribute to achieving partner-country development goals?
- 2 How are Australia Awards contributing to Australia’s economic and public diplomacy outcomes?
- 3 How has being an Australia Award alumni impacted alumni?
- 4 Are the benefits of receiving a scholarship experienced equally by all groups who have received them?

The primary unit of analysis for this Case Study is the alumnus or alumna. Case Studies seek to explore how alumni of Australia Awards have acted to contribute to the achievement of the goal and objectives of the Australia Awards.

The Case Studies are being conducted via an iterative approach whereby the qualitative phase can be designed based on what is learned from the initial

quantitative phase. In essence, the Facility implements this by drawing on data collected through a Global Tracer Survey and using this data as one of the means of developing the focus and scope of a number of Case Studies carried out in the following year.

As such, the planning and initial scoping of this Case Study was undertaken on the basis of the Facility's Year 2 Tracer Survey, which surveyed alumni who completed their scholarships between 1996 and 2005.

Methods

The data collection method used for this Case Study was through interviews. A set of questions were developed for each key participant group, namely alumni, colleagues and employers (both of alumni and generally), alumni associations; and the DFAT staff, managing contractors, and coordinating authorities working on the Australia Awards in partner countries. Questions for each key participant group (see Annex 3) align with the research propositions (located at Annex 2) and long-term outcomes of the Australia Awards. This ensures that data collected directly relate to the key questions the Case Studies are seeking to answer and that there is consistency across each Case Study.

Sample

The alumni selected for this Case Study were chosen based on two key criteria: 1. that they had undertaken study in areas relating to information and communications technology and engineering; and 2. that they completed their study between 1996 and 2005. Within the sample selected for the research, the Facility also took into account where possible – gender representation, the inclusion of persons with disability, a variety of employment types (e.g. sector and level of seniority) and spread across regions of PNG.

The Global Alumni Database and the Facility's Year 2 Tracer Survey were the key means for identifying the potential sample for this Case Study. The research team looked at these sources, and focussed on alumni who had completed their studies in either the fields of Information Technology or an engineering related field with emphasis on communications or technology.

In total, based on analysis of the Global Alumni Database, 14 alumni were determined to have potential 'fit' within the population of focus. Of these alumni, 12 had also completed the Year 2 Tracer Survey.

All 14 of the identified sample were contacted for interview. As per the table below, the eight alumni took part in an interview for the Case Study (four women and four men). Five alumni were located in the capital, Port Moresby, while one alumnus was located in the Autonomous Region of Bougainville, one alumna in Madang and one alumnae was located in Lae.

Table 1 Papua New Guinea Case Study alumni participants

Date of interview (2019)	Name	Gender	Australian Government scholarship	University	Award Completed	Current position
19/03	Dr Joseph SUWAMARU	Male	Australian Development Scholarship	Queensland University of Technology	1999	President, Oceania Skills Training College, Bougainville
20/03	Mr John MUKEKIT	Male	Australia Awards Scholarship	Queensland University of Technology	2015	Acting ICT Manager, National Fisheries Authority
20/03	Ms Zillar MIRO	Female	Australian Development Scholarship	Flinders University	2005	Training Supervisor, ExxonMobil PNG Ltd
21/03	Ms Regina KIELE	Female	Australian Development Scholarship	James Cook University	2003	Acting Director, PNG Remote Sensing Centre Lecturer, School of Natural Resources Sciences, University of PNG
21/03	Mr Martin DANIEL	Male	Australian Development Scholarship	Queensland University of Technology	2002	Dean, Faculty of Business and Informatics, Divine Word University
22/03	Mr Elias NANAU	Male	Australian Development Scholarship	RMIT	2002	Digital Editor, Post Courier
22/03	Ms Annuncia KOKIAI	Female	Australian International Development Assistance Bureau	TAFE NSW	1995	Acting Chief Operations Officer General Manager, Internet Services
22/03	Ms Lulu KUSO	Female	Australian Development Scholarship	North Queensland State College	2002	Support Services, ICPS Department, PNG University of Technology

In addition to the alumni who participated in the Case Study, 14 other people were interviewed in order to provide context, triangulate alumni perspectives and better understand the impact of the Australian scholarships on the outcomes for PNG and Australia. These additional interviews included stakeholders such as the Australian High Commission in Port Moresby and Australia Awards in PNG, as well as the PNG Australian Alumni Association (PNG AAA).

Where possible and available, colleagues of alumni were also interviewed to gather further information about the impact of the alumni.

Table 2 lists these participants. In total, 21 people were interviewed for the PNG Case Study.

Table 2 Key stakeholder and employer/colleague interviews

Date of interview	Name	Position	Reason for interview
20/03	Ms Helen PUEK	Technical Writer, ExxonMobil PNG Ltd	Colleague of Ms Miro
21/03	Mr Walos PALISTA	Lecturer, School of Science, University of PNG	Colleague of Ms Kiele
23/03	Mr Gokul NAIDU	Acting CEO, Datec	Colleague of Ms Kokiai
27/03	Professor Jeannette BAIRD	Adviser Department of Higher Education, PNG	Colleague of Mr Daniel
21/03	Dr Janet RANGOU	Vice President, PNG Australian Alumni Association (PNG AAA)	Alumni association
18/03	Ms Martina OGAI	Program Officer, Australia Awards, Australian High Commission	Stakeholder (DFAT)
18/03	Ms Lyn BAE	Program Manager, Australia Awards, Australian High Commission	Stakeholder (DFAT)
18/03	Ms Fuschia HEPWORTH	Second Secretary, Tertiary Education, Australian High Commission	Stakeholder (DFAT)
20/03	Ms Maegan CLARKSON	Second Secretary, Australia Awards, Australian High Commission	Stakeholder (DFAT)
19/03	Ms Kate BUTCHER	Gender Advisor, Australian High Commission	Stakeholder (DFAT)
20/03	Dr Kaye ELDRIDGE	Facility Director, Australia Awards in PNG	Stakeholder (managing contractor)
18/03	Ms Dianne RAKA	Coordinator, Alumni Engagement and Grants, Australia Awards in PNG	Stakeholder (managing contractor)
18/03	Ms Lillian GASO	Senior Coordinator, Alumni Engagement, Australia Awards in PNG	Stakeholder (managing contractor)
18/03	Ms Jennifer ROSS	Former Scholarships Manager Australia Awards in PNG	Stakeholder (managing contractor)

Exclusions

All Case Study alumni were selected from the Year 2 Tracer Survey and the Global Alumni database, which only includes those who have successfully completed their degree. Accordingly, this study excludes anyone who did not complete their scholarship.

Data collection

The Facility piloted all Case Study instruments with Australia Awards alumni who resided in Australia. This process validated the instruments and adaptations to questions were made. In addition, an interview guide template for researchers to

record all data collected was developed and utilised. Following a review of Year 1 Case Study data, questions were adjusted for clarity.

This Case Study was conducted by Ms Adeola Monty and Ms Yung Nietschke, core Facility staff who bring relevant expertise in qualitative research and international development. Case Study researchers worked together to undertake data collection and report writing: one conducted the interview and the other recorded and took notes. This enabled high-quality reliable data to be gathered. At the conclusion of interviews, the researchers discussed and verified the data to ensure completeness and accuracy.

Process

The Case Study field research was undertaken in PNG from 18 to 23 March 2019. Three interviews were conducted via telephone due to geographic location (Bougainville and Lae), and availability.

Alumni were requested to provide their resume to researchers where available for further background information. Participants were provided with background information relating to the research and the Facility, and all provided written informed consent to their participation and identification in reporting.

Data management and reporting

Interviews were voice recorded (with approval granted to do so). In addition, the Case Study researchers annotated responses during the interview. A transcription specialist transcribed all interview recordings. After the completion of the interview and transcription process, the Case Study researchers consolidated the written and oral recordings into a single near-verbatim transcript (with restarting of sentences and fillers excluded).

Coding and review

Interview scripts were subsequently coded using computer-assisted qualitative data analysis software, NVivo. This enabled emerging themes to be identified and links to be made between participants that supported or refuted the research propositions, as aligned with the long-term outcomes of the Australia Awards.

Analysis of the Case Study data involved a strategy that was guided by the theoretical proposition developed under the conceptual framework for the Case Study and by the techniques identified in the Facility's Case Study Approach document.

Case Study participants were sent segments of the report where clarification or review and approval were necessary and ensured accuracy. Review by participants is not consistently used in qualitative research but was done so here to ensure the validity of the data and avoid errors. The researchers provided participants ample time to respond, and follow up requests were sent. One colleague provided feedback on the segment requested for their review, offering minor edits.

Limitations

There were a number of limitations of this research that were inherent to both the nature of the research and the research process, as discussed below.

Positive response bias

It is probable that alumni who felt that they had a positive experience as an Australian Government scholarship recipient and/or had success in their career following their award are more likely to agree to participate in Case Studies. In a study by the Commonwealth Scholarship Commission in the UK, 'A study of research methodology used in evaluations of international scholarship schemes for higher education' (Mawer, 2018) recognition of positive response bias is highlighted:

...there is widespread recognition that a more pressing problem is nonresponse bias in which those who reply to sample surveys are likely to be engaged with alumni associations or tracing (e.g. Day, Stackhouse and Geddes, 2009) and disproportionately represent the 'successful' outcomes of scholarship programmes.

Accordingly, it is likely that the alumni in the PNG Case Study had a positive bias towards their experience, outcomes and views of Australia. The Facility has developed interview questions and analyses approaches to reduce the impact of this bias – these are applied consistently across all Case Studies. Through this approach, leading questions are avoided and alumni are offered opportunities to reflect on their outcomes at the beginning and at the end of the interview without specific questions to guide their answers.

Nature of the research

Outcome 1 of the Global Strategy is: 'alumni are using the skills, knowledge and networks gained on award to contribute to achieving partner-country development goals'. However, some alumni have shaped development goals rather than contributed to them, and while it may be outside the purview of partner-country development goals that this research is being evaluated against, such contributions are still significant.

The Case Study researchers experienced difficulty in evaluating Outcome 2 'alumni are contributing to cooperation between Australia and partner countries', and Outcome 3 'effective, mutually advantageous partnerships between institutions and business [have been developed] in Australia and partner countries'. These two outcomes are aligned with the second research question for the Case Study 'How are Australia Awards contributing to Australia's economic and public diplomacy outcomes?' There is an overlap and difficulty in differentiating 'cooperation' and 'partnerships'. The research team delineated them by determining that Outcome 2 relates to people-to-people links including informal relationships; whereas Outcome 3 specifically relates to institutional links between the partner country and Australia, which alumni have contributed to establishing.

No issues were encountered by the research team in collecting, collating, coding or analysing data related to Outcome 4 of the Australia Awards - 'Alumni view Australia, Australians and Australian expertise positively'.

Research process

The ability to code the interview transcripts effectively is dependent on understanding the partner-country development goals, at the time these alumni were awarded their scholarships. Researchers involved in the Case Study made concerted attempts to identify relevant primary and secondary data such as policy documents, papers, books and digital resources to provide background and insight into development plans, policies and changes over the time span of 1996 to 2005, the years of focus for Year 3 when these alumni completed their scholarship.

Annex 2: Case Study Propositions

Explanatory Case Studies require the development of propositions that are intricately linked to the original research questions. A proposition is a statement that helps direct attention to something that should be examined in a Case Study. The researcher has to make a speculation, on the basis of the literature and any other earlier evidence, as to what they expect the findings of the research to be. When a Case Study proposal includes specific propositions, it increases the likelihood that the researcher can limit the scope of study and complete the project. The researcher can have several propositions to guide the study, but each must have a distinct focus and purpose. The data collection and analysis can then be structured in order to support or refute the research propositions.

For the Facility, propositions were formed using the Global Strategy outcomes as the basis. Sub-propositions were formulated by speculating on the underlying assumption or enabling factors that realise the proposition. In alignment with the methodology, instruments will be designed to collect data that both support and refute the propositions.

- 1 Alumni use their skills knowledge and networks to contribute to achieving partner-country development goals¹⁴.
 - a alumni develop skills, knowledge and networks on award that enable and are used to contribute to achieving partner-country development goals
 - b alumni understand, value and want to contribute to partner-country development goals.
- 2 Alumni are contributing to cooperation between Australia and partner countries
 - a alumni possess and are able to leverage their useful networks and relationships.
- 3 Effective, mutually advantageous partnerships between institutions and business [have been developed] in Australia and partner countries
 - a alumni possess and are able to leverage their useful networks and relationships
 - b partnerships that are developed are effective and mutually advantageous to participating countries.
- 4 Alumni view Australia and Australian expertise positively
 - a alumni's views are underpinned by their experiences in Australia.

¹⁴ This proposition differs from the Australia Awards Program Logic long-term Outcome number 1 in order to link this proposition to the Goal of the Australia Awards Program. The use of the term 'partner-country development goals instead of 'sustainable development' makes the proposition and ensuing questions more relevant and relatable to alumni.

- 5 The benefits of receiving an Australia Award or scholarship are experienced equally by all recipients.
 - a receiving an Australia Award or scholarship positively addresses, rather than reinforces, imbalances that are associated with gender and disability.

Annex 3: Key Participant Questions

Alumni

[Validation question]

We understand you received an Australian Government Scholarship to study [level, field, years], is this correct?

Could you please confirm your current role and organisation?

1. Can you please tell us why you applied? What was your motivation?
 - a. Were there any barriers to accepting a scholarships and coming to Australia? [e.g. employer support, family responsibilities]
2. Can you tell me about your time in Australia experience as a student?
 - a Did you make any professional networks?
 - b Thinking about the networks that you might have developed during your scholarship, were there any that were long lasting; that resulted in working together or connecting other people?
3. After you returned, what was your job?
 - a What skills and knowledge gained during your time in Australia have been applicable in your work?
 - b What are some of the things that made it possible for you to apply your skills and knowledge after you returned home?
 - c What were some of the things that made it difficult to apply the skills and knowledge you gained after you returned home?
 - d What do you think is needed to assist alumni to use their skills and knowledge when they return home?
4. What do you believe are the greatest benefits of the Australian Government scholarship program?
5. Throughout your career, in what ways have you used Australian expertise in your work?
 - a Can you give an example of this, such as Australian-developed practices, equipment, ways of working, processes, theory/theorists, consultants, journals, models, etc.?
6. Are you currently or have been a member of an alumni association? (University/Australian Government scholarship recipient/ADS)
 - a What was the name of the association?
 - b What do you get out of it?

- c What more could alumni associations do for alumni?
- d If not (a member of an association) why not?
- 7. Can you describe an achievement that you are most proud of, in your work or community?
- 8. Compared with the males/females who have received a scholarship from (country x), how has your career progressed since returning home?
- 9. Have there been any barriers you have had to overcome to progress in your career?
- 10. Compared to peers similar to you but did not receive an opportunity to study overseas, do you believe there are any differences in how your careers have progressed?
- 11. (Supporting Interviewer) did you have any questions you would like to ask of (alumni X)?

Employers/colleagues – For interviews regarding an individual alumni

[Validation question]

Could you please confirm your role and organisation?

- 1. Could you please tell us how long have you known [Alumni X] and in what capacity?
 - a Did you know [Alumni X] before s/he received the scholarship?
 - b Were you his/her manager?
- 2. To your knowledge, what new skills and knowledge did [Alumni X] use [in the workplace following their studies in Australia]?
 - a Could you provide examples of how this was applied?
- 3. How did the organisation support X to use his/her new skills and knowledge after returning from Australia?
 - a Did you have a role in supporting [alumni X] to reintegrate following their scholarship?
 - i If so why? What did this involve?
 - ii If not, why?
 - iii Developing a reintegration/return to work plan?
 - b Did X return to the same role following their scholarship?
 - c Did they receive additional responsibilities after their scholarship?
- 4. In your view, how did studying in Australia impact [Alumni X's] career?
- 5. Have you or your organisation benefited from any networks or friendships between [country X] and Australia created by the [Alumni X] as a result of receiving an Australian Government scholarship?
 - a Please explain further; who and what?

- b What about any other countries?
- 6. Are you aware of any other links [Alumni X] has created between people in [country X] and Australia as a result of receiving an Australian Government scholarship?
 - a Please explain further; who, what why?
 - b What about between people in [country X] and any other countries?
- 7. What more could be done to increase opportunities to create institutional links between Australia and your country?
- 8. How has having an Australian Government scholarship recipient in your organisation impacted how you view Australia and Australian expertise?
- 9. Do you draw on Australian expertise for your work?

Employers/stakeholders – For interviews regarding alumni generally

[Validation question]

Could you please confirm your role in (X organisation)?

- 1. How familiar are you with the Australia Awards?

[If YES; a suggested probe if needed]

- a Estimated, how many Australian scholarship recipients have worked for your [ministry/organisation/sector/field]?

[If NO; probe further with]

- b Do you know of anyone who has received an Australian Government scholarship in your [ministry/organisation/sector/field]?
- 2. Has your (ministry/organisation/sector/field) benefitted from any links or networks developed by Australian Government scholarship alumni?
 - a Do you have any examples?
 - b What have been the results of this?
- 3. Has having Australian Government scholarship recipients in your (ministry/organisation/sector/field) influenced the way you view Australia and Australian expertise?
- 4. Have Australian Government scholarship recipients established any links between your [ministry/organisation/sector/field] and organisations in Australia?
 - a If yes what has been the result of these links?
 - b Benefits to you?
 - c Benefits to your workplace?
 - d Benefits to your country?
 - e If no, why not?

5. Are you aware if alumni have presented any opportunities on return to link your workplace or any other organisation in your country with an organisation in another country?
 - a If yes what has been the result of these links?
 - b Benefits to you?
 - c Benefits to your workplace?
 - d Benefits to your country?
 - e If no, why not?
6. What more do you think could be done to support links with Australian organisations?
7. In your view, what has been the overall long-term impact of having Australian Government scholarship recipients in your [ministry/organisation/sector/field]?
 - a How has having a number of Australian Government scholarship recipients over a number of years influenced your department's ability to achieve its goals and /or objectives?
 - b With regards to skills and knowledge; i.e. changed practices, processes or systems?
8. What are some of the things that make it easy or difficult for women to progress in their careers in your country?
9. What are some of the things that make it easy or difficult for those with disability to progress in their careers in your country?
10. Comparing Australian Government scholarship recipients to their peers who did not receive an opportunity to study overseas, do you believe there are any differences in how their careers have progressed?

DFAT

[Validation question]

Could you please tell us about yourself and your role with the Australia Awards Program?

1. In your own words, what is the purpose of the Australia Awards Program?
 - a In your own words how does the Program achieve [points stated in the previous response]?
2. Based on your experience what would you say are the strengths of the Australia Awards Program?
3. How do you think alumni participation in the Australia Awards Program contributes to [Country X's] development goals?

- a What evidence have you seen of this either personally or professionally?
 - b How do you think the program lead to benefits for both Australia and [Country X]?
- 4. In your opinion, how do you think an alumni's participation in the Australia Awards Program contributes to a positive relationships between [Country X] and Australia?
 - a What factors/events have informed this opinion?
- 5. How do you think the Australia Awards contributes to gender equality and disability inclusiveness?
- 6. What other barriers do you think Australia Awards alumni have to overcome to progress in their careers in [Country X]?
- 7. What do you think are the barriers to achieving gender equality and disability inclusiveness?
 - a Do you feel [barriers stated in the previous response] have changed over time?
 - b In what way?
 - c Any other barriers?
- 8. If you had the power to change things about the Australia Awards what would you make different?
- 9. That covers the things I wanted to ask. Anything you would like to add?

Alumni Association

[Validation question]

Could you please tell us about yourself and your role with the alumni association?

- 1. In your own words, what is the purpose of the alumni association?
 - a What sort of services does the association provide?
- 2. What is the most valuable contribution the association provides for alumni?
- 3. What are some of the challenges involved in running an alumni association for alumni who have studied in Australia?
- 4. What activities does the alumni association provide to support women to progress in their careers in your country?
 - a What have been the outcomes of the program/s?

5. What activities does the alumni association provide to support those with disability to progress in their careers in your country?
 - a What have been the outcomes of the program/s?
6. In what ways does the alumni association enable alumni to form new professional and personal networks?
7. What activities does the alumni association provide to help alumni remain connected to each other through face-to-face activities and social media?
8. How does the alumni association support alumni to remain connected to Australia?
9. What role does the alumni association play in fostering cooperation between your country and Australia?
10. What do you think should be done to assist your alumni association to contribute to greater cooperation between Australia and [Country X]?
11. Is the alumni association partnered with any institutions and businesses in Australia?
 - a If yes, what has been the result of these links?
 - i Benefits to you/association?
 - ii Benefits to alumni?
 - b If no, why not?
12. What more could be done to increase opportunities to create institutional links between Australia and your country?
13. How does the alumni association promote Australia and Australian expertise?

Gender Equality and Disability Inclusiveness Experts

Gender Equality

1. How does gender impact career?
2. What barriers are there to achieving gender equality?
3. What could or should be done to improve gender equality?
4. Compared with males who receive a scholarship to study overseas, how do you feel women's careers progress? [for DFAT or those with knowledge of scholarships]

Disability Inclusion

1. How does disability impact career?
2. What barriers are there to achieving disability inclusion?

3. What could or should be done to improve disability inclusion?
4. Compared with others who receive a scholarship to study overseas, how do you feel people with disability career's progress? [for DFAT or those with knowledge of scholarships]

