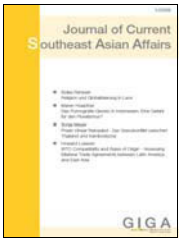

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Skilled Migration, Knowledge Transfer and Development: The Case of the Highly Skilled Filipino Migrants in New Zealand and Australia

Sheila V. Siar

Abstract: This paper provides evidence that highly skilled migrants continue to remain connected with and deeply committed to their home country. These connections challenge the notion of knowledge and skills loss from high-skilled migration. Highly skilled migrants are also involved in remittance giving, which, although of the noneconomic type, offers new possibilities for building wealth. These are the so-called 'knowledge transfers' which consist of the flows of knowledge, skills and ideas to the home country. This paper analyses these knowledge transfers through the highly skilled Filipino migrants in New Zealand and Australia.

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Keywords: New Zealand, Australia, The Philippines, skilled migration, knowledge transfer, brain gain, skilled diaspora

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Introduction

The advent of the knowledge economy in the late 1980s brought the focus on knowledge as an important source of wealth for countries. Knowledge is considered a key driver for creating new ideas and innovation, raising productivity and increasing competitiveness (Foray 2006; Huggins and Izushi 2007). This has resulted in an increased and continuous demand for highly skilled people, many of whom come from developing countries. This has raised serious concerns about the apparent loss these countries are experiencing as a result of this growing skilled migration. This loss is more popularly known in the literature as 'brain drain' (for the origin of the term, see Giannoccolo 2006). Docquier and Marfouk (2004) noted in their study the most affected ones, which include the Philippines, India, China, Mexico and Vietnam, due to the large numbers of their educated people leaving. In the case of the Philippines, which is the focus of this paper,[1] an International Labour Organization study conducted by Alburo and Abella (2002) confirms that it is indeed suffering from brain drain as the number of its professionals who went abroad exceeded the number of professionals added to the workforce between 1990 and 1999.

Developing countries like the Philippines benefit from international migration through financial remittances but this does not seem to be the case when it comes to high-skilled migration. Studies show that highly skilled migrants generally have a tendency to remit less (Faini 2007; Niimi, Ozden, and Schiff 2008). For instance, Alayon (2009) finds in his research on the Filipinos in New Zealand that they send money irregularly and the remittance comes mostly as gift to family members they left behind, mainly their parents, or as support for the education of nephews and nieces. This behaviour is attributed to the fact that the highly skilled often settle permanently in the host countries, are able to bring their families with them, and are more likely to come from wealthier families (Brown 2003).

The Knowledge Transfer Argument

This outflow of skills and knowledge may not necessarily mean a 'loss' for home countries based on the concept of knowledge transfer which has been

1 The author sincerely acknowledges the funding provided by the Asia New Zealand Foundation (Emerging Researcher Grant), the UoA Faculty of Arts (Doctoral Research Fund) and the NZ International Doctoral Research Scholarship whose support enabled her to carry out this research. She also thanks her supervisors, Dr. Yvonne Underhill-Sem and Dr. Ward Friesen, for their insightful comments and feedback.

studied by Meyer (2001), Meyer and Brown (1999), Saxenian (2002, 2005) and Hunger (2004). Basically the argument is that knowledge and skills can flow back to home countries through a variety of processes as migrants remain attached to their home countries. This attachment creates a valuable transfer or circulation of knowledge which challenges the notion of brain drain or knowledge loss and offers new possibilities for building wealth. High-skilled migration is viewed as a beneficial process that does not necessarily lead to a loss of knowledge for sending countries because it increases the intellectual and social capital of migrants, which may benefit home countries through knowledge transfer.

Several theoretical propositions support the concept of knowledge transfer: transnationalism, diaspora, network or circulationist approach and knowledge spillovers. The discourse and studies on transnationalism, first articulated by Basch, Schiller, and Blanc (1994), suggest that through different forms of transnational practices, migrants can remain connected with their home country as well as other places (Guarnizo, Portes, and Haller 2003; Kivisto 2003; Patel 2006; Portes 1997; Waters 2002). Meanwhile, the concept of diaspora – considered as a special case of transnationalism – suggests that migrants can remain committed to their home country (Cohen 1997 and Hardill and Raghuram 1998 both works as cited Bailey 2001) while maintaining multiple linkages and interactions than span national borders (Satzewich and Wong 2006).

A closely related framework is the network or circulationist approach which advances the idea that migrants are connected to one another and with their home country through a web of networks that propel the diffusion of new technologies, management and trade (Ouaked 2002). Any apparent loss of skills can therefore be restored through the exchange or circulation of knowledge between migrants and their home country (Meyer 2001).

Finally, the knowledge spillover concept suggests that knowledge can flow or 'spill over' across individual workers and entities (e.g., firms) and the circulation of knowledge workers facilitates the flow of knowledge and practices. This, in turn, enhances innovation (Vinodrai and Gertler 2006).

Overview of the Paper

This paper investigates the concept of knowledge transfer through the highly skilled Filipino migrants in New Zealand and Australia. It examines the viability of knowledge transfer as a strategy for capitalising on the significant skills of the highly skilled Filipino diaspora and for facilitating its participation in the development of the home country. The study explores the nature of these transfers, their forms, the knowledge assets that flow, the motivation for their engagement, and how these transfers contribute to the home

country. Several studies have investigated the concept of knowledge transfer or knowledge circulation, particularly those involving the Indian and Chinese diasporas (Saxenian 2004, 2005; Xiang 2005; Zweig, Chung, and Han 2008) as well as the South African diaspora (Brown 2003; Crush 2000). However, these studies seem to lack an understanding of the diasporic ties and sentiments of the highly skilled and the multiple lives they lead, including their motivations for engaging in practices such as knowledge transfer. This study hopes to fill that gap.

Data for this research were drawn mainly from face-to-face semi-structured interviews of 32 highly skilled migrants from New Zealand and Australia who were found to have knowledge transfers to the Philippines. Participants were recruited and identified through the use of personal networks, promotion in ethnic media and purposive snowballing techniques. Additional information and data for verification about the participants were obtained from internet sources such as the website of the company they own or work for, the ethnic or professional organisation to which they belong, and online articles published about them, as well as from newspaper articles and other print materials.

This paper presents some findings of the research. The next section provides the study context by giving an overview of the pattern of high-skilled outmigration from the Philippines drawn mostly from secondary data particularly official statistics, books and monographs. The section also discusses the rationale for the choice of the host countries and an explanation of how the terms 'highly skilled migrant' and 'knowledge transfer' were defined in the research. The third section begins the discussion of the research results by giving the migrants' profile. The fourth section presents their involvement in knowledge transfer particularly in science and technology knowledge transfers and their motivation for involvement. The last section presents the conclusion.

Context

Pattern of High-skilled Outmigration from the Philippines

There are more than eight million Philippine-born migrants in different parts of the world as of 2008 (Table 1). Between 34 and 48 per cent of the total from 1999 to 2008 are permanent migrants. Knowing the extent of permanent migration is important to determine how much knowledge and skills are actually leaving the sending country in the long term. Compared to temporary migrants whose return is expected, this possibility has a slim chance in the case of permanent migrants. Although not all of them are

highly skilled, a significant number of them are tertiary educated before they left the Philippines (Figure 1). More than 30 per cent of emigrants leaving for the United States, Canada, Australia and New Zealand – the four traditional immigration countries – are college graduates, reached postgraduate level or have postgraduate degrees.

Table 1: Estimated Total Number of Filipino Migrants, 1999-2008

Year	Permanent	Temporary	Irregular	Total
1999	2,482,470	2,981,529	1,828,990	7,292,989
2000	2,551,549	2,991,125	1,840,448	7,383,122
2001	2,736,528	3,049,622	1,625,936	7,412,086
2002	2,807,356	3,167,978	1,607,170	7,582,504
2003	2,865,412	3,385,001	1,512,765	7,763,178
2004	3,187,586	3,599,257	1,297,005	8,083,848
2005	3,391,338	3,651,727	881,123	7,924,188
2006	3,556,035	3,802,345	874,792	8,233,172
2007	3,692,527	4,133,970	900,023	8,726,520
2008	3,907,842	3,626,259	653,609	8,187,710

Source: Commission on Filipinos Overseas n.d.

The bulk of permanent migrants can be found in the United States, Canada and Australia (Table 2).[2] Given that the immigration policies of these countries give premium to skills and level of education and considering that about a third of the total number of emigrants to these countries are tertiary educated (Figure 1), the movement of Filipinos to these countries constitutes large social losses to the Philippines as these highly skilled are unlikely to return in their productive years (Alburo and Abella 2002).

2 Although there are also large numbers of permanent Filipino migrants in Japan as shown in Table 2, it is doubtful whether their occupation can be considered as highly skilled. Their large number is due to the many Filipino women who are working as choreographers and dancers on labour contract. Although these occupations belong to the professional category in the International System of Classification of Occupation (ISCO) developed by the International Labour Organisation, the real nature of these jobs in the professional sense is contentious as they encompass a variety of functions from the professional to the nonprofessional. As Go (2002: 354) succinctly puts: "this category of professionals, however, is a catchall for all types of entertainers working most in Japan, from the professional singers and dancers to the commercial sex workers. Consequently, the professional skills of many of these workers have been questioned."

Table 2: Top 15 Countries of Destination of Filipino Migrants (as of December 2008)

	Permanent	Temporary	Irregular	Total
World total stock estimates	3,907,842	3,626,259	653,609	8,187,710
Top 15 destinations				
United States	2,552,034	128,616	155,843	2,836,493
Saudi Arabia	351	1,072,458	20,000	1,092,809
Canada	533,826	73,632	6,135	613,593
United Arab Emirates	713	541,666	32,000	574,379
Australia	233,943	23,926	7,975	265,844
Malaysia	26,002	89,681	128,000	243,683
Japan	141,210	60,020	30,700	231,930
Qatar	15	224,027	5,600	229,642
United Kingdom	91,206	102,291	10,000	203,497
Singapore	35,820	66,411	56,000	158,231
Hong Kong	23,507	125,810	6,000	155,317
Kuwait	500	136,018	10,000	146,518
Italy	27,003	77,087	13,000	117,090
Taiwan	8,100	83,070	2,885	94,055
Germany	44,619	8,075	2,100	54,794

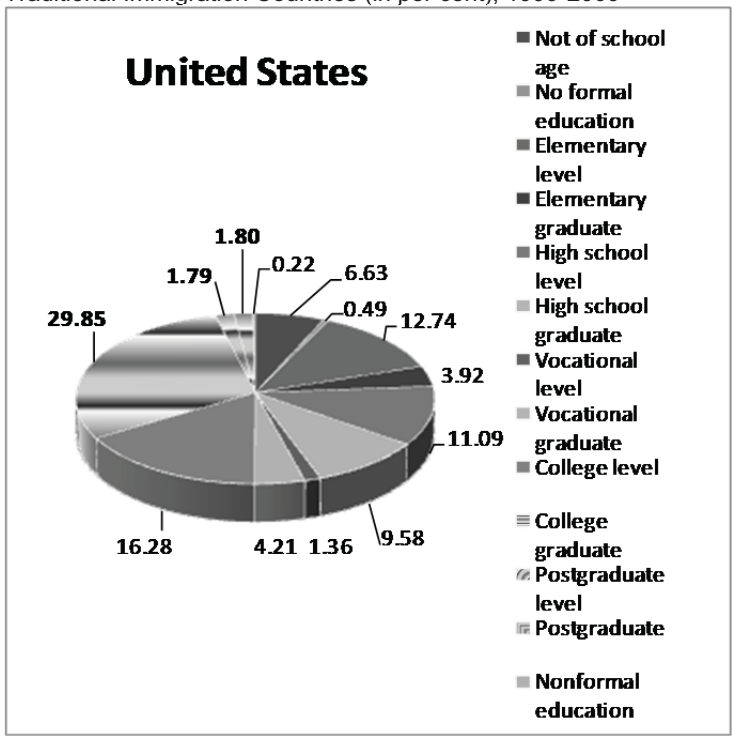
Note: Permanent refers to immigrants or legal permanent residents abroad whose stay does not depend on work contracts. Temporary refers to persons who stay overseas is employment related, and who are expected to return at the end of their work contracts. Irregular refers to those not properly documented or without valid residence or work permits, or who are overstaying in a foreign country. New Zealand does not appear in the list due to its small number of Filipino migrants (25,200).

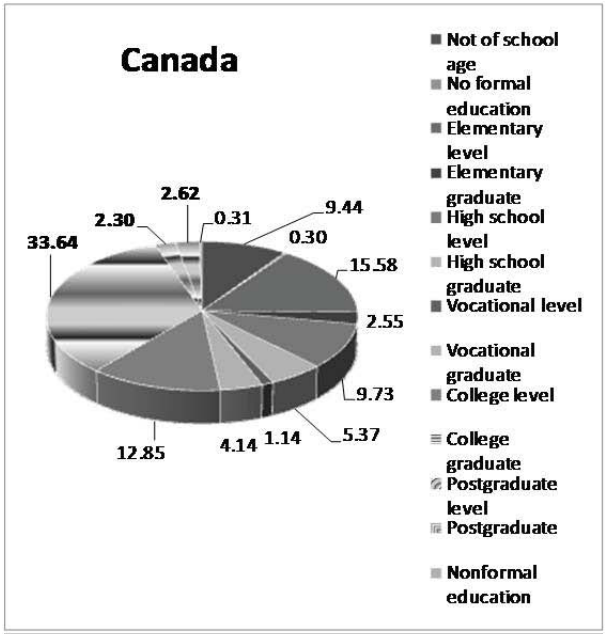
Source: Commission on Filipinos Overseas n.d.

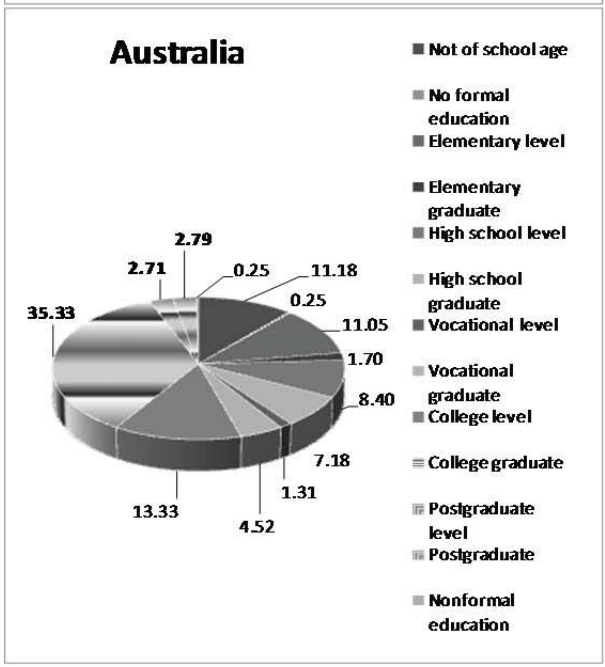
The decision to leave one's country is regarded in the international migration literature as both an individual and a family/ household decision arising from the interplay of push and pull factors (Massey et al. 1993). Push factors have conventionally been regarded to constitute aspects such as low income and unemployment in the sending countries while pull factors are their opposite such as higher income and better socioeconomic stability in the receiving countries. However, studies that investigated why highly skilled people, particularly health professionals, move overseas show a myriad of other factors that form part of their motivation to leave the home country.

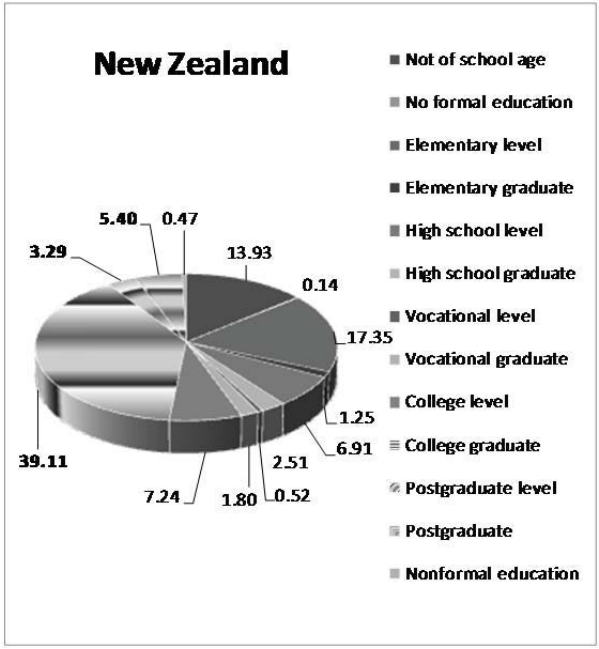
At the outset, the motives for migration of highly skilled and low-skilled migrants appear to be similar. They are both economic migrants that are induced by better remuneration and improved economic benefits in the receiving countries. Several studies on the migration of health professionals particularly physicians and nurses have shown this (Astor et al. 2005; Dovlo and Nyonator 1999; Kingma 2001; Lorenzo et al. 2007; Vujicic et al. 2004). Apart from the lure of a better income, however, other conditions are desired by the highly skilled, such as professional development and more advanced technology through which they can use their skills and learn new ones.

Fig. 1: Educational Level of Filipino Emigrants prior to Migration to the Four Traditional Immigration Countries (in per cent), 1999-2009




Canada
2.62
2.30
0.31
9.44
33.64
0.30
15.58
2.55
9.73
12.85
4.14
1.14
5.37
Not of school age
No formal education
Elementary level
Elementary graduate
High school level
High school graduate
Vocational level
Vocational graduate
College level
College graduate
Postgraduate level
Postgraduate
Nonformal education


Australia
2.79
2.71
0.25
11.18
35.33
0.25
11.05
1.70
8.40
7.18
13.33
4.52
1.31
Not of school age
No formal education
Elementary level
Elementary graduate
High school level
High school graduate
Vocational level
Vocational graduate
College level
College graduate
Postgraduate level
Postgraduate
Nonformal education



Note: Numbers in boldface are percentages of tertiary educated (college graduate, postgraduate level, postgraduate).

Source: Commission on Filipinos Overseas n.d.

A study by Lorenzo et al. (2007) on nurse migration from the Philippines provides a good picture of the reasons why highly skilled Filipinos move abroad (Table 3). Their data were obtained from 48 focus groups of Filipino health workers, mostly women, some of whom also wish to leave the Philippines. Although the survey is focused on nurses' reasons, they are applicable to other occupations. The results show that apart from socioeconomic and safety factors, they are also motivated to migrate overseas for personal and professional development arising from the opportunity to upgrade their skills and to travel and be exposed to other cultures.

Similar views were expressed in a study by Astor et al. (2005) on the perceptions of different professionals in Colombia, Nigeria, India, Pakistan and the Philippines regarding the reasons for physicians from developing countries migrating to developed countries. Because the professionals who participated in the study were also working in the health field (as academics, policymakers or physicians), their responses are reflective of the actual motivations of the physicians who migrated abroad. The majority of the 644 respondents, a mix of men and women, expressed the belief that developed

countries could better provide physicians a more suitable environment to utilise their highly specialised skills (Astor et al. 2005).

Table 3: Reasons for Filipino Nurses Going Abroad

Push factors	Pull factors
Economic: low salary at home; no overtime or hazard pay; poor health insurance coverage	Economic: higher income; better benefits and compensation package
Job related: work overload or stressful working environment; slow promotion	Job related: lower nurse-to-patient ratio; chance to upgrade nursing skills
Sociopolitical and economic environment: limited opportunities; decreased health budget; sociopolitical and economic instability in the Philippines	Sociopolitical and economic environment: advanced technology; better sociopolitical and economic stability
	Personal/ family related: opportunity for family to migrate; opportunity to travel and learn other cultures; influence from peers and relatives

Source: Lorenzo et al. 2007: 1412.

While the majority of the respondents perceived that higher income is highly valued by physicians, a substantial percentage of them believe that physicians are also concerned with factors related to the practice and development of their profession and the opportunity to network with fellow professionals in their field. This is evident in the desire for "increased access to enhanced technology, equipment and health facilities" and "to work in an academic environment with more colleagues in one's field of interest" (Astor et al. 2005: 2494). Apart from economic and professional factors, general safety and better prospects for one's children are highly desired factors by respondents in the same study. This may be linked to the fact that highly skilled migrants often bring their families with them when they move overseas so the welfare of their children, including their education, is a primary consideration.

Moreover, the Philippine government plays a significant part in inducing international labour migration by actively promoting it (Alcid 2003; Asis 2006; O'Neil 2004). As a country perennially beset with high poverty levels and high unemployment rates, labour migration is openly supported by the government as a stop-gap measure to alleviate the country's socioeconomic problems (Alcid 2003). Over the years, the government has proactively facilitated the movement of its people overseas. It created the Philippine Over-

seas Employment Administration (POEA) in 1982 to streamline the bureaucratic process in the provision of contract labour to foreign employers, which in effect degularised the labour export industry. This, according to Alcid (2003: 111), is intended to make the Philippines, through the POEA, a "better marketer, promoter and exporter of Filipino workers".

Asis (2006) notes that a 'culture of emigration' permeates in Philippine society due to the government's active facilitation of labour migration as well as the media's depiction of positive images associated to migration. Working and living abroad has become a dream for many Filipinos despite the risks and uncertainties and the social costs it bears. Even the choice of degree to pursue is motivated by a desire for a better chance of going abroad with ease. Most young people – and with the influence of their parents – would often choose courses like nursing, information technology, and seafaring, as these are occupational fields that are in high demand abroad. In a nationwide survey of 1,200 adult respondents in 2002, one in five Filipinos was found to have a desire to migrate (Asis 2006). Even children at a young age have a conscious desire to leave the country. A 2003 survey among children aged ten to twelve indicates that nearly 50 per cent of them wish to work abroad someday (Asis 2006).

Australia and New Zealand as Destination Countries

The growing advocacy in the international community in the 1950s against racial inequality forced many traditional immigration countries to begin reforming their immigration policies (Brawley 1993). In the past, both Australia and New Zealand had actively promoted the recruitment of Europeans in consonance with keeping their countries 'white'. The changes in their immigration policies, coupled by the growing political unrest and economic uncertainty in the Philippines in the same period and through to the 1980s and beyond, caused the huge increase of Filipino settlers in Australia. Between 1966 and 1971, the Filipino population in Australia grew by 159 per cent and between 1976 and 1981 by 158.8 per cent (Marginson 2001). The Immigration Restriction Act of 1901, more popularly known as the White Australia Policy, was finally lifted in 1973 (Harris 1993).

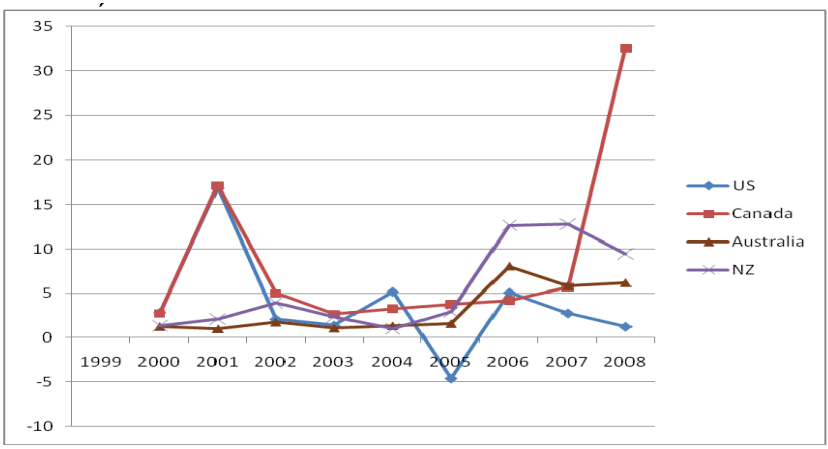
Until the 1990s, most of the Filipino immigrants to New Zealand were young women who came as spouses or fiancés of Kiwi men they met through friends or by answering personal advertisements in newspapers (Te Ara: The Encyclopaedia of New Zealand n.d.). The series of reforms in the immigration policies that began in the 1960s and led to the passage of the 1986 Immigration Act that highly favoured skilled migration gradually increased the number of skilled Filipinos in New Zealand. This Act paved the way for the entry of highly skilled migrants from non-traditional source

countries like the Philippines. Persons seeking admittance are evaluated not on the basis of their race or nationality but whether or not they meet the specified requirements in terms of age, education, profession, business interest, or asset they can transfer to New Zealand.

New Zealand and Australia are increasingly attracting highly skilled Filipinos particularly nurses, doctors, radiologists, engineers and IT professionals. Although the numbers of Filipino migrants in both countries are smaller, particularly for New Zealand (only 25,200 as of 2008 based on CFO data) than those who are in the United States and Canada, this does not mean that studies on the Filipino migrants in these countries are not important. There is, in fact, a dearth of studies on the Filipino diaspora in these countries, and this study hopes to fill that gap.

Figure 2 shows the percentage growth of Filipino migrants in the US, Canada, Australia and New Zealand from 1999 to 2008. The graphs for New Zealand and Australia exhibit generally consistent increasing trends except for certain years. The number of highly skilled people going to these countries is expected to further increase in the coming years, particularly to New Zealand, due to chain migration arising from increased social networks, the tighter immigration policies and visa retrogression in the United States and the saturation of the more traditional migration markets. This will have important implications for the Philippines as far as the debate on knowledge loss or brain drain is concerned.

Fig. 2: Percentage Growth of Filipino Migrants in the Four Traditional Immigration Countries, 1999-2008



Source: Stock data from the Commission on Filipinos Overseas n.d.

In *Our Future with Asia*, the New Zealand Government reports that as of 2006, Filipinos are the fourth largest ethnic group in New Zealand (New Zealand Government 2007). In 2001, 30 per cent of New Zealand's university-qualified people were born overseas and of this, 20 per cent of the total is of Asian descent. In particular, the Philippines is ranked as the third largest source of skilled migrants in science and technology.

Meanwhile, in Australia, those arriving under its skilled category comprise the largest group of settlers for 2002 to 2009. In 2008-2009, around 158,000 new settlers came (Australian Government 2009). The Philippines was the sixth largest source of these settlers behind the UK, New Zealand, India, China and South Africa.

Clearly, as compared to Australia, New Zealand does not appear to be a preferred destination of Filipinos as evidenced by the small size of its Filipino diaspora. However, 89 per cent of its Filipino migrants in 2008 are permanent migrants suggesting that return migration is very slim. In terms of policy, this is a serious issue for the Philippines as far as the debate on knowledge loss is concerned.

Moreover, the choice of New Zealand and Australia as host countries is conceptually relevant to study. New Zealand is the first in the world to have embarked on the neoliberal agenda (Kelsey 1995). Between 1984 and the early 1990s, reforms were made in the welfare system and in the financial and labour markets, along with the privatisation of many functions performed by the government and opening up the local industry to competition. At the same time, realising the many economic opportunities and the geopolitical significance for New Zealand that relations with Asia could bring, New Zealand's economic priorities have also started to focus in the region. Its neoliberal reforms included changes in its immigration policies that take a more liberal stance to attract Asian capital and skills. By accepting immigrants from non-traditional source countries such as the Asian region, New Zealand not only found a source of capital and skilled labour, it also "consolidated (its) regional connections with Asia" (Spoonley 2006: 20). As Asia's global representation strengthens and deepens, particularly through East Asia (China, South Korea, Japan and Taiwan) and South Asia (India), New Zealand and Australia will continue to look at the Asian region as a significant site in terms of their economic future. This suggests continuous and increased flows of capital, ideas, technology and people (both high skilled and low skilled) between New Zealand and Australia and the countries of Asia, including the Philippines.

Defining Important Terms

For the purpose of this research, a 'highly skilled migrant' is defined as having at least a tertiary degree and a current job that belongs to the three highest occupational major groups in the International Standard Classification of Occupations (ISCO) of the International Labour Organisation (ILO), namely: (1) Legislators, Senior Officials and Managers, (2) Professionals, and (3) Technicians and Associate Professionals; and being born in the home country, in this case, the Philippines, and may or may not be a permanent migrant in the host country. The point of reference in terms of occupation is the migrant's current job. This ameliorates issues of incomparability of qualification levels across international labour markets and, at times, the lack of recognition of national qualifications by foreign employers.

Apart from the comprehensiveness and applicability of the ISCO for international comparison of occupations across national labour markets, its use in the research is guided by the fact that both New Zealand and Australia, along with many other OECD countries, have developed or revised their national classifications using ISCO as their model (Hoffmann and Scott 1992).[3]

Meanwhile, the term 'knowledge transfer' is operationally defined in the research as the sharing or flows of knowledge or skills on, but not limited to, science and technology, business and trade, economics, and culture and the arts. Activities by which knowledge transfer may be carried out may be informal or formal in nature and may include, but are not limited to, meetings, email information/ data exchanges, training, informal advisory, research project, and expert consulting (Meyer and Brown 1999), setting up business ventures or investing in the home country (Hunger 2004; Zweig 2006; Zweig, Chung, and Han 2008), and creative works and performances about culture and life in the home country (Addison 2008). The cited references serve as the study's bases for defining knowledge transfer and determining the different kinds of activities that may be considered knowledge transfer.

3 In 2006, Australia and New Zealand released a unified system of standard classification of occupations which is compatible with ISCO-88 (Australian Bureau of Statistics 2009). Jointly developed by the Australian Bureau of Statistics (ABS), Statistics New Zealand (Statistics NZ) and the Australian Government Department of Employment and Workplace Relations (DEWR), the system is called the Australian and New Zealand Standard Classification of Occupations (ANZSCO).

The Highly Skilled Filipinos in New Zealand and Australia

The profile of highly skilled migrants who were found to have knowledge transfers to the Philippines and thereby interviewed for the research gives an idea of the characteristics of the highly skilled Filipino diaspora in New Zealand and Australia.

The sample consisted of 32 participants: 11 from New Zealand and 21 from Australia. The majority of the participants were between 35 and 55 years old (68%). By host country, most of the participants from New Zealand were younger, between 35 and 45 (64%), while most of the participants from Australia were between 35 and 45 (38%) and 46 and 55 years old (38%). The majority of the participants in New Zealand were males (64%) while there were slightly more female participants in Australia (52%). In both countries, there were more participants who were living with a spouse or partner than those who were not (82% in New Zealand and 67% in Australia).

Looking at the level of education of all the participants, the majority of them have a Bachelor's degree (31%) or a PhD (31%). The education of the Australian participants is higher. There are more participants with PhD in Australia (43%) than in New Zealand (9%) but there are more participants with master's degree in New Zealand (27%) than in Australia (5%).

Table 4 provides details of the participants' specific occupation before migrating as well as their current occupation. These are categorised using the ISCO (International System of Classification of Occupations) system, namely: ISCO 1 (Legislators, Senior Officials, Managers) and ISCO 2 (Professionals). Their reported occupations prior to migration signify their highly skilled status before migrating. A little more than 70 per cent of them were employed in professional jobs before migrating and a small percentage were managers (19%). There were more migrants in New Zealand who held managerial positions before migrating. Three migrants, all in Australia, were students before they migrated. Two of them, brother and sister, came with their parents when they were teenagers, while the other one was an undergraduate who settled in Australia after marrying his Australian girlfriend. Although these three did not obtain their tertiary degrees in the home country, they were included in the study for important insights that can be gleaned from their cases.

Looking at the participants' current occupation, it is apparent that there have been significant changes between the time prior to their migration and after they migrated. While the total number of professionals has not changed as Table 4 shows, the number of migrants holding managerial posi-

tions has slightly increased and this can be attributed to the rise of business owners. These results not only point to the phenomenon of deskilling which is experienced by most highly skilled migrants, but they also show a type of coping mechanism used by the highly skilled to improve their labour market participation which is creating their own employment (Riaño and Baghdadi 2007).

Table 4: The Migrants' Occupation prior to Migration and their Present Occupation at the Time of the Interview, New Zealand and Australia, 2009

Occupation prior to migration	**Frequency**	**Present occupation**	**Frequency**
ISCO 1 – Legislators, Senior Officials, Managers		*ISCO 1 – Legislators, Senior Officials, Managers*	
Technical manager	1	Sales manager	1
Regional tourism director	1	Operations and export director	1
Sales manager	1	Department manager	1
Vice-president (real estate sales and development)	1	Executive officer	1
Information systems manager	1	Business owner/ Managing director	3
Lawyer/ Managing partner in a law firm	1		
Total	6	Total	7
ISCO 2 – Professionals		*ISCO 2 – Professionals*	
Professor/ Associate professor/ Lecturer/ Senior lecturer	4	Professor/ Associate professor/ Lecturer/ Senior lecturer	5
Medical doctor	4	Medical doctor	4
Researcher/ Scientist	3	Researcher/ Scientist/ Senior scientist	4
Technical specialist/ Development worker	2	Quarantine specialist	1
Publications editor	2	Case officer	1
Programme officer	1	Technical adviser	1
Computer programmer	1	Programme officer	1
Business consultant	1	Lawyer	1
Trade specialist	1	Computer programmer	1
Legislative officer	2	Rehabilitation specialist	1
Sales executive	1	Disbursement officer	1
Nurse	1	Teacher	1

Occupation prior to migration	Frequency	Present occupation	Frequency
		Business development consultant	1
Total	23	Total	23
Unemployed		*Retired*	
Student	3	Retired professor	1
		Retired lawyer	1
TOTAL	32	TOTAL	32

Source: Author's own compilation.

Other details of their employment experiences reveal the difficulties that some of them faced to integrate in the domestic labour market and the strategies they employed to address these. While a little more than half of the total had a first occupation in the host country which was related and commensurate to their level of education and training prior to migration, the rest initially worked in unrelated occupations. About 24 per cent of the total got employed once in a job that was unrelated to their level of education and training, 11 per cent worked twice and three per cent worked three or four times each before they were able to get employed in a related and commensurate occupation. Seven of 23 participants who did not have employment difficulties were scientists and academics who had job offers before their arrival in the host country. The other participant who had the same successful experience was an inter-company transferee from Mexico to New Zealand.

Although the majority of the migrants did not have employment difficulties on their arrival in the host country, about 46 per cent of the total studied for a degree, diploma or certificate in the host country. The degree or course they have completed is given in Table 5. When asked about their main reason for doing this, most of them said they wanted to enhance their credentials to land a better job. This clearly relates to the experience of several migrants in the research who had difficulty in the beginning to find an occupation which was related or commensurate to their education or training.

Table 5: Degree or Course Attended by Migrants Who Studied in the Host Country, New Zealand and Australia (n = 15)

Degree/ course	Frequency
PhD	5
Masters	4
Bachelors	4
Postgraduate diploma	4
Certificate course	2

Note: Total does not equal to 15 as some migrants studied for more than one degree or course. For instance, the migrant who immigrated in his late teens studied from Bachelors to PhD in the host country.

Source: Author's own compilation.

The majority of the participants arrived in the 1990s and 2000s (Table 6). The participants from New Zealand are fairly recent migrants who arrived mostly in the 2000s while those from Australia came in the 1990s. There were even a few participants who arrived in Australia as early as the 1970s. The proliferation of arrivals into New Zealand in the 2000s may be attributed to the effects of the introduction of the Skilled Migrant Category in December 2003. This new category of migrant phased out the General Migrant Category. Based on a revised points-based system, it is intended to bolster the recruitment of skilled migrants which New Zealand needs (Birrel, Hawthorne, and Richardson 2006). It is similar to Australia's selection criteria in the areas of English language requirements, bonus points for former international students with NZ qualifications, and additional bonus points for occupations of current shortage, job offer and other employment-related criteria (Birrel, Hawthorne, and Richardson 2006). For Australia, the proliferation of participants who arrived in the 1990s reflects the increasing trend of Asian migration in that period as a result of relaxation of policies of ethnic and racial exclusion which began earlier, of which the most significant changes include the discarding of the White Australia Policy in 1973 by the new Labour Government and the introduction of a points system in 1979 in which personal skills, rather than race and ethnicity, became the basis for selection (Ongley and Pearson 1995).

The majority of participants from New Zealand have been residents for more than two years and less than eight years which is consistent with the previous finding that most of them are fairly recent migrants. Meanwhile, a greater number of participants from Australia have been residents for more than 14 years and even more than 20 years. Expectedly, as most participants have been living in the host countries for a relatively longer period of time, a large percentage of them (84%) are already citizens (Table 6). The rest are either still permanent residents or on work permits.

Table 6: Participants' Arrival in the Host Countries, Length of Stay as at the Time of the Interview (2009) and Immigration Status

Arrival	**NZ**	**Aus**	**Total**	**%**
1970s	0	4	4	12.50
1980s	1	4	5	15.63
1990s	2	10	12	37.50
2000s	8	3	11	34.38
Total	11	21	32	100.00
Length of stay in host country	**NZ**	**Aus**	**Total**	**%**
6 to 24 months	1	0	1	3.13
More than 24 months to 8 years	6	2	8	25.00
More than 8 to 14 years	2	4	6	18.75
More than 14 years to 20 years	1	7	8	25.00
More than 20 years	1	8	9	28.13
Total	11	21	32	100.00
Immigration status	**NZ**	**Aus**	**Total**	**%**
Citizen	8	19	27	84.38
Permanent resident	3	1	4	12.50
Work permit		1	1	3.13
Total	11	21	32	100.00

Source: Author's own compilation.

Involvement in Knowledge Transfer

The reported knowledge transfers of the 32 participants were organized into three general themes. These themes and the number of migrants who reported these knowledge transfers are: (1) science and technology knowledge: 13 migrants; (2) business and trade knowledge: 8 migrants; and (3) other types of knowledge (e.g., creative arts and culture, development models and project management tools, migration information, Philippine issues): 11 migrants.

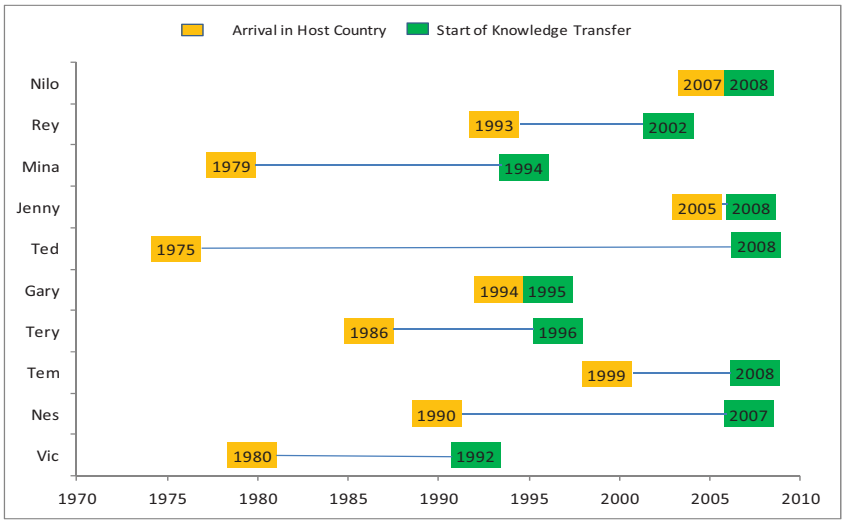
Focusing only on knowledge transfers that deal with the flow of S&T knowledge to the home country, this section of the paper analyses these knowledge transfers.

Onset of the S&T Knowledge Transfers

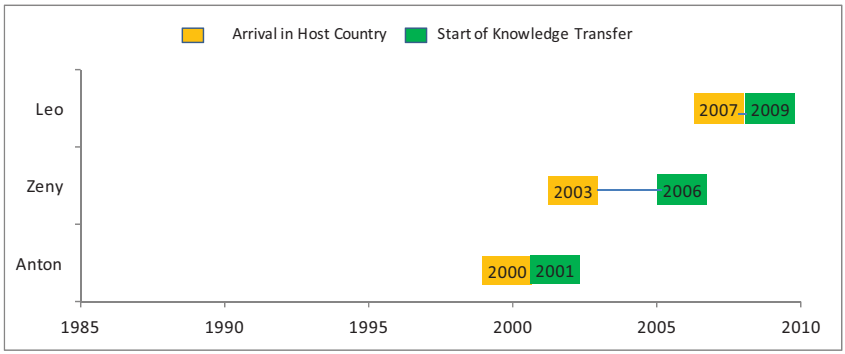
Figure 3 shows the time when the 13 migrants involved in S&T knowledge transfers arrived in the host country and the time when they started to become involved in knowledge transfers. Pseudonyms were used in lieu of their actual names in keeping up with the interview consent agreement that the participants' privacy will be protected.

Fig. 3: Year of Arrival in the Host Country and Onset of S&T Knowledge Transfers (n = 13)

Migrants in Australia



Migrants in New Zealand



Source: Author's own compilation.

As can be gleaned from Figure 3, it has taken some time for early migrants or those who came in the '70s and '80s to become involved in knowledge transfers. The S&T knowledge transfers undertaken by the migrants in Australia occurred only beginning the 1990s and those by the migrants in New Zealand took place only beginning the 2000s or nearly 20 years after their migration. This may be linked to the fact that migrants in their initial years were still settling in, not yet stable and lacking in both economic capital and extensive social networks. As described earlier, they were not insulated from settlement issues in the host countries however educated or skilled they were. Some of them experienced deskilling and took a number of jobs before finally getting the one that was commensurate to their skills and level of education. Some migrants even trained or studied for a degree in the host country to increase their chances of getting a better job.

This delayed onset of knowledge transfer vis-à-vis the migrants' arrival in the host country appears to be consistent with the Indian diaspora's involvement in the growth of India's software industry. Arriving in large streams in the '70s and '80s, the Indian diaspora in the United States began to emerge as a significant force in the economic activities of their home country only in the '90s, or 10 to 20 years later when they had already established themselves and had resources to invest as well as the networks to tap (Pandey et al. 2006).

It is also interesting to note that the onset of transfers of the more recent migrants or those who arrived in the 2000s is earlier compared to those who migrated 20 or 30 years ago. This may be attributed to the impacts of enormous advancements in communication and transportation technologies (ICTs) that have taken place in this period and made knowledge transfer easier.

Nature of the S&T Knowledge Transfers

Most of the knowledge transfers are actual visits to the Philippines to give lectures and training, conduct medical and surgical missions, and set up agricultural technology-based livelihood activities. A few of these knowledge transfers are virtual in nature, aided by ICTs such as, for example, the case of two academics who served as thesis co-advisors. Knowledge intermediation or brokering by the diaspora is also seen in three cases. Two of them facilitated the bringing of health expertise and equipment to the Philippines; the other spearheaded the formation of a science and technology diaspora network, which in turn also performed a brokering role of bringing S&T knowledge to the Philippines through its members. Box 1 provides a brief description of five of these S&T knowledge transfers.

The role of intermediaries is acknowledged in the knowledge spillover literature (Wright et al. 2008; Yusuf 2008). Intermediation, according to Yusuf (2008), is notably important when the knowledge is the tacit or uncodified type. Knowledge related to S&T particularly the skills type is usually considered tacit or uncodified and thus also require face-to-face contact for successful transfer.

In the selected cases described in Box 1, the presence of knowledge intermediaries is apparent in Gary's case through the STAC-Melbourne as well as in Vic's case. The UNDP's TOKTEN program and the Philippine government's *Balik* (Return) Scientist program provided the avenues for expatriate scientists to share their skills in the home country. The management of the BSP is handled by the Department of Science and Technology (DOST). According to the BSP head, Assistant Secretary Ma. Lourdes Orijola of the DOST, the BSP started in 1975 for a period of five years, extended up to 1986 and revived in 1993. As of 2008, there have been a total of 320 scientists who came back, 195 who went back to their host countries after their stint, 114 are still in the Philippines, and 14 are already deceased.[4]

The state-run and funded Philippine General Hospital (PGH) is another example of an intermediary whose facilitation became instrumental in the case of Jenny and of Mina. In Australia, local organisations such as the Rotary Club have also performed an intermediation role by providing financial support in the medical and surgical missions to the Philippines organised by Jenny.

However, the case of Anton shows that knowledge transfer can proceed and flourish even without the presence of knowledge intermediaries. Yet it is surmised that knowledge transfers that receive brokering assistance are more organised and have a wider scope in terms of audience reach. Because resources and support in terms of facilitation are also provided by knowledge intermediaries, knowledge transfers of this type also entail less transaction cost for the expatriate professionals, which could be an incentive for them.

The difficulty of not having a knowledge intermediary was apparent in the case of Anton. He related experiencing coordination problems while organising his lectures and seminars in the Philippines.

> Occasionally you get a few invites where they just don't go anywhere. People just leave everything open-ended. They would contact me while I'm here but once I'm there and I call them, they would say they're interested but there's nothing definite which can be quite annoying.

4 E-mail to author, 14 October 2008.

Some migrants also reported other kinds of barriers in conducting these knowledge transfers. Ted, a restoration ecologist based in Australia and who participated in the Philippine government's return scientist program, felt that some professionals in the Philippines are not receptive to the idea of collaborating with expatriates. He sensed this in his interactions with academics from a certain university. "They think that anything that happens to the Philippines is their thing," he said.

Gary, a senior scientist in a government research organisation in Australia who led the formation of a scientific diaspora network among Filipino scientists, IT professionals and engineers in Melbourne, had the same observation. He said he got mixed reactions from some university officials when he presented to them his ideas on how to improve the engineering education in the Philippines. There was a group who welcomed the opportunity yet others were simply not interested. This is disappointing, he said.

Gary also observed that there is no strong sense of cooperation between the government and professional networks in the Philippines. There is more competition rather than cooperation.

> We tried to promote the setup used in Australia, and I guess it's the same setup in New Zealand, where government and industry work or the professional bodies work together and even across professional groups. But in the Philippines, they have their own tribes so it's difficult to implement it because of that culture. So, I guess for that reason, the benefits for the Philippines are less than for other places that are able to work together.

Box 1: Brief Description of Selected Science and Technology Knowledge Transfers Found in the Study

1 The case of Vic: The diaspora as a source of knowledge and skills (with a knowledge intermediary)

After living in Australia for 22 years and wanting to work in the Philippines which he had not done before, Vic applied to the Transfer of Knowledge by Expatriate Professional (TOKTEN) programme of the UNDP. At that time, he was an engineering professor in New South Wales. He stayed for five months and gave short courses to professional civil engineering bodies and to a tertiary university. When he was nearing retirement, Vic took a long leave of absence and went back to the Philippines in 1997, as a return scientist under the Philippine government's Balik Scientist Program (Short-Term Expert). Feeling the three months were not enough and given the availability of a full-time teaching position, he extended his stay and taught courses in the engineering depart-

ment of the same state university which is his alma mater. At one point, he also served as chairperson of the department. After seven years teaching in the Philippines, Vic went back to Australia in 2004 to reunite with his family. In 2009, already widowed, he returned to the Philippines, again through the return scientist programme of the Philippine government, and spent three months giving lectures and talks to tertiary institutions.

2 The case of Anton: The diaspora as a source of knowledge and skills (without a knowledge intermediary)

For the past 10 years, Anton, a practicing psychologist and senior lecturer of a university in New Zealand, has been giving free lectures and workshops to different medical schools in Metro Manila each year when he visits the Philippines. He always contacted his colleagues prior to his visits to explore the possibility of giving lectures. In one of these lectures, he shared a questionnaire he developed to help doctors diagnose patients with sleep problems. At one point, in 2006, Anton also gave away free of charge to some medical schools a psychiatry assessment teaching software which he had developed. The software is being sold in the US and in New Zealand. He also shared in his lectures a website initially designed to help university students handle stress. He developed the website along with some colleagues in the New Zealand university where he is employed.

3 The case of Jenny: The diaspora as a source and broker of knowledge and skills

Since 2008, the Philippine Australia Medical Association (PAMA) has been conducting medical and surgical missions to remote areas in the Philippines. Although PAMA has been existing for 17 years, it was not involved in this type of activity and mainly focused on fundraising for donations which it sends to the Philippines. The idea for a medical mission started when Jenny, a new migrant, recommended it to her fellow PAMA members. Since then, she has been in the forefront in organising these medical missions, utilizing her contacts in the Philippines such as her former colleagues in the University of the Philippines where she graduated and a local chapter of Rotary Club in New South Wales where she is an officer, for personnel, financial and institutional support.

4 The case of Mina: The diaspora as a broker of knowledge and skills

An executive director at the Department of Health and Aging in Victoria, Mina has been helping to send audiology experts and hearing aids for deaf children in the Philippines since 1994. With her Italian audiologist husband also rendering support, she is using her extensive contacts in Australia in the audiology field to invite experts to share their skills and to gather used hearing aid from hospitals which can be sent to the Philippines. The recipient of these efforts was initially a mission school for the deaf established by an Italian priest and which was in need of not only hearing aids but also experts to calibrate these hearing aids and train the teachers. Beginning 2000, the couple decided to change their focus of not just helping a single school but the wider community by sending the equipment to the Philippine Society of Audiology (PSA) whose president she knows personally. Mina and her husband thought they could help more people in this way because the PSA conducts regular medical missions in remote areas. The couple also linked the Australia-based experts who are interested to share their skills in the Philippines through lectures and training to the PSA for possible collaborative activities.

5 The case of Gary: The diaspora as a source of knowledge and as a broker for the setting up of a skilled diaspora network

In 1994, Gary migrated to Australia as a skilled migrant with an offer of employment from the Commonwealth Scientific and Industrial Research Organisation (CSIRO). A year later, he established STAC-Melbourne. STAC stands for Science and Technology Advisory Council, an alliance of scientists, IT professionals, engineers and graduate students in the S&T field to promote S&T advancement in the Philippines by way of knowledge sharing and collaboration. Before coming to Australia, he had been a member of STACNET, the virtual counterpart of STAC. When he arrived in Victoria, he found that there were also one or two other people who were STACNET members. Realising they could constitute the core group to form a STAC chapter in Melbourne, Gary presented the idea to them. He and his fellow STACNET members got together and in 1995, they formally organised STAC-Melbourne, with him as the founding president. The activities of STAC were mostly visits to the Philippines to give presentations of the members' studies as well as meetings with fellow researchers for possible collaborative work. Part of the objectives of STAC-Melbourne which this senior scientist tried to promote was improving the engineering education in the Philippines. Gary visited several Philippine universities offering engineering educa-

tion, including his alma mater where he obtained his Bachelor's degree, to look at their curriculum and talk to university officials.

Motivations for Involvement in Knowledge Transfer

The motivations shared by the migrants who were involved in S&T knowledge transfers may be categorised into altruistic reasons and personal gain. Altruism was exhibited by the majority of the participants and appeared to be the strongest motivation. This sense of altruism was found to be driven by four things.

One is the plain desire to help the Philippines which was cited by a large majority of the migrants. For example, Nes, a medical practitioner in Australia who was involved in promoting virgin coconut oil (VCO) in the Philippines for treating diabetes, said he wanted to make Filipinos aware they have something within their reach which is medicinally valuable. With coconut trees abundant in the Philippines, VCO is a resource which is readily accessible to Filipinos.

> I didn't think that there was going to be any benefit to me. I think, in fact, I lost money because I paid for my own transport going there, back and forth. To me, I didn't see that there is anything but what I wanted to happen was for them to actually realize that they have something in their hands and that they can actually potentially penetrate the world market with it, get the Filipinos known for, and it will actually benefit the entire world medically as well. So that's primarily my purpose.

Another is the feeling of accountability to the home country. Ted, the restoration ecologist who migrated to Australia when he was 17, felt he "should give and return something to the Philippines."

For Jenny, the medical doctor in Australia who initiated her organisation's medical missions to the Philippines, the hardships she experienced there was the motivating factor.

> I know the hardship in the Philippines that is why I left, and because of this, I want to take part actively in making life better for other people. And then (gain) benefit for myself, mainly knowing that I am fulfilling the goal I set to myself; otherwise, I will feel guilty.

For some, the obligation to their home country is linked to or influenced by their professional training. This is somehow evident in the response of Ted:

> Scientists like me have an obligation for science to flourish and this can be achieved by exchanging knowledge and collaborating. I am a scientist, I have a natural curiosity for learning. I love what I'm doing

> and I love sharing with others because you know, that is an attribute of being a good human being.

Similarly, the motivation given Tery, the ex-military who migrated to Australia, is related to his former profession in the Philippines.

> I was in the military; I was trained there so my heart is in service. And because it was cut-off by some events which I didn't have any control, I still long for that thing, my heart is still in the Philippines. You can take the Filipino out of the Philippines but you cannot take the Philippines out of the Filipino. That's why whenever I see some technologies that may be applicable there, I ask myself what can I do.

Only two participants gave reasons that are different from the ones previously discussed. Their reasons were more self-seeking in nature. One of them is Nilo, an associate professor in an Australian university who availed of the return scientist programme and is currently involved in mentoring Philippine students majoring in analytical chemistry by acting as a co-supervisor. He said he thinks his knowledge transfer is also beneficial to him because the students are able to help him in his research and in terms of joint publications, which would assist in the advancement of his academic career.

Another example is Tem, a food scientist in Australia who availed of the return scientist programme of the Philippine government and Australia's volunteer programme. He returned to the Philippines through these programmes to be with his ageing parents. In fact, after two short-term volunteer stints (one with the Australian programme and the other with the Philippine government), he applied for a longer return scientist engagement of two years to spend more time in the Philippines to be with them.

> I go back to the Philippines only because of them. Before I don't miss them but lately, I began to miss them and be concerned about them because they're old already. All of us are already living abroad and only my parents have remained in the Philippines.

The sense of altruism exhibited by the majority of the migrants in these S&T knowledge transfers and which emerged to be the stronger motivation for sharing their knowledge with the home country has also been found in the other types of transfers (business and trade, and other types). These altruistic reasons are actually consistent with the strong diasporic connections that most of the participants demonstrated.

For instance, while more than 80 per cent of them are already citizens of either host country, 75 per cent of all participants still consider the Philippines as their 'home'. The majority of them had taken the citizenship op-

tion only for pragmatic reasons (e.g., ease of travel/ mobility, benefits and security that the citizenship could bring). This demonstrates that in reality, the participants do still remain emotionally tied and connected with the Philippines. At the same time, they are also loyal to the host country, cognizant of their obligations as its citizens, and grateful for the security it provides them. About 66 per cent of them also still attend the celebration of the Philippine Independence Day and events in the host country that highlight Philippine culture such as shows and concerts. Almost all of them also still long for information about the Philippines with the Philippine media and people back home as their frequent sources. When asked about aspects of the Philippines they miss the most, they mentioned the sense of community and social support, the customs and traditions in the Philippines, and the tight family structure. Their responses suggest the high regard they still hold for the community spirit which is dominant in the Filipino culture. Their longing for these aspects is also demonstrated by the way they also miss the (Filipino) people, in general, and traits such as sense of humour and warmth, as well as their family and friends.

These sentiments denote the strong emotional ties that these highly skilled migrants have with their country of origin. The knowledge transfers they reported may be considered as another manifestation of these connections and more importantly, their commitment to the Philippines. It is also possible that these emotional ties and sentimental longings have influenced them to transfer their knowledge to the home country.

Conclusions

Knowledge transfers reinforce the transnational character of migration. They link the host and home countries through the circular flows of knowledge, skills, capital and technology. However, as the study shows, the onset and sustainability of these transfers is affected by the level of stability of the diaspora, which in turn is affected by various factors around them. This shows that migrants remain bounded or constrained in terms of their transnational or diasporic practices despite living in a transnational space. At times, these factors pertain to policies in both countries – for example, the host country in terms of its receptivity to the migrant population (particularly in terms of labour policies) and the home country in terms of the support it extends to its diaspora.

That the onset of knowledge transfer appears to be dependent on the level of stability of the diaspora underscores the importance of appropriate support for the successful adjustment and settlement of migrants – a task for both home and host countries. For the home country, improving pre-

departure information so that departing emigrants are aware of the situation overseas, maintaining continuous linkage, and providing assistance through the consular offices in the host countries are ways by which it could make the lives of its diaspora easier. These could also keep the diaspora's sentiments and sense of attachment with their home country alive.

Meanwhile, host countries should ensure a suitable environment for the highly skilled to utilise their knowledge. Labour policies that constrain the acceptance of the diaspora's skills and education hamper the onset of their knowledge transfer activities to their home country. Issues of unemployment and deskilling, or being relegated to lower status and lower paying jobs, affect economic and professional stability. The lack of stability makes them less capable of transferring knowledge because knowledge transfer requires not just intellectual capital but also social and economic capital. This points to the need for carefully aligned labour, education and migration policies in host countries for all migrants, including highly skilled migrants.

The diaspora's motivation to help the Philippines is evident in the S&T knowledge transfer cases found in the study. This suggests the need for intensive promotion of government programs such as the *Balik* (Return) Scientist to entice expatriate scientists to share their skills. There was no one from New Zealand who has tried the program suggesting the lack of promotion. The BSP has been around since 1975 yet its impact appears to be minimal. No less than its head, Assistant Secretary Orijiola in an interview with the author in January 2010, attested to the lack of support – in terms of staff and funding – of the Philippine government to the BSP. Taiwan, China and Korea are good models to follow. They have been successful in encouraging their S&T diaspora to return and this she attributed to their government's well-orchestrated and well-funded programs. The Chinese model, a very comprehensive one with a well-defined diaspora policy (the 'dumb-bell or double-base model), is documented in some publications (Zweig 2006; Zweig, Chung, and Han 2008).

What the Philippines needs is not just additional programs but a well-defined diaspora policy that will serve as a guide in coordinating and consolidating all activities and ensuring their sustainability. There is a strong bias toward promoting labour migration (Alcid 2003; Asis 2006) for the obvious reason of remittances. Little effort is being undertaken to mobilise expatriate professionals and engage them in development. If the government will continue doing this, it will eventually lose its talented overseas professionals.

As a concept and strategy, knowledge transfer will only succeed if a learning and sharing culture is also present in the home country. It is not enough that expatriate professionals are willing to share their knowledge and skills. The social environment where the sharing takes place should be re-

ceptive to knowledge exchange. As the study shows, some highly skilled migrants felt the resistance and lack of openness of home-country professionals to exchange information and collaborate with them. The presence of a diaspora policy and corresponding programs that explicitly promote a culture of sharing and learning could serve as a positive signal not only for the highly skilled diaspora but also for home-country professionals on the importance of international collaboration. Dissemination of the impacts of collaboration and the contributions of the diaspora to the home country can be an effective way to break such resistance. This will also motivate the diaspora to continue its involvement with the home country.

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